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Special Focus: Bad Buddhism

Bad Buddhists, Good Robots: Techno-Salvationist Designs for Nirvana

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When Buddhism fails to live up to the projected promise of its doctrine or past forms, it is often the human nature of its adherents ("Bad Buddhists"), rather than the content of its teachings ("Bad Buddhism"), that is blamed. But what if such human failings—greed, corruption, violence, even mortality—could be transcended? In the quest for a "good Buddhism," high-tech designs that utilise robotics, artificial intelligence, algorithmic agency, and other advancements are increasingly pursued as solutions by innovators inside and outside Buddhist communities. In this paper, we interrogate two recent cases of what we call "Buddhist techno-salvationism." Firstly, Pepper, the semi-humanoid robot who performs funeral sutras to a rapidly secularising and aging population of parishioners in Japan. Secondly, the Lotos Network, a US start-up proposing to use blockchain technology to combat financial corruption within global sangha. We argue that such robotic and digital experiments are the logical outcome of techno-salvationist discourses that identify human failings as the principal barrier to perfect Buddhist praxis. If not always practical solutions, these interventions are powerful nonetheless as contested projections of Buddhist futures.

Keywords: Buddhism; robotics; digital religion; orthopraxy; techno-salvationism

> "I've done questionable things. Nothing the God of bio-mechanics wouldn't let you in heaven for."—Roy Batty, *Bladerunner*

It is a difficult time to be a robot.[1] In science fiction and news media, the increasing use of robotics and AI (artificial intelligence) has been lauded as a progressive way to supersede human deficiencies, but it has also given rise to moral panics about ceding control to non-human actors. Perhaps such moral objections come too late. Today, smartphones remember our friends' phone numbers and birthdays, and algorithms curate our online experiences and shape what media we consume. Simultaneously, autonomous cars cause accidents, drone strikes fuse warfare with

[1] In this paper we take a comprehensive approach, and discuss programmed, (largely) self-controlled devices of electronic, electrical, or mechanical form that function in place of a human agent (see Turner 2019 for vigorous debates on this definition).

videogames, and automation threatens job security. The potential scope of automated and robotic interventions into human life appears limitless. But might they also lead us to salvation?

In contemporary techno-salvationist films, manga, and novels, authors and artists offer up technological solutions to the continued crises of the human condition. These adventurous stories often blur many of the age-old conflicts between religion and science to position robotics and AI as the solution to the limitations of earthly, human existence. By fusing essences of spirituality with technology, the link between scientific advancement and transcendent belief is set up as the answer to political conflicts, ethnic divides, and human-caused environmental disaster (e.g. Fisher 2017; Morozov 2013; Noble 1997). In other words, the answer to the failures of humanity is the perfection of the cyborg (à la Haraway 1985), by blending what is essentially good about humanity with what is viewed as corrective in technology. It should come as no surprise, then, that techno-salvationism as a model of thinking often informs the growing use of robots in religious contexts. Scholars have described how robotic cultures are distinctly articulated within specific religious histories and contexts (e.g. Geraci 2006; Borody 2013; Jensen and Blok 2013) but for the purposes of our argument, we are not specifically concerned with further exegesis on the literary or doctrinal narrative of techno-salvation (see Geraci 2006 and 2010; Ashik 2015). Rather, we focus on how these narratives are made and lived in response to religious projections of human failing; particularly those related to conceptualizations of modernity as a degenerate, final age.

The role of robotics and AI in religion has already been interrogated in relation to the internal capabilities of these machines. More specifically, both scholars and religious practitioners have questioned whether or not robots can believe in the ideas they espouse, whether or not they have the emotional capacity to mediate meaningful interpersonal relations, or whether or not they have sufficient moral capacity to make ethical judgements (e.g., Sapiens 2018; Geraci 2010; Forest 2005). Such lines of enquiry likely trace back to Abrahamic religious contexts that are more concerned with internal states of belief over issues of interpersonal practice. In fact, as a result of the globalization of Euro-American media, a significant degree of techno-salvationist narratives, both scholarly and popular, tend to draw on broader Protestant-informed bias in regards to defining what religion is overall (Dubuisson 2003). This means that the use of robotics and AI in Christianity, Islam, and Judaism (as orthodox religions) tend to focus mainly on doctrinal access; such as Bible or Quran readings and exegesis, community discussion forums, or other forms of assistive technology (see Fleming and Mann 2014 on how this bias has shaped the study of Asian religions). For example, Geraci suggests that in the US, the quest to immortalize human minds in computers stems from Christian scientists' belief in "the immortalization of human souls in resurrected bodies purified of their earthly nature" (2006: 230). The disembodiment of information also, Geraci argues, explains the preference for AI over robotics in the US (2006: 232). As a result, Euro-American and primarily Abrahamic religious frameworks then tend to ignore issues of ritual performance and action more common to the largely orthoprax[2] religions of Asia (see McKim 1996).

[2] Orthopraxy in this paper is intended to refer to a relgious system's emphasis on authorised or correct conduct, including ritual, ethical, and liturgical practice, as opposed to faith or grace.

