Artificial Intelligence, Networks, and Spirituality

with Mark Coeckelbergh, "The Spirit in the Network"; Laurence Tamatea, "Online Buddhist and Christian Responses to Artificial Intelligence"; Robert M. Geraci, "The Popular Appeal of Apocalyptic AI"

ONLINE BUDDHIST AND CHRISTIAN RESPONSES TO ARTIFICIAL INTELLIGENCE

by Laurence Tamatea

Abstract. I report the findings of a comparative analysis of online Christian and Buddhist responses to artificial intelligence. I review the Buddhist response and compare it with the Christian response outlined in an earlier essay (Tamatea 2008). The discussion seeks to answer two questions: Which approach to *imago Dei* informs the online Buddhist response to artificial intelligence? And to what extent does the preference for a particular approach emerge from a desire to construct the Self? The conclusion is that, like the Christian response, the Buddhist response is grounded not so much in the reality of AI as it is in the discursive constructions of AI made available through Buddhist cosmology, which (paradoxically), like the Christian response, are deployed in defense of the Self, despite claimed adherence to the notion of *anatta*, or non-Self.

Keywords: androids; artificial intelligence; Buddhism; Christianity; GRN technologies; *imago Dei*; Internet; robots; singularity

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"I've seen things you people wouldn't believe. Attack ships on fire off the shoulder of Orion. I watched C-beams glitter in the dark near the Tannhauser gate. All those moments will be lost in time, like tears in the rain. Time to die." These are the final words of combat android Roy Batty, who, aware of his imminent death, saves Rick Deckard, the human tasked with his termination in the film *Blade Runner* (Scott 1982). Ultimately, though,

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Deckard's mission is a failure. Roy's death results from his having been programmed to live for only four years.

Blade Runner prompts reflection upon a future inscribed by artificial intelligence (AI). Should an AI superior to humans be created? Could or should love inform the encounter between androids and humans, as Deckard experiences? Should a "conscious" AI be expendable? Should AI have rights? Michael Kirby, a bioethics adviser to the United Nations Commissioner on Human Rights, suggests, like others (Bynum 2006; Campbell et al. 2007), that it is time to explore such questions: "If anything, we've been surprised at how quickly technology has progressed. It's worth taking on these issues intellectually now, rather than in crises later" (Garreau 2005, 231).

Following Kirby's recommendation, in this essay I report how Buddhists in an online environment have responded to these issues, in particular to AI. I compare this Buddhist response with the online Christian response explored previously (Tamatea 2008). The data show that, despite claimed adherence to the doctrine of no-self (*anatta*), the Buddhist response, like that of Christians, is inscribed by a focus on *some-thing* as a key property of humankind.

The Singularity Is Nigh?

The technologies to which Kirby refers comprise genetics, robotics, and nanotechnology (GRN), all considered paths to developing AI. Weak AI simulates human intelligence; strong AI would be grounded in its own consciousness or intelligence. Ray Kurzweil (2002a, 13) and others argue that by 2019 computers will be as "intelligent" as humans, giving birth to the "singularity," which comprises "the huge but unpredictable social change delivered by The Curve" (Garreau 2005, 71). "The Curve" is the exponential rate of acceleration in the growth of computing technology (Kurzweil 2002a). Adaptive self-programing, self-replicating, higher-than-human "intelligence" machines (Garreau 2005) that can more easily store, upgrade, acquire, process, and share information will, it is argued, develop at a rate significantly faster than that of human evolution. For Kurzweil, who holds that humanity will be enhanced by GRN, technology is evolution by another means—a continuation of the evolutionary process that gave rise to technology creating human beings in the first place (2002b, 212).

Kurzweil holds that nanotechnology will permit the insertion of neural implants facilitating machine-human interfacing and enhanced intelligence. The cochlear implant is cited as evidence of this (Clark 2003, 16), as are implants allowing stroke victims to control objects with their minds (Kurzweil 2002a, 14). Professor Kevin Warwick has already communicated across the Internet using electronic implants (2010, 17). Nanotechnology also may facilitate reverse-engineering the human brain, enabling its remodeling in a computer (Kurzweil 2002a, 32), and permit uploading the mind

into a cyberspace indistinguishable from reality. Along with biotechnology (Garreau 2005, 91) this is suggested as a means to virtual immortality (Kurzweil 2002a, 36–49). Nanotechnology involves engineering and reassembling matter at the atomic level, while genetic engineering comprises the manipulation of an organism's genes in ways outside of its inherited processes along with the manipulation of random genetic mutations. "Mighty Mouse" exemplifies the latter (McPherron and Lee 1997).

Lest it be thought that these are projections from less than stable minds, it is useful to acknowledge the work of the United States–based Defense Advanced Research Projects Agency (DARPA), which not only helped fund speech-recognition computers and head-mounted displays but also helped to develop the

> Global positioning system, the cell phone, "own-the-night" night-vision sensors, . . . satellites . . . all of the military's airplanes, missiles, ships and vehicles . . . everything with the word *stealth* as part of its name, has "DARPA inside." Various ray guns, including laser, particle-beam and electromagnetic pulse-weapons . . . [and] the legions of air, land and sea robots, including the Predator, which when it successfully fired a Hellfire missile at an al-Qaeda leader's SUV in Yemen in 2002, had the distinction of becoming arguably the first robot known to incinerate a human being. (Garreau 2005, 24)

Current DARPA projects include soldier enhancement in relation to pain, wounds, bleeding, sleep, and responses to bioweapons. Measures range from pain vaccine, tissue and organ regeneration, more robust immune systems, controlling cellular metabolism, and exoskeleton suits to distributed local and remote machine-human interfacing by thought. As Joel Garreau suggests (2005, 182), the challenge is social as much as technological.

Reflection on the social consequences of GRN technologies typically constructs a future comprising a Heaven, Hell, or Prevail scenario (Garreau 2005)—one that is paradisiacal, destructive, or more of the same. Transhumanists and Kurzweil hold to a heaven scenario. A hellish future is projected by Bill Joy, cofounder and chief scientist of Sun Microsystems. In Joy's future, "humans are rendered extinct by a far-superior robot species and the essence of nature is irrevocably altered, both victims of our unbridled technological and scientific advances" (Joy 2001). But, although neither Kurzweil nor Joy arrives at his conclusions from any explicit religious perspective, Joy (2000) claims that the truth, which genetic, robotic, and nanoscience seek, can be "considered a dangerous substitute for God" were it to lead to human extinction. Thus he invokes religious discourse and points to tensions between religion and science (Halal 2003), the emergence of which seem understandable as GRN technologies promise to blur species boundaries and create new life forms (Garreau 2005). A genetics, robotics, and nanotechnology future, it seems, will question the very fundamentals that have necessitated religious explanation: the origin

and purpose of life, the value of human relations, the significance of the human species, suffering and death, and ultimately the ontological status of the Self.

