

The Android and the Fax: Robots, AI and Buddhism in Japan

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Abstract In March 2019, a temple in Kyoto, Kōdaiji, unveiled to the public ‘Mindar’, a robot developed in collaboration with Ishiguro Hiroshi, a well-known robotics professor at Osaka University. The android is presented as the manifestation of Kannon, the bodhisattva of compassion. It can move, speak, and record what it sees. Mindar delivers sermons based on the Heart Sutra and, according to the temple’s priest, it will keep evolving and its knowledge will become endless. Mindar has received mixed responses from visitors, from those who cry during the sermons to those who feel it inappropriate for a robot to preach in a temple. Media coverage has mainly focused on the potential for Mindar to change the image of Buddhism in Japan, a tradition often portrayed as antiquated and mainly focused on funerary rituals. By examining the declarations of Mindar’s creators and varied responses of its visitors, and drawing on observation of Mindar’s practice, this chapter explores the interaction between AI, robotics, and Buddhism in contemporary Japan. It highlights the affective potentialities and possibilities of AI, in particular as they relate to emotional connections between humans and robots, and the implications for Buddhism in contemporary Japan.

Keywords Japanese Buddhism. AI. Robots. Affect. Mindar.

Summary 1 Introduction. – 2 Robots and Religious Practice in Japan. – 3 Multimedia Performance of Buddhist Teachings. – 4 Audience Reactions and the Buddha in the Robot. – 5 Affective Possibilities.

私は、「観音」の名前で知られる観自在菩薩
I am Kannon, known as the Kannon Bodhisattva
(Andoroido Kannon Maindā¹)

1 Introduction

Early in the morning of 4 January 2020 I boarded a bullet train from Tokyo to Kyoto to visit the Kōdaiji, a temple of the Rinzai school of Zen Buddhism established in 1606 and located in Kyoto's Higashiyama District. The remaining original structures of the temple are designated as important cultural heritage in Japan and Kōdaiji is one of Kyoto's major tourist attractions. The aim of my visit, however, was not to admire the beautiful garden and historic buildings, but to listen to sermons delivered by an android² called Android Kannon Mindar (in Japanese *Andoroido Kannon Maindā*, hereafter Mindar). Mindar was unveiled in February 2019 via a press release by the Android Kannon Production Committee, established in 2017. The robot is the result of a collaboration between the temple and Ishiguro Hiroshi, one of Japan's most famous roboticists and a professor of robotics at Osaka University. Mindar is designed to represent the bodhisattva Kannon (Sanskrit: Avalokiteśvara; Chinese: Guanyin), the bodhisattva of compassion,³ who is worshiped across the Buddhist world. Chapter 25 of the *Lotus Sutra*, commonly known in Japan as *Kannon gyō* illustrates thirty-three manifestations of Kannon, a universal saviour who responds to humans' cries for help, and who assumes different identities in different contexts (Yū 2001). Kannon can take any form. In its android manifestation as Mindar, the bodhisattva can move, speak, and deliver sermons based on the *Heart Sutra* (*Hannya shingyō*), one of the most well-known sutras, pregnant with Buddhist doctrinal meaning.

Beth Singler argues that AI can be “potentially disruptive” (2017, 215) for society and religion, but it can also have a potentially reinvigorating effect on religion, by both revitalising existing traditions and practices and creating new religious movements. In particular, media coverage about Mindar has focused on the potential for the android to change

1 The first sentence of the sermon performed by Android Kannon Mindar at Kōdaiji, complete with the English translation simultaneously projected on to a wall during the performance. The Japanese sentence reads *Watashi wa, 'Kannon' no namae de shirareru kanjizai bosatsu* (lit. 'I am Kanjizai bodhisattva, known by the name of Kannon').

2 I define an android as a robot that looks like a real human with body parts made of silicon resembling human skin. I follow the definition of robots suggested by Robertson: “A robot is an aggregation of different technologies - sensors, lenses, software, telecommunication tools, actuators, batteries, synthetic materials and fabrics - that make it capable of interacting with its environment, with some human supervision (through teleoperation) or autonomously” (2017, 6).

3 In Mahāyāna Buddhism, bodhisattvas are beings who have renounced seeking personal *nirvāṇa* in order to dedicate themselves to the salvation of others.



Figure 1 Android Kannon Mindar. Kōdaiji Temple, Kyoto, Japan (photo by the Author)

the image of Buddhism in Japan, a tradition often portrayed as antiquated and mainly focused on funerary rituals (Rowe 2004; Reader 2011).

By examining its creators' declarations and visitors' varied responses, as well as drawing on observation of Mindar's practice, this chapter explores the interaction between AI, robotics, and Buddhism in contemporary Japan. It highlights AI's affective potentialities and possibilities (as yet still not fully attainable), particularly as they relate to emotional connections between humans and robots, and the implications for Buddhism in contemporary Japan.