Like their Western counterparts, the use of robots in Asian Buddhism and Hinduism has grown exponentially in the past few years; from the Tibetanoid Sophia the Robot, the ostensibly Buddhist robot set to "put an end to greed and ignorance,"[3] to the robotic *puja* arm (bizarrely, also named Sophia) developed by IBM Watson and Patil Automation Pvt Ltd (PAPL)[4] performing the Ganapati Chaturthi *aarti* (lamp offering) in New Delhi in 2017. By taking up a focus on ritual performance in the world rather than on states of internal belief or representational modes (as with Kimura 2017:7; Sone 2017: 3), a number of new questions emerge. What kinds of religious labour are robots being deployed to perform? What is it about these robots or the socio-cultural contexts they operate in that render them the preferred actors to humans in these roles? That is, what kinds of human deficiencies (personal or social) are robots positioned to address? Does robotic performance change how rituals work, the effects (or indeed, affects) they produce, and consequences for failure? If so, what relationships do they reveal between religious ideologies and modernity? Clearly, orthopraxic robotic practice is a rich vein of research and in this paper we hope to break new ground for future investigation.

Within an orthopraxic framing, we argue for a reading of robots as the logical end-result of a progression from (human) ritual failure to (robotic) ritual perfection[5]. Indeed, in many ways, Buddhist robots might be called the "ultimate renunciate," whose absence of desire, greed, bodily needs, or any of the 108 defilements that burden humanity, means they are impervious to corruption and thus able to produce perfect practice (Kimura 2018). Of course, without being subject to any defilements to overcome, their capacity to "renunciate" could also be called into question. Human failings in ritual practice, however, do not need to be extensive. Failure might be small, such as physical discomfort or limited memory capacity, and requiring only modest technological augmentation to the practitioner. For example, various forms of wooden bench and cushion have enabled monastics to maintain a seated position by restoring blood pressure to the legs during long periods of chanting and meditation. More recently, the Taiwanese company *Acer* has developed Smart Prayer Beads that digitally count the user's *mantra* recitations, so that they don't lose track of their place or number, and tally them for "merit" which can be shared on social media. By extension, other, more severe, ritual failings might call for intense mediation of interpersonal relations and politics in order for practice to be successful. In other words, they may require the replacement of human actors all together.

This paper addresses the central question of religious robots as techno-salvationist interventions in modern Buddhist ritual practice. We do so through two principal case studies: Pepper, a robot recently programmed to performs *sutras* at funeral rites in place of monastics within a Japanese nation facing demographic collapse[6], and the Lotos Network, a US-based start-up organisation that has proposed the use of online blockchain technology to combat what it sees as the

[3] http://rukor.org/appropriating-tibet/

[4] https://www.indiatoday.in/fyi/story/video-robot-hand-ganesh-chaturthi-aarti-1036500-2017-09-02

[5] See also: Festinger et. al. (2009) for further explanation as to how religious "failure" becomes systematized within broader modes of spiritual thinking.

[6] Portions of this paper pertaining to Japan are based on the unpublished PhD thesis of the first-named author.

fundamental problems of corruption and religious persecution within global sangha. These cases then provide contrastive evidence of how different religious actors, ordained and lay, may be perfected via technological innovation. These two cases also form the primary foundation from which we theorize a particular relationship between techno-salvationist narratives and automated Buddhist practice: that of technology as a logical, if idiosyncratic, response to human frailties and corruption in orthoprax ritual traditions. Ultimately, by examining techno-salvationist rhetoric in religious ritual, we demonstrate how the transcendence of human agency via robots and AI reimagines the possibilities for salvation in the contemporary world.

Technological advancement as orthopraxy

Scholars of orthopraxy in religion often divide the concept into two broadly applicable categories: as an historical analysis of law and order in religion (e.g. Baltutis 2011, Katz 2007, and Fitzgerald 2003) or as an ethnographic approach to a particular religious tradition's emphasis on "correct practice" (often meaning correct ritual performance) over "correct belief" (in terms of doctrine) (e.g. Dubuisson 2003 and Huffer 2011). In this paper, we concern ourselves primarily with the second usage as it relates to the rise of robotics and AI in religion and as a solution to human failings in the performance of ritual or the management of religious communities. In Asian Buddhism over the past century or so, numerous scholars have noted the ways in which an increasing attention to orthopraxy has accompanied the globalization of Buddhist traditions and given rise to subsequent concerns over "corruption" and "pollution" as often accompanies the transnational movement of religious practices into various new cultural contexts (Queen 2002; Covell 2005; Watson 2007; Chapple 1998). Concerns regarding corruption then arise both within and between Buddhist communities, where they take on specific issues of boundary-policing, cultural appropriation, and community participation in an age of increased global participation and visibility via digital media. Or, as Queen describes, modern Buddhist social engagement as "both growing out of and interacting with all the sectarian and cultural expressions of an ancient tradition" while at the same time establishing "global agencies, inviting participation, membership, and material support from sympathizers throughout the world (2002:326)."