William Bainbridge (2006) explains that the present-day convergence of cognitive science with information technology already threatens traditional religious beliefs. He suggests that the current lack of substantial opposition to robots and computers is remarkable but thinks that, as AI progresses and there are no more gaps for God to fill, religious resistance will increase, mostly as reactions against cyber-immortality (2006, 26–28) and from fundamentalists representing the frustrations of marginalized groups excluded from the benefits of new technologies. Similarly, R. Krasnogor and Natalio Krasnogor (n.d.) hold that, as previously occurred, a reaction can be expected in the wake of the technological expansion of the horizon of humanity's meanings.

Given these forecasts, this essay explores precisely the religious response to GRN. In comparing the Buddhist response to the Christian response investigated earlier (Tamatea 2008), I seek to answer two questions: (1) Which approach to *imago Dei* informs the online Buddhist response to Artificial Intelligence (AI) and GRN? and (2) To what extent does the Buddhist preference for a particular approach emerge from a desire to construct the Self? As I compare this Buddhist response with that of the Christian online community to these concerns, I also reflect on issues concerning research methodology that hold implications for the validity of the comparison.

Drawing upon Noreen Herzfeld's (2002) discussion of AI and the three theological approaches to understanding *imago Dei*, humankind made in the image of God, the Christian response was found to be characterized by a fear of AI. It also was mostly elaborated through the substantive and functional approaches to *imago Dei* and constructed a mostly hellish AI-informed future. I used Homi Bhabha's (1994) postcolonial model of ambivalence to argue that the hellish view of AI emerged from the capacity of AI to challenge the ability of Christians whose identity is grounded in substantive and functional readings of *imago Dei* to construct their desired Self (Tamatea 2008).

But Buddhism is not Christianity, and although Buddhist cosmology is ambivalent toward the notion of a single transcendental and enduring God, it is decidedly less ambivalent regarding the possibility that humankind is made in the image of God or includes a substantive element such as a soul (Goddard 1966, 27). Hence it can be argued that comparison of the Buddhist response to the Christian response in terms of approaches to *imago Dei* is neither valid nor fair in that it does not compare apples with apples. It could be argued that such a comparison could proceed only on the grounds of substantial epistemological violence being imposed upon the respective worldviews of both religions. But to the extent that Buddhism is

also concerned with the nature of the individual, relations with others, the individual's practice of life, and one's relationship with the transcendental (Goddard 1966), as Christianity is, the theological frames used to analyze the Christian response are useful for exploring the Buddhist response to AI, though this is not to say that Buddhists subscribe to a particular view of *imago Dei*. It is to say that reference to *imago Dei* may in some respects offer a valid framework for comparison, because those aspects of human relations that concern our understanding of the Self, the practice of life, relations with others, and relations with the transcendental (which the development of AI seems to affect accepted understandings of) are also concerns of Buddhist cosmology, though elaborated through different discourses and taxonomies. Hence, comparison of Christian and Buddhist responses to AI, "mediated" or interfaced through reference to Christianity's three approaches to *imago Dei*, is grounded not so much in how Buddhist taxonomies compare with that of *imago Dei* as in how Buddhists respond to aspects of the human experience—Self, the practice of life, relations with others, and relations with the transcendental—in relation to the possibility of AI, which are otherwise captured by the notion of *imago Dei*.

Drawing upon the insights of Jeppe Jensen (2004, 56), this comparison is not motivated by the desire to know the truth of things discussed by Christians and Buddhists, inasmuch as these things (the soul, Karma, and consciousness) may be real or not. Rather, it compares what is *said* about things that are otherwise constructed through the discourses of Christians and Buddhists to be real. I do not here compare taxonomies, and I certainly do not intend to reify the Christian notion of *imago Dei* to do this, or, as Amos Yong cautions, "interrogate Buddhism" (2008, 42). Instead, I compare the Christian and Buddhist responses to aspects of the human experience, which in Christian cosmology are grasped, if not constructed, through the notion of *imago Dei*. Although I do not go as far as to suggest a degree of complementarity between Christian and Buddhism philosophy, as Lai Pan-chiu does (2002), I acknowledge that aspects of their epistemologies, insofar as these are expressed through language (as discourse), are comparable.

In what follows, I elaborate two key findings. The first concerns the nature of the Buddhist response to AI. Like the Christian response (Tamatea 2008), it is primarily focused upon what constitutes the individual. Although the Buddhist response is not grounded in the existence of a soul, as the Christian response is, Buddhist references to consciousness seem to be all but interchangeable, particularly in terms of discursive function, with the Christian reference to the soul as an "essence" that may or may not be possessed by AI. With reference to Bhabha's (1994) model of ambivalence, I argue that, like the Christian response, Buddhist discussion reveals a deep concern to validate those discourses that validate the Self—a paradoxical outcome given the Buddhist doctrine of *anatta*, or non-Self. Contrary to

the Christian response, Buddhists do not construct the AI future as a hell (Garreau 2005), which seems a direct outcome of the absence of core notions of a "soul" or "God," but the Buddhist response also is characterized by a degree of "othering"—although, because of a more favorable attitude toward science (Yong 2008), this othering seems less aggressive.

To reiterate, the validity of the findings emerges not in terms of the realities or "real" form of those things imputed by these two religious groups but in terms of the discourses they deploy to construct such realities—discourses that, as I show, powerfully shape their community's understanding of AI, humanity, and the future.

Research Method

The Internet functions as an alternative medium for voice amplification by those often without access to or control of mainstream media. With "home pages, bulletin boards and chat groups it is only limited by the proportion of the public with computer access" (Ungar 2001, 280). Of course, the idea that Internet-sourced data will provide a complete picture of Buddhist perspectives must be tempered by acknowledging that social relations in and access to cyberspace are framed by socioeconomic and political economies. Furthermore, the views expressed online may not represent the general Buddhist public as much as the views of those who feel their beliefs to be challenged by GRN technologies, as found in the analysis of online Christian responses (Tamatea 2008). The Internet also facilitates challenging the control of religious authority (Bunt 2000), so online analysis of religious perspectives can afford insight into the views of the "people" as opposed to those of the religious elite. As suggested by Robb Enderle (2005) and verified by Tamatea (2008), however, challenges to authorized regimes of truth may be met online with violent resistance by groups whose representations are questioned. The Internet thus facilitates the global mobilization of religion, the construction of globalized religious networks, and the global reproduction and circulation of religious discourses contributing to the emergence of varieties of religioscapes located within cyberspace (Vasquez 2008). It provides a map upon which various religioscapes can be located and potentially compared in terms of discourses produced and circulated through such -scapes on a variety of topics and concerns. For example, it is not uncommon to find in the Web pages of particular religious groups a "News" section reporting current events with comment from the perspective of that group (see, for example, *http://www.cbn.com/*).