2 Robots and Religious Practice in Japan

Mindar is not the first example of a robot being engaged in religious practices and rituals in Japan.⁴ Examples reported by Rambelli (2018)

⁴ For examples of robots used in religious practices in another context see Travagnin (2020) on robot-monk Xian'er at the Longquan Monastery in Beijing, China. Another example is BlessU-2, a blessing robot that was part of an installation by the Protestant Church in Germany to mark the 500 years since the Reformation (Sherwood 2017). A researcher at Waseda University, Gabriele Trovato, has been developing a type of social robot that he defines as "theomorphic", that is a robot that "carries the shape and the identity of a supernatural creature or object within a religion" (Ackerman 2018). He designed SanTo, a robot with the appearance of a Catholic saint, and DarumaTo, a robot shaped like a Daruma doll, which is designed to keep company with and monitor the health of elderly people.

include rather unsophisticated machines similar to moving dolls, like the robot monk at Hōtokuji, a Nichiren temple in Hyōgo Prefecture. When its sensor detects an approaching visitor, the robot will start chanting a Buddhist scripture.⁵ This type of robot represents a modern innovation in the machinery for chanting prayers and invocations; mechanical devices have been used in Buddhist temples for these purposes for centuries. More recently, new technologies have been employed to create attractive spectacles using Buddhist iconography and statues, such as the performances of ‘drone’ buddhas at the Ryūganji Temple in Kyoto, which featured 3D printed miniatures of bodhisattvas floating around the main hall standing on drones.⁶

Robots have also been employed in funerary practices. An early example is the robot priest employed by a funerary chapel in Yokohama since 1993 (Rambelli 2018, 66). Programmed to deliver prayers for different religious traditions (seven Buddhist sects, Shinto and two Christian denominations), this Robo-priest is an example of the digital forms of ancestor worship introduced by some temples during the 1990s, which also include online *butsudan* (Buddhist altars) and digital graves (Duteil-Ogata 2015; Gould, Kohn, Gibbs 2019). More recently, in 2017, another robot, Softbank’s Pepper, gained media attention when it appeared at a funeral ceremony, dressed in Buddhist robes, reading Buddhist scriptures, chanting prayers and tapping drums. Funeral rituals for machines and other devices have also been performed at Buddhist temples. Memorial rituals for nonhuman entities and inanimate objects have a long history in Japan (Rambelli 2007). They include rituals for personal computers (Robertson 2017, 186) and, more recently, for robots. For example, in 2015, funeral services were performed for dismissed AIBO robots. AIBO, a robot dog produced by Sony, was on the market from 1999 to 2006. In 2014 Sony stopped producing replacement parts, which led to robot dogs that were beyond repair being used as spare parts.⁷ In 2015 a funeral service for nineteen of these ‘dismissed’ AIBO robots was performed at Kōfukuji, a Nichiren temple in Chiba prefecture, and received extensive media coverage.

This brief summary demonstrates that the android Mindar represents a recent development in a much longer history of the development and use of technology in Buddhist contexts. Mindar’s creation and employment follows earlier examples of the design and use of mechanical devices and robots in religious activities and practices

⁵ Images of the robot monk can be seen on the temple website: <https://temple.nichiren.or.jp/5111011-houtokuji>.

⁶ Videos of the drone buddhas are available on the Ryūganji website: <https://ryuganji.jp/activity/drone-buddha>.

⁷ A new generation of AIBO was launched in 2018.

in Japan, often with significant financial investment by enthusiastic priests. However, Mindar's role exceeds that played by these earlier examples. Unlike Pepper the robot monk, who was devised to help during funerals, Mindar is not limited to being a support for priests during their regular ritual activities. Nor is Mindar merely an ingenious prayer-chanting device to attract visitors. Mindar is Kannon, a bodhisattva. Its role is therefore to create a particular experience for and emotional reactions in its viewers. Before discussing this in more detail, however, a short description of Mindar's performance and how it is presented to the public is necessary.

3 Multimedia Performance of Buddhist Teachings

Mindar is hosted in a hall adjacent to the car park, separated from the main temple buildings. On the day of my visit, while many tourists were queuing to enter the main temple complex, only a few, about ten people, attended the performances by the android, one held in the morning and one in the afternoon. People can freely enter the hall to see Mindar, but when its sermon is about to start, only those who have registered can stay. Mindar's performances are usually advertised on the temple website; there is no fee, but booking via fax is required.⁸

Mindar is 195 centimetres tall with silicon head and hands. The rest of the body has been deliberately left to look like a machine, with visible servo motors and exposed wires [fig. 1]. When visitors enter the room Mindar welcomes them with open arms while rotating its body. It cannot walk; only its head, face, hands and, to a limited extent, upper torso can move. Its eyes blink and these movements feel real – they feel human – giving the impression that the android is looking its visitors in the eye while transmitting a sense of calm and serenity.