Though it is impossible to speak of Buddhism, or any religion for that matter, as a singular tradition, this new kind of global interconnectivity expressed in both physical and virtual spaces takes on the central question of human suffering through some unique approaches. One of these methods has been to create robots who can replace human actors in performing rites in an "automated" way; where technology produces the capacity to alleviate suffering without itself suffering. Another has been to introduce technologically guided ritual and spiritual performance to mediate, and hopefully mitigate, latent human corruption and penchant for selfishness and ignorance. In other words, to allow artificial intelligence (AI) to perform certain actions so that greed, desire, and animosity will not otherwise taint the outcomes. In these two approaches, technology becomes collective salvation where the individual liberation of the monk or practitioner is not only no longer the point of the practice but a potentially selfish one given the growth and continuation of large-scale suffering in the modern age.

The expansion of technology into increasingly broad areas of everyday and ritual life has been met with significant controversy and critique, particularly where it crosses into sacred realms (Szerszynski 2005). Contradicting its pervasive image as an ancient and a-materialist (or even "anti-materialist") philosophy within the West, Buddhism, as an economic and political force, has long contributed to technological development and has routinely benefitted from new technologies in the service of materializing the dharma, cultivating mindfulness and awakening, and spreading its teachings (e.g., Rambelli 2018: 57; Winfield and Heine 2017: xvi-xvii; Kieschnick 2003). A turn toward material religion approaches in the last two decades of Buddhist studies has demonstrated that commodification and technology are as much part of Buddhism as meditation and textual analysis, if not essentially constitutive of these later practices. Indeed, Rambelli suggests that "with Buddhism, we have a major religion actually promoting technological developments also for religious, salvific purposes" (2018: 59). There is a long tradition of machines conducting prayers and rites across a range of Buddhist schools and historical periods, including automatic Tibetan prayer wheels, mantra-chanting software, and solar-powered gravestones that recite the Amitabha mantra (see Rambelli 2018), iPhone apps for making offerings to the ancestors, digital Buddhist altars and Amazon rent-a-priest services (see Gould et al. 2019), and so forth. Ironically, studies of the interaction between Buddhism, technology, and new media are less forthcoming than histories of technological development (Gleig 2015). Beyond the passing, often sensationalist, coverage in news media, technological innovation in Buddhism therefore takes seriously the utopian visions of a good Buddhism while simultaneously presenting creative solutions to bad Buddhists.

While there exists a growing body of literature that demonstrates the use of doctrine and its past interpretation to police the boundaries between "good" and "bad" religion (see Covell 2005:11), once idealized orthopraxy becomes the goal of religious reform (or control), techno-salvation enters the spaces of ritual to realize perfect practice and to bring religion back to an idealized state, often in reference to the past. On the one hand, this places techno-salvation directly into the discourses of tension between religion and modernity (and its corollary, science), but on the other hand, it also repositions religious institutions at the forefront of the formation of scientific theories and technological innovation (Geraci 2006: 229-230). In this way, for religions of a salvationist bent, concerned with addressing the ills of contemporary life in the projection of an utopian future, technology offers a means to do so that not only circumvents rival discourses of salvation through dogma (Dahlan 2018), but also reinterprets the sanctity of the cosmic order through a distinctly scientific, transhumanist, lens.

Unfortunately, utopian visions often beget dystopian realities. The promise of technological advancement is the triumph of human ingenuity over the challenges of nature and of human-caused apocalyptic futures such as over-population, poverty, and climate change. However, where technology is no longer instrumental but rather deified; what David Noble refers to as "a religion of technology" (1997) emerges. Noble broadly argues that the enchantment of technology within modernity mirrors a quest for transcendence and salvation within religion (see also Stolow 2013:8-10). Such a belief system has received criticism as a form of "hubris," where "the visionary, superhuman aspect of science" attempts to "transcend limitations and literally do the impossible"

(Hard and Jamison 2005:6). Beyond the realm of religion, Evgeny Morozov argues that "technological solutionism" (2013) has invaded every aspect of public life, and with its allure and promise, has allowed people to abrogate responsibility for the hard work of structural change. Where faith in technological solutions effectively inoculates society from its moral culpability, then, as Andy Fisher puts it, "technosalvationism, in sum, is the 'shared delusion' of our age" (2013: 157). In the contemporary Buddhist contexts we discuss here though, faith in technology is not entirely complete, and the following case studies demonstrate the striking clash of hope and disbelief that follow technological innovations.

Pepper the Priest: Robots as religious actors

Figure 1. Pepper performing sutra recitation, Tokyo, 2017. (Photo: Hannah Gould)

At the 2017 Life Ending Industry Expo (エンディング産業展 *Endingu Sangyōten*), the country's largest convention for the funeral industry, one of Japan's most advanced semi-humanoid robots, known as Pepper, took on a new role, as Buddhist priest (Fig. 1). Pepper is manufactured by SoftBank Robotics, and known for its advanced ability to detect human emotions via voice patterns and facial expressions. Pepper, dressed in silk monastic robes, performed the Heart Sutra (Jp. 般若心経 *han'nya shinkyō*, Sk. *Prajñāpāramitāhṛdaya*) in a robotic voice as it struck a large wooden glockenspiel in time. In Japan, recitation of this sutra is a common element of memorial services or *hōji* for the recently deceased and the ancestors. These services are one of the primary sites of encounter between the

public and Buddhist clergy. They are also essential to securing a "good" or culturally normative death in contemporary Japan, by facilitating the maturation of the dead through a series of stages, towards a state of ancestorhood and/or residence in the Pure Land (see Smith 1974). In this role, Pepper both performs as a Buddhist priest and assists in other non-robotic humans to become good Buddhists after death. During the convention, the sutra performance was repeated several times a day, each time drawing a large crowd of industry insiders and national and foreign media. The company presenting the priest-Pepper, plastics manufacturer and technology R&D conglomerate Nissei Eco, announced that a Pepper would shortly be available to rent for funerals nationwide.