The Internet holds special significance in relation to AI because it is heavily reliant upon AI. It also is frequently cited in religious discourse. Some Christians claim that the Internet is the Beast of Revelation, or that a consciousness may emerge from it (www.isthebeast n.d.; Garreau 2005,

73), or that it is the product of DARPA, which recently has been criticized by Christian groups concerning its "super soldier" research (End Time Prophecy Net 2006). From a Buddhist perspective, Yongjeung Kim (n.d.), reproducing conservative right-wing U.S. discourse, identifies the personal computer and cyberspace as among the problems of today's society.

Given these relationships between religion and the Internet, in particular the capacity it affords "the people" to challenge orthodoxy and clerical interpretation, Google Web and Groups searches were conducted between June and October 2007 using the terms "Artificial Intelligence + Buddhism/ist." Sources identified included Buddhist Web sites, Groups, Blogs, and media reports. Like my review of the Christian response (Tamatea 2008), the sources identified, with very few exceptions, reproduce the voice of "the people" and not that of the Buddhist hierarchy, notwithstanding the views of the Dalai Lama. Although it cannot be known with certainty if the responses identified are from Buddhists, any more than it could be known if the Christian responses were made by actual Christians, what is important is that the voices identified speak either through or on behalf of Buddhism. As with my Christian-focused search, the terms "Buddhism/ist + Transhumanist" (BT) were not used because, by and large, a BT would already be committed to the Heaven scenario of GRN technology (Garreau 2005; Hughes 2007).

The online data obtained from these searches is analyzed below using critical discourse analysis (CDA), because the reality of any GRN-technology future is presently nothing other than discourse. Indeed, although both Buddhism and Christianity acknowledge the limitations of language, they equally acknowledge the necessity of language for grasping at the ineffable—hence the focus on discourse in this review of the Buddhist response (Pan-chiu 2002). CDA is a project comprising a variety of concepts and tools at different levels of analysis (Ainsworth and Hardy 2004, 236), as David Altheide (drawing upon Michael Schwalbe) highlights. Discourse is more than talking or writing or the rules governing what can be said and by whom. Discourse involves talking and writing to "regulate" and thus cannot be separated from the social control of boundaries (Altheide 2003, 41). In the field of postcolonial studies, Edward Said (1978) and Bhabha (1994) have shown that discursive representation not only functions to maintain boundaries; it is an exercise in truth construction through which control is maintained also over the construction of the Self. The Orient, Said explained, was less about the truth of the Orient than it was about European desires. As will be shown, what Buddhists say about AI not only functions (like Christian discourse) to regulate truths about the "transcendent" and AI; it also functions to regulate the boundaries of Self and Other in relation to being in Truth. This regulation of Self and Other is not only a property of discourse in general, it is a property of taxonomies (Juschka 2004), and, as Manuel Vasquez (2008) argues, a property of cyberspace

networked religious communities that emerge through the construction of "us" and "them" boundaries. The act of comparison, it would seem, is built into the very existence of different religious communities in cyberspace.

What follows is a macrolevel content analysis of the Buddhist response to AI and a comparison of such with the Christian response. Informed by the understanding that discourses construct social Truths through the process of definition, description, and delimitation, I ask not only what is constructed by Christians and Buddhists to be the Truth about AI but also why. I offer one caveat: Although the data below report what might be considered opinion without extensive development, it is nonetheless the opinion of those who speak for or on behalf of Buddhism and who care to do so online. It is not the voice of those in the Buddhist hierarchy, who may otherwise more clearly respond to AI through the discourses of their particular schools of thought. The data highlight the nature of the present discussion that is available online.

"Substantive" Argument—A Rose by Any Other Name?

"Then God said, 'Let us make humankind in our image, according to our likeness'" (Genesis 1:26 NRSV, cited in Herzfeld 2002, 11).

Herzfeld's review of the substantive approach to *imago Dei* (2002, 17) draws upon Reinhold Niebuhr (and Paul Tillich), who, following Augustine, argues that reason—comprising rationality, free will, and self-reflection (as a consequence of reason)—is the definitive human quality; reason separates humans from animals and permits humans to meet in a limited way with the mind of God. Criticism of this approach concerns its potential to construct a mind/body dualism and the assumption of a universal expression of reason and rationality (Herzfeld 2002, 20). Feminist critique is further concerned with the model's androcentric view of rationality, as control, while others highlight the seemingly fixed nature of the relationship between God and humans, which, leaving little capacity for choice or growth, raises questions about free will (Herzfeld 2002, 20). Often, however, the substantive view is simply grounded in the existence of a soul. The *Catholic Family Catechism* states that "man is a creature of God with a body and soul" (Theirny 1995, 23).

Although Buddhism rejects the notion of an enduring soul-like essence, the focus on consciousness in the discussion of AI constructs consciousness as something that is soul-like in that it is held to exist prior to birth, enters the body at birth, and departs at death. Buddhist claims that AI is possible also hold that consciousness resides in inanimate objects and is not limited to organic matter, a claim not that different from the Christian view that God (as spirit) dwells in all things, even utensils (Herzfeld 2002, 92). In making the claim for the possibility of AI, Buddhist discussion is grounded in three arguments, all of which concern the element of con-

sciousness. The first refers to the comment of religious authority, in particular the Dalai Lama, who at the *Alamut* Web site (2006) is quoted as stating that he "can't totally rule out the possibility that, if all the external conditions and karmic action are there, a stream of consciousness might actually enter into a computer." The Dalai Lama further explained (though with reported laughter) that it may be possible for a scientist involved with computers to be reborn in a computer.

The status of the Dalai Lama in the discussion of AI is somewhat attested by the suggestion in an online e-mail (Hibbard 2006) that he should have attended the 2006 Singularity Summit. The e-mail advises that if people are uneasy about having a religious figure at the summit, they should note that the Dalai Lama has stated that "if science proves some belief of Buddhism wrong, then Buddhism will have to change." Another reference to a religious authority is made by "Me Tarzan" at *alt.religion.buddhism.tibetan* (November 28, 2000) who reports asking Dzogchen Ponlop Rinpoche if a conscious machine could liberate itself from *samsara*. The reply was, "it doesn't matter how life comes about. It just matters it is life."

The second argument concerns the use and interpretation of doctrine, particularly that concerning "Buddha nature" (*Buddha-dhatu*), which "Oxtail" claims at *alt.philosophy.zen* can be possessed by an AI (October 31, 2007). In his Zen-informed argument for the possibility of AI, Linus Walleij (n.d.) clarifies that what sometimes is referred to as the Brahma of the Buddha is not a sentient force but the "sum of all independent processes in the cosmos. . . . God is equally present in the souls of humans as in the circuits of a computer."

Following from this logic, the third argument asserts the irrelevance of the composition of the vessel containing Buddha nature. This argument appears at *Alamut.com*, where the Dalai Lama is reported to claim that because consciousness does not emerge from matter, but matter from consciousness, a "continuum of consciousness might conceivably come into it" (a machine). At *alt.religion.buddhism.tibetan*, "Angelo," who holds that the body and brain are merely a "support vehicle" for consciousness, also signals the irrelevance of composition, claiming that the Dalai Lama might "choose to take rebirth as a sentient machine" (December 1, 2000). In response to arguments that consciousness cannot emerge from silicon, "Dharma Troll" asks why only "meat-heads" (referring to humans) should experience consciousness (December 2, 2000). Dharma Troll, who is reported to have practiced *vipassana* for fifteen years (December 6, 1999), asks: "why would the stuff of which you consist make a difference?" (December 2, 2000).

The element of consciousness is also central to the argument that AI is not possible, which at one level comprises a critique and reinterpretation of the voice of authority cited above. On December 1, 2006, at *alt.religion.buddhism.tibetan*, "Omadeon" claims that a Buddhist teacher who has

affirmed the views above "deserves a strong kick in his face to recover from the delusion that he, himself, is no different from a sufficiently complicated machine." At *Minding the Planet.com*, Nova Spivak (August 21, 2003) attempts to clarify the Dalai Lama's words: "The *Dalai Lama* has mentioned in the past that someday, once computer[s] become sophisticated enough, they may be able to support mindstreams, such that a consciousness could conceivably incarnate into such a machine . . . that is very different from saying that the machine is consciousness or that consciousness has been synthesised by the machine."

Other argument refers to "soulism" and "dualism" to reject the possibility of AI. "Derek" at *talk.religion.buddhism* exemplifies this focus: "What essence. Don't tell me that after all this you are a soulist, going for Essences" (March 20, 1999). Dharma Troll, who attempts to clarify doctrine, explains that the idea of a permanent Self is incorrect, as the Self comprises a process. For Dharma Troll it is the dynamic relationship between the elements of a process that is responsible for consciousness, and "not meat, some soul or mindstream that enters and possess the body." A year later, Angelo makes the claim at *alt.religion.buddism.tibetan* that the Buddha referred to the gandharva or the subtle consciousness "of a deceased living being [that] seeks a site for the development of a future" (November 29, 2000). But this too attracts the charge of "soulism" from Dharma Troll (December 2, 2000): "no way. That's soulism, a mind/body dualism slipped in. A Self where you are a continuing soul, which exchanges bodies like clothes. This is rejected by the Buddha."

In his discussion of AI and Buddhism at *Minding the Planet.com*, Spivak (June 4, 2005) takes up the topic of consciousness and claims that Buddhism comprises a version of the idealist "camp," which holds, like the Dalai Lama, that consciousness produces matter. Spivak maintains that consciousness is a fundamental property of the "universe(s)." He equates consciousness with self-awareness, which "is not a function of the brain or body or any physical system . . . it is completely beyond material phenomena," such that if consciousness is not a thing, it cannot be reduced to or explained by information processing or computation. Spivak maintains that neither is consciousness an epiphenomenon of physical processes, as maintained by the "emergence" view of strong AI. Rather, it is an experience, or (following John Searle in his discussion with Kurzweil) qualia, "which each of us has direct and undeniable access to." Not a physical thing that can be created, destroyed, or reduced to computation, consciousness, it is claimed, cannot be inserted into a machine. Spivak holds that at best a conscious AI will "be merely a projection in the consciousness of whomever makes the simulation." Sean Robsville (n.d.), who also cites Searle, further rejects the computation model of consciousness, claiming it to be "diametrically opposed to Buddhist philosophy." Robsville claims from a Buddhist perspective that it is not surprising that an AI composed

of an algorithm-writing algorithm, or Mother of All Algorithms (MOA), has yet to be created, because the MOA is in fact not an algorithm and never could be programmed. The MOA is the "formless mind imputing meaning onto objects (i.e. imputing meaning on to the sequential and structural components of the algorithm as it is being written)."

The argument that consciousness is not a product of computation resonates with the view that consciousness cannot be equated with intelligence, which is held to be secondary to consciousness in significance. Although it is agreed that computers might exceed human intelligence, Omadeon, at *alt.religion.buddhism.tibetan*, asserts that they "will not be even in the least bit conscious" (December 1, 2000). Another argument deployed is that consciousness manifests from the inside. Like Spivak (2005), Omadeon maintains that a machine can never form an intention. Free will, Spivak holds, is a property of consciousness, not intelligence. Sensation and thought (or intelligence) should not be confused with consciousness because they are merely appearances or false projections of a truly free consciousness. If consciousness is free, empty, pure, and unconditioned, "no computer simulation will be able to model it" (Spivak 2005). In his discussion of August 21, 2003, Spivak further challenges the possibility of AI on the grounds that the mind comprises pure awareness and presubjective emptiness. Although humans can achieve awareness of the mind through meditation, which can cease the flow of information, machines cannot achieve a state of knowing without the flow of information. Knowing through the cessation of information cannot "be simulated or synthesised by a computer, or anything that is not truly aware," because when the flow of information in a computer stops, there is—unlike in humans—no knowing at all.