Pepper is perhaps the most publicly accessible and commercially available advanced humanoid robotic system in Japan. Pepper units are currently deployed in Softbank mobile phone stores to greet customers and at many Japan Rail train stations to give travellers directions. The 2017 ENDEX event thus drew special media attention, despite Japanese Buddhism having a long history of mechanisation and automation of devices, primarily those "used to spread the Dharma and generate merit" (Rambelli 2018: 69). From block-printed sutras, to *shakuhachi* flutes, prayer wheels, and rotating sutra depositories (Rambelli 2018: 58) a diverse array of artefacts have been deployed throughout Japanese Buddhist history. Robotics have continued in this tradition in more recent history; here we highlight just three examples (see also Ikeguchi 2019). In 2016, Takarashiji Temple (宝蔵寺) in Kyoto created the robot double of the main priest, named "Au," who performed a Buddhist service. In 2018, Ryūganji Temple (龍岸寺) in Kyoto launched their "drone Buddha" performance, featuring miniature 3D printed statues of *Amida Nyorai, Kannon Bosatsu,* and *Seishi Bosatsu* that hover in locations around the main hall to represent the scene of "Amida Coming over the Mountain." Finally, in 2019, an "Android Kannon" named Minda, with an anthropomorphic face and mechanised body programmed to deliver Buddhist sermons, was developed by Zen Temple Kodaji in collaboration with professor of Intelligent Robotics Ishiguro Hiroshi from Osaka University. More broadly, a range of virtual online altars and iPhone apps now allows users to participate in ancestor veneration (Gould et al. 2018) and automated robotic delivery systems to manage storage and access human ashes (Uriu et al. 2018).

Rambelli (2007) argues that the efficacy of these devices in spreading the dharma and generating merit can be traced back, at least in part, to specific doctrines arising in the medieval period that influenced Buddhist teachings. Such doctrines affirmed the practice and participation of lay people in religious activities. For example, the Lotus Sutra presents four different orthodox modes of spreading dharma: possession (受持 *juji*) or "holding dear and remembering" of sutras, reading (読誦 *dokuju*) sutras, copying (写経 *shakyou*) sutras, and explaining (解説 *gesetsu*) sutras (Rambelli 2018: 69-70). In these activities, Rambelli argues (2018: 70):

> ... not only that full ordination of the performer is not important (Japanese Buddhism has a long history of downplaying the role and importance of monastic precepts), but that the emphasis is placed on ritual itself and not on direct performance or attendance; again, the emphasis is on ritual as signifier, not as a set of signifieds.

In this way, human understanding of the teachings is not necessary to produce an efficacious result (Reader and Tanabe 1998: 127). There are of course many other strands of Buddhism, for example those based on self-transformation, where robots would fail their role as human proxy. However, the value of orthopraxy is mirrored in contemporary funeral and memorial rites in Japan, whereby priests are hired as ritual specialists to perform an increasingly short sutra recitation, which the vast majority of assembled guests themselves do not comprehend. Given this state of affairs, it is interesting to consider what the conditions for the efficacious performance of sutras within Japanese mortuary rituals are, for priests, lay people, and perhaps, the dead. Other, more simplistic technological solutions to the paucity of religious specialist, including electronic recordings of sutras, have not been widely adopted in contemporary Japan. As a result, a full explanation requires further ethnographic investigation. However, in the first author's personal experience, dramatic performance of ritual, with flourishes and rhetoric, is often a key selling point for bereaved families accessing these services.

Alongside a praxis-oriented model, Rambelli additionally identifies doctrines concerning "nonsenients preaching the Dharma" (*mujō seppō* 無情説法) as helping to legitimize the efficacy of robots as spiritual agency (2018:71). Within this lineage of thought, which is attributed as influencing a broadly "techno-animist" disposition in popular Japanese culture today (Allison 2006; Geraci 2006; Jensen and Blok 2013), non-human entities are awarded comparable spirit and agency to human persons, and thus able to transmit dharma and themselves achieve enlightenment. It is notable that such techno-animism extends not only to natural entities, but also artificially manufactured machines. Indeed, famed AI scientist and robotics engineer Mori Masahiro, known for coining the term "uncanny valley" and his research on humans' emotional responses to robots, takes up this line of argument. Mori is a practitioner of Zen Buddhism (Kimura 2018: 1), and not only was his design practice influenced by practices of *zazen* meditation, but in *The Buddha in the Robot* (1974), he awards robots the same Buddha Nature (Jp. 仏性 *bussho*, Sk. *tathāgatagarbha*), and thus ability to experience suffering and achieve enlightenment, as humans (see Kimura 2018 for further discussion).

In this manner, a long cultural history of mechanisation and an expansive metaphysics inclusive of non-human actors appears to justify the ritually efficacious participation of robots like Pepper in religious rites. However, in practice, popular and lay reactions to these devices have been mixed. In the past, prayer machines have been held up as evidence of the degenerate, materialistic nature of Asian religions as viewed through Orientalist guise in the West (see Fleming and Mann 2014). For example, Blanton (2016) describes the negative reactions to Buddhist devotional mechanisms that arose in Western academic and popular literature in the late 19th century. He reports that in Christian Sunday school lessons for children, Tibetan Buddhist prayer wheels were "invoked... as fetishistic objects that were the antithesis of Protestant prayer and its improvised outpourings of the heart." (Blanton 2016: 99). This is despite mechanised prayer machines and other high-tech solutions being subsequently developed within Christian communities (McDanell 1995). During Pepper's demonstration at the convention, a human priest sat watching over the performance, and later commented to reporters that he was there to check whether or not Pepper could "impart the 'heart' aspect to a machine because I believe that the 'heart' is the foundation of

religion"[7]. One year later at the next Expo, the same priest was advertising an AI home speaker device that connected users to monastics for live counselling services[8]. The presence of the human priest at these launches suggests that the company was aware of the potential for disbelief and discomfort created by this new service. Similarly, Jodo Shū priest Ikeguchi (2019) expresses deep scepticism at the emotional range of robot priests, particularly that their inability to express human suffering via illness and discomfort, and eventually immortality, disqualifies them from empathising with human subjects, and thus effectively teaching dharma. These mixed reactions stand in contrast to the valorisation of AI and robotics that scholars like Robert Geraci, working outside of Japan, have attributed to the Japanese people, Japanese robotic engineers, and their religious tradition (2006: 230). He asserts that: "Buddhism and Shinto afford sanctity to robots: robots are blessed, take part in cosmic salvation history, and they are accordingly welcome in Japanese society." (2006: 235). However, as Rambelli argues (2018: 67), Geraci and others have tended to overemphasize both the positive view of robotics in Japan, and the negative view of robotics in the West; both have produced utopian and dystopian visions of robotic futures.

Even, and perhaps especially when, religious robots provoke and offend, they are potentially profitable sources of novelty. The novelty of the Pepper/priest display attracted significant floor traffic to Nissei Eco's booth, and to its other, less outlandish, services, including software for live streaming memorial services and an ecommerce web portal for funeral homes. More broadly, high-profile collaborations with university robotics departments and tech firms have provided temples with a unique selling-point or gimmick for attract visitors and thus patronage in a competitive religious economy (see Thomas 2015). From speed-dating to fashion shows, and from community volunteer organisations to cafes and bars, Japanese monastics have pursued a range of non-traditional avenues to increase foot traffic to temples and re-establish the relevance of Buddhism to contemporary lives. In this guise, robotic priests and icons are part of a wider trend that John Nelson labels "experimental Buddhism" (2013), or efforts to reinvigorate Buddhist participation in the modern age. At the same time, this experimentation often addresses more fundamental social changes that underlie diminished interest and participation in Buddhism in contemporary Japan.

Jennifer Robertson's recent works on Japanese robotics (2017 and 2018) are particularly illuminating in this regard. She diagnoses robots as part of a "techno-utopian solution to problems facing Japanese society today" (2018: 160), primarily demographic failure, in the form of an aging population, decreasing marriages, a steeply declining birth rate, and the shrinking labour force (2017: 18-20; 2018: 191). Other, these crises are subject to particularly racialised and gendered discourses, as a failure to reproduce the Japanese ethnic nation. Alongside the breakdown of the patrilineal household (and the rise of the nuclear family), ties between households and temples, once formalised within the religio-legal parishioner or *danka* system, have been significantly weakened in recent generations. These changes have brought instability to the temple structure, both in terms of their

[7] https://www.theguardian.com/technology/2017/aug/23/robot-funerals-priest-launched-softbank-humanoid-robot-pepper-live-streaming Accessed 7 November 2020.

[8] The speaker was launched at the expo in 2018 by the company *Yorisō*, who are now well-known as disruptors, having previously been responsible for an Amazon 'rent-a-monk' service.

financial viability and longevity, with fewer young priests taking up what in Japan is largely a family temple business (see Reader 2011). During the funeral industry convention, the Pepper/priest project was presented primarily as a remedy to an apparent shortage of clergy available to perform funeral and memorial services within rural areas. In this sense, robots provide a means to replenish a dwindling population of good Buddhists in contemporary Japan, who in turn might assist with securing a culturally normative "good death" for other non-robotic citizens. This is a labour that Japanese human agents no longer wish to perform; instead, as Sherry Turkle argues (2011), we expect more from technology and less from each other.