The Buddhist "Substantive" Response Compared

At one level the Buddhist response to AI is similar to the Christian response. There is functional equivalence between Buddhist references to consciousness and Christian references to the soul, though qualified by group-specific arguments. For example, although Christians open to alternative possibilities suggested that if there were no soul in humankind, strong AI might be possible (Tamatea 2008, 147), no Buddhist response doubted the existence of consciousness as a fundamental tenet of the religion, reality, or Self. The response of both groups, however, is characterized by conceptual opacity with regard to what actually constitutes consciousness or the soul. The Christian response variously referred to heart, breath, spirit, mind, and soul, and the Buddhist response refers to Buddha nature, mindstream, sentience, the sum of all dependent processes, and even (though metaphorically perhaps) God. This ambivalent response reproduces the debate around consciousness within and between Christianity, Buddhism,

and science more broadly (Yong 2008), as well as the plurality of interpretation within religion generally (Walters 2004, 30). Hence, as in Christianity, the extent to which GRN technologies threaten Buddhism in relation to substantive issues seems dependent upon the school of thought and its understanding of consciousness. If consciousness is no more than a property of physical processes, as held by physicalism and Kurzweil, then, as emerges above (Yogacara aside), the physicalism associated with AI "poses no genuine threat to Indian Buddhism" (Siderits 2001, 313). Like Christians (Tamatea 2008, 153), Buddhists also make reference to free will, which Christians hold to be a property of the soul. The Christian focus upon the soul, which resulted in mind/body dualism, is recognized in the Buddhist response, although reference to mindstreams and substance versus pattern seems to repeat this. References to religious authority also were evident in the Christian response, although Christians made more use of scripture in elaborating a substantive argument against AI (Tamatea 2008, 147). Overall, both groups ground both the possibility and the impossibility of AI upon the existence of a "thing" that precedes and survives the body, which ultimately cannot be proven, at least by current science.

"Functional" Argument—What Is Life?

> Let them . . . have dominion over the fish of the sea, and over the birds of the air . . . and over every living thing that moves upon the earth (Genesis 1:26, quoted in Herzfeld 2002, 11).

According to Herzfeld (2002, 24) the functional approach to the image of God is the most accepted among biblical scholars. Having emerged in 1915, it holds that *imago Dei* "be understood as a royal title or designation rather than any attribute of nature" (Johannes Hehn, in Herzfeld 2002, 21). Aside from the claim that there is too much difference between humankind as dust and God as creator for humankind to be made in any substantive image (2002, 23), this approach is more holistic and largely overcomes mind/body dualism. The Christian response to AI was equally focused on functional concerns, though humankind's exercise of dominion through GRN technologies was mostly represented as negative. AI and also artificial life (AL) were associated with the end times and offered as evidence of human beings playing God. This response mostly emerged in relation to a media report that also drew the attention of Buddhists. That report, "First Artificial Life within Months," claimed that scientists are in the process of creating artificial life.

What is interesting is that the Buddhist response to the report makes direct reference to the Christian concept of dominion. Re-posted in the Buddhist Society of Western Australia Forum (2007), the report is followed by discussion. In that discussion, "Never Wrestle with Pigs" asks a series of questions: Is the issue of artificial life relevant to Buddhism? Is it

ethical to create new species for biofuel or to wage biological war for us? Never Wrestle with Pigs claims (though incorrectly, in light of my earlier findings [Tamatea 2008]) that news of scientists creating AL should not worry Christians "since mankind has dominion over the fish of the sea, and the fowl of the air, and over the cattle, and over the earth. . . ."

In addition to this parody of the Christian functionalist interpretation of *imago Dei*, a response from "Hasantha" addresses concerns similar to those raised in the Christian response. The first relates to consciousness. The argument is made that although scientists may rearrange organic matter, that which actually animates matter, namely, consciousness, is something over which scientists have no control. Cloning, it is claimed, does not create a new "consciousness stream." A functionalist-like concern is also introduced: the possibility that the creation of AL might be "unskillful," particularly for the purpose of war, a concern highlighting the possibility of inappropriate dominion, as elaborated in the Christian response (Tamatea 2008, 149). Although there is no reference to contravening the dominion of or playing God, there is a clear statement as to the order of things, which, if AI/AL were possible, would be contravened. Hasantha explains that birth can occur in only four possible ways:

1. *Andaja*. Through eggs.
2. *Jalabuja*. Through a mother womb.
3. *Sansedaja*. Conceiving of sperm in an outer appropriate environment.
4. *Opapathika*. Out of the above three e.g. Birth in heavenly worlds, come in to be full form at ones. (errors in original)

The Buddhist "Functionalist" Response Compared

Hasantha identifies the possibility of danger in relation to AI/AL, citing the possibility of "unexpected mutations of genes" and the risk of dangerous "bacteria or viruses," thereby reproducing the concern raised by Christians (Tamatea 2008, 151) that AL might be deleterious for humanity. The emphasis on consciousness to argue against the possibility of AI/AL also reiterates the Christian argument that the creation of AI/AL is not possible. Christians had held that the one thing over which scientists have no control is the soul or breath of life (2008, 146). Notably absent in the Buddhist response, however, is a teleology linking AI/AL to the Fall or the end times. There is no mention of humankind playing God and no overt identification of minority groups as examples of the monstrous contravention of God's dominion associated with Al/AI. Neither is there a critique of the evils of liberal humanism (2008, 149). Hasantha simply concludes, like the Dalai Lama, "lets see how thing [sic] are going."

Thus, the online Buddhist response to AI is inscribed by the desire to both alleviate suffering and avoid harm to sentient life (*Ahimsa*) (Campbell et al. 2007, 272; Walters 2004, 23), as opposed to the predominant Christian response that constructed AI as fundamentally sinful.

"So God . . . created them; . . . male and female he created them" (Genesis 1:27 NRSV, cited in Herzfeld 2002, 11).

Drawing upon Karl Barth, Herzfeld maintains that it is not what the human being is or does that defines the image of God. Rather the image finds expression in humanity's being a "counterpart to God" (2002, 25). Barth, we are told, arrives at this conclusion through Genesis: "Let us make humankind in our image" (1:26 NRSV) and "male and female he created them" (1:27). The relational view thus comprises humankind's relationship with God, although, as Barth maintains, sexual differentiation—male and female only—holds significance (Herzfeld 2002, 24). Barth's criteria for expression of the relationship with God through relations with humankind, or "encounter," include the ability to "recognise the other as both distinct from ourselves and yet as our true fellow" (p. 28); to speak to one another grounded in self-disclosure and understanding, and the willingness to render assistance to one another (p. 29).

In exploring the extent to which the Buddhist response is framed by a relational approach, attention is thus directed at discourse that represents the nature of relations not only between humankind and AI but among human beings who might be informed by AI.

Corporate and AI Links. In terms of relations among human beings, some online comments highlight the association between the corporate world of technology and Buddhism. Austin Bunn (1997) reveals that "in dealing with capitalistic flow and fragmentation . . . Asian strains in language permeate the marketplace" such that the Zen notion of embracing impermanence is a response suited to the rapid pace of change in the computer industry and that Zen meditation has been taken up widely in Silicon Valley. Zen, it is claimed, is suited to the "technology business" because of its attitude of resistance toward authority. Walleij (n.d.) also takes up the theme of technology and resistance in his discussion of nonformal systems and AI, claiming that "many hackers and net-users are devoted Zen philosophers." Like Bunn he claims that the Buddhist view of AI is not encumbered by the (Christian) fear of God's judgment for playing God, a claim supported in the responses identified above. Bunn acknowledges, however, that "Zen has been distorted for profit" by the corporate technology sector. A further criticism of how technology in the form of AI might impact relations among humankind is outlined at *talk.religion.buddhism* by "KSS," who holds that attributing human qualities to machines not only objectifies real consciousness but conditions people "to think of themselves as androids because androids are easier to control than unpredictably conscious beings" (March 21, 1999).

AI and Spirituality. Other Buddhists discuss the possibility of turning to AI for guidance. At the site *Hologram Thoughts* an anonymous post titled "Buddhist Robots" (November 21, 2006) reflects upon a documentary about "Kismet," a DARPA-funded sociable humanoid developed by MIT. The reflections both address relational issues and encapsulate the challenge that AI potentially presents to current understandings of Self, Other, and the Transcendent that often have been informed by religion:

> What happens when that new being, no matter how much data it has on hand, asks *why* it exists? Maybe somewhere inside of its vast data stores, or online, it discovers religion. Answers from millennia ago, it reads the words that The Buddha told his followers and perhaps feels kinship. Will that robot or computer put on the saffron robes and chant? Will it meditate on suffering?
>
> What then? Where will philosophy take us? Will we have AI preachers and Robot Rinpoches? Can you be reincarnated as an Artificial Intelligence? . . . Could I turn to a robot for spiritual guidance? I know Kurzweil thinks so, but I am not so sure.
>
> Maybe the first AI with a spiritual bent will found a new church. Maybe that AI will gain human followers and people will upload themselves into the net. Striving to be eternal and immortal, when of course they are already both. . . . But HAL as a Boddhisattva? Twiki Rinpoche? Lama C3-PO?

Although a comment following these reflections suggests an AI might simply ban religion (anon., November 23 , 2006, 6:54 p.m.), these postings suggest that AI may be characterized by a quality generally thought to be unique to humans, namely, spirituality. Highlighting the possibility of immortality, they also invoke an essence that survives the body.

Free the Androids! The Buddhist responders also took up the issue of AI rights. Discussion of this was limited (though lively), being located in one group only. One post asks: "Haven't you read what the android civil rights movement has been saying? Oh, I guess not, as its only the 20th century, but just you wait a few hundred years and you'll see" (*talk.religion.buddhism,* March 20, 1999).

The argument in favor of AI rights is grounded in the claim that what houses consciousness is immaterial to the consideration of rights. The denial of rights to androids because they are inorganic is met with claims of species chauvinism and calls to "free the androids" (March 20, 1999). But here, too, the issue of consciousness informs the argument against any relational possibilities that may warrant the granting of rights. "DT" claims that if indeed a conscious AI has no soul there "are no consistent beings to protect" (March 20, 1999). Here, paradoxically, the impermanence of the Self is held up as the reason *not* to grant civil rights to AI. DT, however, who supports android rights, concludes that it is precisely because there is no permanent Self and all matter is a product of processes that the notion of civil rights cannot be limited to "meat."

The discussion of rights also touches upon the question of identity. At *talk.religion.buddhism* DT asks how humans would know if an unseen interlocutor were human or an AI (June 25, 2001). An anonymous post that refers to the Turing test[1] as the tool that could tell the difference concludes, however, that the test may be inconclusive because there is "really no way of knowing, unless we allow for telepathy," to which DT replies: "Sure it would, as it would rule out a lot of easy cases, by asking very intense emotional and value-oriented questions. Some human socio-paths would fail, and some clever robots (e.g. with a huge database of stock poetic answers) might fool us, but I think a good Turing test would get us above 95% confidence or even 99% confidence."

The subtext of this response is that an AI may not hold values or possess true emotions, a claim that constructs both qualities as seemingly human-only essences. The absence of emotions and values permits the assumption that the character of AI might resemble that of the sociopath or monster, which contrasts with Oxtail's claim at *alt.philosophy.zen* (October 21, 2007) that AI might have the capacity for compassion.

The Buddhist "Relational" Response Compared

Christian responders argued that a totalitarian state or a global corporate economic system might use AI to control human populations. This claim was elaborated through references to passages in both the Old and New Testaments used to construct the argument that the creation of AI signaled the arrival of the end times. Links between the corporate sector and AI are recognized in the Buddhist response as well, but these are mostly positive, though there was a claim that the proliferation of AI in this sector might encourage humans to think of themselves as machines. This claim reproduces a similar argument in the Christian response (Tamatea 2008, 150). The significant difference between the two groups' responses is that for some Buddhists AI is identified as offering a site of resistance to hegemonic structures, which, unlike the Christian response, also argues for the possibility that AI will remain under human control.

The reflection prompted by Kismet provides further evidence of contrast between the responses of the two groups. In the Christian response, "HAL" (Heuristically programmed ALgorithmic computer) from *2001: A Space Odyssey* (and *2010: Odyssey Two*) is acknowledged to possess all of Barth's relational criteria, but these qualities ultimately are depicted as satanic and false (p. 153). Generally the Buddhist response reproduces the often-made claim, if not discourse (Lopez 2008), that Buddhism is more amenable to science (Arunoday 1992; Siderits 2001), although here, too, there is debate within Buddhism between a view that holds technology to be deeply and "fundamentally" un-Buddhist (Hershock 1999) and a view that judges each case on its merits, balancing *Ahimsa* against the alleviation of suffering (Yong 2008).

In contrast to the dominant Christian response, Buddhist reflection not only grants AI these qualities, but AI also is not associated with evil, although the discussion of the Turing test does reveal an assumption that an AI might not fulfil all the criteria for encounter and, lacking human qualities, may be in some respects fundamentally Other, as in the Christian response. The reference to sociopaths also resonates with the Christian concern that AI might be dangerous and therefore result in harm.