Such expectations are not always met, and the development of robotic futures requires contemporary investment in present realities that are often "underwhelming," to quote Robertson's assessment of Pepper's capabilities (2017: 10). The proposed fee for hiring out Pepper for a Buddhist memorial service, quoted at ¥50,000, is substantial, and rivals the cost of hiring out a human priest. Pepper also appears particularly ill-suited to the dramatic performance of sutras, as it is unable to modulate its vocal tone or grasp objects, such that ritual implements must be lashed to its arms rather than held. If orthopraxic performance is the measure of a good Buddhist robot, then Pepper's performance at the funeral industry expo demonstrates the remoteness of this future. However, Yuji Sone gives a dramaturgical account of such industry conventions as "spectacularised robot events," in which robotic devices emerge as "emblems of futurity" that are performed for an awaiting audience (2017: 22 and Chpt. 3). The current capabilities of the robot system, or the likelihood of its eventual deployment, is less important than this atmosphere of innovation. Two decades earlier, Noble (1997) argued that the doctrine of technological progress in fact derives its strength from its ambiguous, future-orientated character, which directs attention away from the functioning, perhaps failing, of the present moment. In this sense, Pepper conceals the demographic failure of Japanese society and the temple-parishioner system.

This turn toward robots side-steps other possible solutions, including human alternatives and/or a transformation of Buddhism's role in funerary rites. In particular, Robertson interprets Japan's roboticisation as part of a wider trend of "the state… continuing the post-war trend of pursuing automation over replacement migration" (2018: 159). Programs such as *Innovation 25*, Prime Minister Shinzo Abe's government's visionary blueprint for the revitalisation of Japanese society, rely heavily on technological transformation. Under *Innovation 25*, robots play a core role in stabilizing crumbling social institutions, including the household. Robertson argues that robots are attractive workers for this labour because they can be programmed to mimic a unique "Japaneseness" or national character, and are thus primed for the preservation of cultural customs and art forms (2018: 160). This reading of robots as good Japanese citizens contradicts the common fallacy of robots as somehow acultural or transcendent, as a result of their more-than-human status. Being a "good Buddhist" means taking up the role of ritual worker in Japanese society in very specific realms that primarily involve caring for the dead. When techno-salvationist designs for Buddhism engage more directly with online, transnational Buddhist communities, and do stake a claim to creating universal, neutral platforms, questions of cultural difference and appropriation emerge, as we shall see in the next example.

Buddhism on the blockchain: The Lotos Network

The Lotos Network[9] was launched in mid-2017, as a collaborative effort to create "a complete Buddhist and secular meditation ecosystem" (2018: 1), led a self-described group of "Buddhist geeks"[10] working primarily in North America. The proposed application is powered by the Ethereum Blockchain system,[11] an open software platform deploying blockchain technology that allows independent developers to create decentralized applications. Although not a robot, blockchain similarly extends religious practice into the realm of more-than-human agency. Blockchain technology uses an incorruptible digital ledger to record and distribute digital information, not just economic transactions, creating what has been hailed as "the backbone of a new type of internet"[12]. The imagined functionality of the Lotos Network is broad, but the basic infrastructure consists of a web application that delivers live-streaming of on-demand meditation and dharma classes from a catalogue of teachers around the world. This is organised through a "temple" structure, corresponding to different Buddhist schools offline, create their own "smart contracts" for members, with "form the essence of that sect's beliefs" (Lotos Network 2017: 1). Economic exchanges between students and between students and teachers are facilitated via so-called "Karma Tokens"[13]. The organisations' website paints a grand vision, including a "LotosLabs," which will develop wearables to deliver biometric feedback to students and teachings, open-access repository for scientific research into the benefits of meditation, a "BuddhaBrain" AI chatbot to help with scheduling and student enquiries, and a physical, offline "physical node" for meditation (consisting of a cushion, touch-screen, and stand).

Upon launch, the specifications for the Lotos Network platform and the founder's philosophies behind it, were made public via the website and White Paper. Subsequent reporting and critique in the popular press[14] focused on the seemingly uncanny juxtaposition of an ancient religion with blockchain technology, as well as critique of the perceived cultural appropriation involved. According to their White Paper (2017), the Lotos Network is designed to address two major problems within contemporary Buddhism: corruption and religious persecution. The founders assert that contrary to romantic images of Buddhism in the West, the religion is in fact "a huge business accumulating vast sums of wealth," often to immoral ends (2017: 1). Footnotes reference news stories of political division and decadent consumption in Thai Buddhism[15] and op-eds from the New York

[9] https://lotos.network The website is no longer active and at the time of publication, appears to redirect to a massage parlour review website.

[10] One of the listed advisors to the team was Vincent Horn, the founder of "Buddhist Geeks," which is an online community, podcast, and meditation training program.

[11] https://blockgeeks.com/guides/ethereum/

[12] https://blockgeeks.com/guides/what-is-blockchain-technology/

[13] This is built on the *ERC-20* (Ethereum Request for Comment) protocol for smart contracts for implementing tokens in Ethereum, rather than the Ether system.