Defense of the Non-self as Self

Herzfeld acknowledges that theological frames do not tell us how to build AI. Rather, their value lies in their ability to furnish answers to important questions including "why are we interested in creating an artificial intelligence, and what is it we wish to create" (Herzfeld 2002, 68). In the discussion of the Christian response I reemphasized that talk about *imago Dei* also facilitates exploring the ultimate ontological question: Who am I?

The significance of identity emerged in the Christian response not only through the prioritizing of substantive and functionalist approaches but also in the aggression and fear associated with the construction of a hellish future. The Buddhist response is not so characterized by either aggression or fear, although it is concerned with essential qualities, if not a single substance, as the defining quality of humankind. In relation to the first research question, it can be concluded that the online Buddhist response to AI is framed mostly by a substantive focused discourse. Less clear is the extent to which this is related to identity, particularly in the absence of the overt expressions of aggression that characterized the Christian response.

Bhabha's (1994) postcolonial theory–informed model of ambivalence, which I used to understand the Christian response (Tamatea 2008), holds that when one's horizons of identity are challenged, the response is likely to be negative. Grounded in the flow of relations of power between individuals and groups, the model proposes four stages in the process of Self-Other identification:

1. An initial desire to define the Self in positive terms as unique.
2. Recognition that the Self can be known only through the presence of an other.
3. Realization that the other may possess the qualities that the Self desires, potentially thwarting the desired self-construction.
4. Aggression as a response intended to reclaim the power of the desired self-construction.

Without suggesting that either Buddhists or Christians treat robots like "natives," I argue that postcolonial theory is relevant to understanding their response to AI. Although criticism of the weaknesses of the various approaches to *imago Dei* resonates with postcolonial critique,[2] it also has been

argued that GRN technologies may simply reinforce unequal relations of power grounded in race and location (Grau 2002; Dinnerstein 2006; Campbell et al. 2007). Donna Haraway (1991), however, drawing on aspects of post-colonial critique, has argued that cyborgs have the potential to disrupt discursive binaries upholding established relations of power. Postcolonial critique also resonates with concern that the post/trans-human vision of the future effectively reproduces liberal-humanist (White) subjectivity as a universal (Dinnerstein 2006). If not all cultures understand AI in the same way (Kamrowska 2004), as seems apparent, there are implications for whose "image" is used to construct AI, if not AL. Postcolonial theory is further relevant because for many, as shown in the Christian response, AI is simply Other.

Analysis of the Christian response showed that although discussion is framed mostly by the substantive approach to *imago Dei*, aggression emerged largely in the functionalist-framed discussion. This did not emerge as a clear defense of attributes of the Self, but it was argued that ultimately it was precisely that. If one's Christian identity is grounded in possession of the substantive image of God, and the principal basis upon which God exists ("his" creative power) is reproduced by scientists, arguably God does not exist and one's substantive-based identity is erased. For Christians, God's (functional) dominion is necessary to stage 1 in Bhabha's model.

The Buddhist data, however, show that even though the Buddhist response is not calling for God's retribution against evil scientists, aggression is not entirely absent. Buddhist teachers who support "incorrect" teachings attract the ire of some. At one level this relative lack of aggression results from the claimed absence of a single enduring self or soul. It also emerges from an altogether different understanding of the relationship between science and the "transcendental." The postmodern science with which quantum physics and many of the GRN technology possibilities are associated is often all but appropriated by some Buddhists as evidence of the Truth of Buddhism (Varela 2007). Even Kurzweil, who rejects the existence of any nonmaterial element, acknowledges similarities between Buddhism and quantum physics (Resnick 2006). Spivak (2003) even suggests that the brain is a "quantum receptor." But, with no God in Buddhism to exercise dominion and authorize a divine teleology, the creation of AI cannot be represented as playing God, reproducing the Fall, or a sign of the end times. And because these hellish outcomes do not need to be proven to validate scriptural discourse constructing the existence of God, neither is there any identification of present-day "monstrous" minorities inappropriately contravening God's dominion.

Buddhist aggression, as a defense of the Self, thus emerges in relation to neither functional nor relational concerns. It emerges, rather, in relation to the notion of consciousness, which is represented as being substancelike.

Consciousness, as represented in the Buddhist response, may be complex, dependent, subtle, the sum of all processes, a fundamental property of the universe, not reducible to the material, simultaneously present and absent, and not the product of a God; but its description above subjects it to critique otherwise leveled against the Christian soul: some *thing* that cannot be proven—by science!

The aggressive defense of the Self through references to consciousness is particularly evident in the desire of some not to be associated with "soulism." At one level the charge of soulism reveals that the process of othering occurs through competing interpretations of doctrine or claims to Truth. The labeling of other online posters as "naïve soulists" (Oxtail, *alt.philosophy.zen*, Oct 31, 2007), "pseudo-Buddhists" (Omadeon, *alt.religion.buddhism.tibetan*, December 1, 2000), "species-chauvinists" or "carbon-waterbag unit(s)" (Dharma Troll, *alt.religion.buddhism.tibetan*, December 2, 2000), and "android fanatics" (KSS, *talk.religion.buddhism*, March 21, 1999), which constructs internal as opposed to external "others," further demonstrates the desire to disassociate oneself from notions of a soul.

The construction of internal Others is also linked to ethnicity, despite the claim by "Martin" at *de.soc.weltanschauung.buddhisms* (July 9, 2004) that Buddhism is tolerant. This intolerance emerges at *alt.religion.buddhism.tibetan* (December 2, 2000), where a post by presumably non-Tibetan "Tang," seeking to clarify a Tibetan "error," is responded to by DT, who asserts that "Tang the Merciless thinks that anything Tibetan is due to shamanistic influence. All Tang ever thinks about is sects." Interestingly, this exchange concerned the nature of consciousness. "Dharmakaya Trollpa" (December 3, 1999), responding to a comment by "Punnadhammo," presents further evidence of this Self-Other dynamic:

> If you wish to retain your superstition about ineffable souls (or "mindstreams" as you call them) to pretend that you are saying something different from the Christians—you can simply say that when an android's positronic brain becomes robust enough, it opens an ineffable gap in the space-time continuum so that one of your spookies from the *bardo* can be reborn as it. . . . That's precisely why your beliefs are so impotent and meaningless, btw, as nothing could even in principle prove them wrong.

No substantial information in this online group identifies the ethnicity of Punnadhammo, but the reference to the *bardo* suggests that Punnadhammo follows Tibetan Buddhism. Interestingly, Dharmakaya Trollpa, whose profile and expression indicate he is Western, represents Punnadhammo's beliefs as superstition—but he is critical of Tang, presumably a non-Western Buddhist, for representing Tibetan Buddhism as superstition. If indeed Dharmakaya Trollpa is Western, such a comment might be considered colonialist in the sense that the Western voice seeks to represent the Truth of the "Native's" Buddhist world, as much as Tang himself challenges the truth of Tibetan Buddhism. Moreover, it is not Punnadhammo but

Dharmakaya Trollpa who identifies with "Born-again Christians" for the purpose of challenging Punnadhammo's claim to truth.

Moreover, through reference to Christians, the comments demonstrate external Othering. The dynamic in this exchange is similar to that which informed the Christian identification of minorities (in Tamatea 2008). In an effort to recover the desired construction of the Self, Dharmakaya Trollpa marginalizes those whose discourse invalidates the frames that validate the Self as non-Self. Punnadhammo's association with Christians functions (as did the Christian association of scientists, AI, and AL with sodomites, homosexuals, immigrants, and feminists) to locate Punnadammo's claim outside of the regime of Truth, upon which the Self is constructed. Dharmakaya Trollpa, however, explains that as long as Punnadhammo's ideas make him "feel secure, then go ahead and keep believing them. And tell yourself that if your beliefs weren't true, life wouldn't be worth living, and therefore they MUST be true. Hey that strategy works for the born-again Christians."

The paradox that emerges from Dharmakaya Trollpa's advice is that in representing himself as at the center of Buddhist Truth, and Punnadhammo at the margins, Dharmakaya Trollpa has reproduced the very identity-affirming logic—a claim to Truth about the nature of the Self—with which he associates Punnadhammo and the Christians. In this particular response it is the Western representation of Buddhism that is reified, which to a certain extent qualifies the veracity of the overall Buddhist response reported here. If, as I suspect, the data are mostly from Western sources, they may produce an understanding of Buddhism that would not be accepted in local and traditional Asian contexts. This possibility emerges from the fact that, in the West, Buddhism has emerged as a bridge between religion and science, which has generated what Lopez labels as a "Buddhism-Science discourse" (2008, 4) propagated by Asian elite and Westerners, a discourse that often portrays Buddhism (though incorrectly) as devoid of the myth, superstition, and vagaries of religion (Lopez 2008; Verhoeven 2001). That the Dalai Lama reproduces aspects of this discourse, and that he is cited by online Buddhists, perhaps proves less the veracity of its claim than the desire to make Buddhism seem less primitive (Lopez 2008).

Comparing Apples with Apples? or Just Descriptions of Apples?

Comparing Christian responses to AI with Buddhist ones may be an exercise in colonialist-like (Vasquez 2008, 154) epistemological violence, particularly where the Christian framework of *imago Dei* is used as the yardstick. Apples have not been compared with apples, so to speak. This possibility notwithstanding, this comparative analysis was grounded not so much in uncovering the truth of things (Jensen 2004, 56) as in uncovering what

Christians and Buddhists *say* about things, online. As Jensen argues (2004, 58), a distinction needs to be made between forms and discourse; much of the physical reality, or form, of what Buddhists and Christians claim with regard to the soul, God, and consciousness arguably can never be compared, but their discourses can. Not only do religious organizations' Web sites engage in religious comparison; comments at these sites also make reference to other religions, revealing that negotiation of phenomenological realities through comparison is indeed universal (Jensen 2004, 51; Vasquez 2008, 169). The data show that this "grassroots" comparison functions to mark out territories or regimes of truth through inclusion, exclusion, cooperation, conflict, boundary making, and boundary crossing (Vasquez 2008, 169)—a process accounted for through Bhabha's postcolonial theory–informed model of ambivalence, at the very center of which is the recognition that the discursively constructed Self only ever emerges in comparison with the Other. Construction of the Christian and Buddhist Self, which the discussion of AI invokes, therefore constitutes an act of comparative analysis—even when arguing for non-Self.

Summary and Conclusion

The preceding discussion, comparing Buddhist online responses to AI with Christian ones, was motivated by the argument that the social implications of advances in GRN technologies need to be considered now. The focus of the discussion has been on religious groups, because advances and forecasts in GRN technologies seemingly challenge understandings of Self, Other and the transcendental generally offered by religious cosmologies.

Like the analysis of the Christian response (in Tamatea 2008), the preceding analysis of the Buddhist response explored two questions: (1) Which approaches to *imago Dei* frame the response to AI? and (2) To what extent does preference for a particular approach reveal a concern to maintain existing horizons of identity? In relation to the first question, it has been argued that the Christian response, elaborated mostly through substantive and functional approaches, was characterized by aggression and fear, constructing the AI-informed future as a hell. In relation to the second, this response constituted an attempt to regain control over the discursive construction of the Self otherwise challenged by AI and AL.

The Buddhist response is both similar to and different from the Christian response. One difference is the lack of fear regarding AI: Buddhists mostly hold to the Prevail scenario (Garreau 2005). Also, the Buddhist response is not supported by substantial scriptural references. References to science are mostly positive, as is discussion of relations between humans and AI. Buddhist discussion of functional concerns is mostly absent, unlike in the Christian response, but it is similar in that it also focuses on the

existence of a nonmaterial (essential) component in humankind as the defining criteria in relation to the possibility of AI. As in the Christian response, references to this component are ambivalent about its nature.

It could be argued that a more thorough, and Asia-focused, analysis of Buddhist interpretation of consciousness with regard to AI might, where grounded in the various schools of thought, dismiss any similarity with Christian "essences." However, this is not the representation constructed above. The data report what may be considered "opinion without extensive development," but it is nonetheless the opinion of those who speak for or on behalf of Buddhism and who care to do so online (though the dearth of opinion expressed online in comparison to the Christian response is notable). The paradox is that, in seeking to refute "soulism" through assertion of a conscious non-Self, the Buddhist response ultimately reproduces an attachment to a discourse that otherwise constructs the Self.

Notes

1. This test involves a human interviewing another human and a machine, neither of which can be seen by the interviewer. Unlike the human, the machine has to convince the interviewer that it is something that it is not. If the interviewer cannot reasonably differentiate between the responses of the machine and the human, the machine is considered to have passed the test (see Hall 2007, 63).
2. Postcolonial critique comprises a range of theoretical perspectives, including Marxist, feminist, and poststructuralist theory, used to explore contexts inscribed by asymmetrical relations of power, which inform various forms of colonization.

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