[14] For example: https://bitcoinmagazine.com/articles/bad-karma-community-objects-opportunism-buddhism-blockchain/

[15] https://www.reuters.com/article/us-thailand-buddhism-idUSKCN0UT0AI Accessed 10 October 2020

Times on Myanmar's "Monks gone bad"[16], as evidence of the moral degradation of contemporary Buddhism corruption, sectarianism, and scandal are "eroding trust" to the extent that the founders feel they "pos[e] a long-term existential risk to the practice of Buddhism" (2017: 1). The second major problem identified with contemporary Buddhism is external: the persecution of Buddhists "by governments and other entities" (2017: 1). Additionally, contemporary Buddhism is hierarchical, where the Buddha imagined an egalitarian teaching structure; temples are "traditional, authoritative and secretive," where they should be egalitarian; and Buddhism tends towards "*introversionism* through privacy and seclusion" as demonstrated by strict initiation rites and stages of knowledge transmission, where it should be open ("*extroversionism*") (2017: 5). Analysing this construction of corruption, it is notable that despite primarily addressing themselves to a Western Buddhist audience, with start-up plans to initially "onboard Western, and eventually Eastern influencers" (2017a: 13), all of the examples of corruption identified within the White Paper occurred within Asian Buddhist communities.

Blockchain is central to bringing into being the Lotos Network's utopian vision of a Buddhist community, which they derive from Stephen Batchelor's work, *After Buddhism: Rethinking Dharma for a Secular Age* (2015: 12):

> Gotama clearly envisaged a community in which all members—irrespective of their status as men or women, monastics (mendicants) or laity (adherents)—are entirely equal in the training they receive in the dharma, the practices they undertake to master and understand it, and the responsibility they have in communicating its message. Such an egalitarian community is a far cry from what is normative in many Buddhist traditions in Asia today. Spiritual, moral, and doctrinal authority is generally the preserve of senior monks.

Further, the model of an "assembly" (Sk. *pariṣā*), as discussed in the *Nidānasaṃyutta*, is repeatedly invoked by the Lotos Network as the ideal alternative to Buddhism's contemporary state. Batchelor is one of a number of Western-convert Buddhists who have forwarded religious reformation; specifically where his "secular Buddhism" refracts concepts such as karma and reincarnation through an existential agnosticism (Baumann 2001).

What appears most appealing about blockchain technology is its unique promise of both transparency and anonymity, which the Lotos Network frames, with rather romantic overtures, as "the only feasible way to eliminate corruption, preserve trust, and create a healthy future for Buddhist practice" (2017: 1). The ledger that drives Blockchain technology allows for ownership of transactions to be visibly dispersed throughout the entire community, rather than centralised within a single institution. In this sense, individual or institutional propensity to corruption is mediated and neutralised by collective surveillance. The appeal to technological surveillance and radical transparency speak to the values of a wider start-up culture from which this intervention has sprung. Morozov (2013), for example, describes how the doctrine of technological solutionism today operates

[16]https://latitude.blogs.nytimes.com/2013/04/17/myanmars-monks-have-become-corrupt-and-dangerously-sectarian/

through tracking and quantifying all aspects of everyday life to produce "big data," which might then be gamified to provoke behavioural change. As such, if Buddhists can be sufficiently surveilled by more-than-human entities, then perhaps their excesses and defects can be curtailed.

Charges against Buddhism's contemporary degradation via corruption, political hierarchies, and opacity, combined with overtures to early Buddhist scriptures, as interpreted by contemporary Western Buddhist teachers like Batchelor, also places the Lotos Network squarely within reformist movements variously labelled "Buddhist modernism" or "Protestant Buddhism." The term "Protestant Buddhism" was first used by Obeyesekere and Gombrich to describe 19th century Buddhist Modernism in Sri Lanka, but has since been fruitfully applied to Buddhist movements worldwide that are characterised by moves like democratization, disenchantment, and rationalization, as well as the rejection of magic, folk belief, and materiality (as perceived idolatry)[17]. Buddhist modernisms are many and varied around the world (McMahan 2008), but often, they work to strip Buddhism of what are interpreted as the cultural elements, and in so doing, both return Buddhism to the wisdom of its original form and associate it with rationalist, scientific discourses that validate practices like meditation. This is reflected in one of the Lotos Network's stated goals, to "improve upon ... aspects of meditative practice" and "promote the scientific study of Buddhism" via data collection, incentivization, and transparency (2017:2). The Lotos Network is similarly embedded in a particular Buddhist lineage and cultural context, but its discourse of scientism and modernity projects it as universal.

Notably, the particular brand of high-tech Buddhist modernism proposed by Lotos Network does not demand the decoupling of Buddhism from capitalist economies, but rather seeks to perfect the functioning of both by neutralising the potential for corruption that is introduced by human actors. Here, blockchain is the optimum solution; "corruption is an insurmountable problem without the blockchain" (Lotos Network 2017: 1). In a fine demonstration of the operations of the fetish, several popular news sites have declared blockchain technology and bitcoin currency to be a new religion,[18] such is the fervour of its adherents. Indeed, Humayun and Belk (2017) analyse belief in all financial systems as a kind of religious faith, one which was fundamentally shaken after the 2008 financial crisis. In its place, they suggest "bitcoin takes the notions of belief, trust and faith to an all new extreme" (2017: 677), including religious images and language self-consciously applied to unite a diverse community of believers. Predating the Lotos Network, cryptocurrency entrepreneur Matt Liston and artist Avery Singer had launched their own "blockchain religion," known as 0xΩ (Kelly 2018). The question of whether such projects are a genuine attempt to create a new religion or simply absurdist art projects is worth asking, but they at least demonstrate a self-conscious desire to play with concepts of faith and technology.

[17] Notably, Kimura (2018: 73) also classifies Mori's Buddhist robotic theory as analogous to Batchelor's "Secular Buddhism," suggesting a convergence of techno-utopian visions for Buddhism around this particular version of modernism.

[18] https://www.forbes.com/sites/naeemaslam/2018/04/20/bitcoin-is-the-religion-but-ripple-would-pack-higher-return/#9fc376e504bd

As Humayun and Belk found that "many consumers keep faith in Bitcoin's underlying technology, even though they do lose faith in people" (2017: 677). Such faith in the non-human mechanics of the blockchain can be interpreted as a 21st century inflection of belief in the supra-human judicial force of the "invisible hand of the market" acting within capitalist economies. In this sense, Blockchain Buddhism (purports to) remove human corruption by instituting radical transparency, but despite overtures to communality, retains faith in the overall merits of a system of capital exchange[19]. This has been a key point of contention between the Lotos Network and its early interlocutors. As the White Paper for the Lotus Network was first launched as an online Google Document, open to editing and comment by any member of the public, the authors of this paper were able to witness a real-time progression of debates amongst organisers and respondents. One key criticism directed toward the Lotos Network is that Buddhism is (or at least should be) antithetical to commodification and the accumulation of wealth. For example, one early White Paper editor expressed worries that the "dharma will [be] behind a paywall," they continue:

> [I] don't think that there is such a thing as capitalism without greed. [T]he current crypto currency environment might be considered as capitalism on steroids... If [you are] not careful you might end up re-creating the same merit-making economies, but simply in cyberspace, turbo-charged...

In response, the founders deploy Buddhist studies literature, citing work by Gregory Schopen (2004), Stephen Batchelor (2015), and Thai monastic P.A. Payutto (1994), in a rebuttal article entitled, "Can money and Buddhism mix?" (2017b). They argue that not only does the historical record attest that Buddhist temples have always been engaged in economic activity (Schopen 2004), but that the Buddha did not intend to separate commerce and religion (at least for lay people), and taught instead that "wealth can provide contentment, which is a good foundation for spiritual development. Economic activity is a means not only to a good life, but also a noble one" (2017b: 1). They go further in their defence of capital by embracing the idea of an "extrinsic motivation" that can "incent[ivize] meditation" (2013: 9), in the form of Karma Tokens, which are the Lotos Network's currency. Karma Tokens are received via monthly subscriptions or gift, and then exchanged within the system for mediation classes, books, and other practice-related items. Several critics assert that Buddhism fundamentally operates on a gift economy, such that dharma should be exchanged altruistically, rather than bought and sold. But by invoking scholarly texts, the Lotus Network defends an orthopraxic historical mode of religious community life.

Buddhist transhumanism in the age of decline

Utopias are fragile constructions, but the likelihood of their real-world realisation is only part of their appeal. The current status of Lotos Network, self-described as "early-stage and experimental" in 2017,

[19] Paul Oslington (2011) traces back the origins of the "invisible hand of the market" phrase, coined by Adam Smith, to a broader cultural milieu of 18th century Scotland, including the influence of Calvinism and Isaac Newton's ideas divine action and providence.

is uncertain. The group's website has gone into disrepair and very little progress appears to have been made towards the ethereum testnet, feasibility study, or project more generally, beyond the publication of a white paper. Similarly, the Pepper/priest service is yet to become commercially available (let alone viable) throughout Japan. Two years after its 2017 launch, no funeral services with Pepper had been booked. As is so often the case, these examples suggest that "robots that exist in the imagination or in fictional formats... are far more capable, coordinated, and exciting than real-world robots..." (Robertson 2018: 191). Utopias belong to the present moment and they tell us that the present future of Buddhism is increasingly imagined as post- or transhuman; deploying human ingenuity to transcend human weaknesses toward a technological perfection of practice. Indeed, the logical outcome of the perfection of Buddhist practice, by both monastics and laity, might be the elimination of human Buddhists entirely. However, robots are gods of our own making and when Buddhists, with all their human failings, fill the gaps of ritual failure with technology, they also reproduce the very things they mean to transcend. Rather than eliminating human corruption, dishonesty, or frailty, they transform it, recreate it, and automate it. Modern robots are often viewed through a particular kind of acultural paradox: made by cultural beings in a cultural moment but perceived as inhuman, free of mortal failings and flaws, and ultimately free of culture itself. In this weird circularity of humans creating robots, robots becoming inhuman, and robots therefore creating the transhuman, the future of Buddhism is technified in a particular way that more orthodox religions are unlikely to realise. This is because "good Buddhism" is good practice, whose actions in the world are carried out according to rules and laws governing movement and change in the cosmos. The robot is, then, just the next link in a chain of transformations that begins with the Middle Way and ends on the road to salvation.

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