At the beginning of the event a staff member makes a short introduction. She explains that she initially referred to Kannon as a 'she', but was then told that the bodhisattva was male.⁹ As an android, she says, we are now free to relate to Kannon as we prefer. She invites visitors to listen to the teaching and reminds us that we cannot take photographs during the sermon. After the event, the same staff member will ask the attendees if they enjoyed the performance and invite them to visit again (and to buy the manga sold outside).

⁸ When I visited the temple in January 2020 Mindar's service was shown twice (at 11 am and 3 pm). I attended both performances and conducted an interview with the head priest between them. As I didn't have access to a fax machine I was allowed to book via phone.

⁹ In the Japanese context Kannon is sometimes portrayed as a 'mother' but often as androgynous.

Mindar's performance is about 25 minutes long. It starts with a recorded voice inviting viewers to look at a fixed point if they feel dizzy and to leave the room at any time if they feel unwell. Then the room darkens and images start appearing on the wall; only the android is illuminated as the main performer on a stage. The sermon is in Japanese with subtitles in English and Chinese projected on to the walls. Mindar starts by explaining that Kannon has taken different forms, the current one being the android form. It can transform itself in anything and transcend time and space. "Today, - it says - as you can see, I have decided to greet you in a figure of great human interest as an android".¹⁰ It continues by focusing on basic Buddhist teachings, for example, on impermanence and compassion. When Mindar goes on to discuss suffering, it explains that an android is closer to Buddhahood because it does not have attachments: "as an Android I never seek a constant element that does not change in this fleeting world". In addition, I am not burdened with selfish concepts like I-me-mine". Mindar then asks the audience whether, as an android, "I can easily fulfil the Buddha's teaching of 'emptiness' in this present age?". However, later on Mindar explains that a robot is limited by the fact that, unlike humans, it cannot experience suffering and it cannot have a sympathetic heart: "A robot is not a sentient being that suffers distress. [...] A robot like me can never have the sympathetic heart you [the audience] just described. This is the special power that only human beings possess". The event ends with Mindar chanting the *Heart Sutra*.

Mindar's sermon is part of a multimedia performance; it is accompanied by projection mapping images, controlled by a computer to move in sync with the android. The images illustrate the teaching and display the words of the *Heart Sutra* during Mindar's recitation. Images of a virtual audience - recorded with temple staff members - are also projected onto the walls of the room. The android interacts with these virtual participants, turning its body in their direction as they ask questions. Through staged dialogue and interaction with Mindar, these participants show how they move from ignorance to understanding of Buddhist teachings. According to a press release dated 23 February 2019, the aim of the dialogue between Mindar and the two-dimensional figures is to enhance the presence of both and to imbue the android "with an even greater sense of presence".¹¹

¹⁰ All direct quotes are taken from the temple's English subtitles for Mindar's sermon, which were given to me along with the original Japanese transcript by the temple. I cite the temple's translation rather than providing my own, since it is an integral part of the performance.

¹¹ The press release is available at: http://www.kodaiji.com/mindar/press_data/data01.pdf.

Although prerecorded and staged, the experience of the event is immersive. Mindar's gaze, paired with the metallic sound of its body moving, creates the impression that the android is engaging with the audience, even if only momentarily.¹²

In his interviews with media outlets, as well as in the temple's press releases, Kōdaiji's head priest, Rev. Gotō Tenshō, explains his long-lasting interest in AI and his dream of using it to recreate important spiritual figures such as Shakyamuni or Jesus to give people the opportunity to interact with them and ask them questions directly.

I always remained consumed with the thought of how wonderful it would be to hear these teachings delivered in person by the historical Buddha, Siddhartha Gautama, and other patriarchal figures that followed. [...] Recent android and artificial intelligence (AI) technologies have given me a glimmer of hope that this desire could be realised after all. Our ultimate goal [...] is to reproduce Siddhartha Gautama and other eminent figures as androids and to hear their words directly.¹³

During our interview, Rev. Gotō said that he had wanted Mindar to look as little like a human as possible, but eventually compromised on the face and hands being made in silicon. This had been recommended by the team led by Professor Ishiguro at Osaka University as a way to encourage viewers to connect with the android. Although building androids is more expensive than building non-humanoid robots, roboticists (and Japanese roboticists in particular) continue to develop them, since human appearance makes us react to robots in a very different way and enhances our emotional connection with them (Lozito 2019; Frumer 2018). Humanoids, that is robots resembling a human being, also tend to be gendered to the degree that some can actually pass as human beings (Robertson 2017, 4). Mindar, however, has a machine-like body and neither its face nor gestures are gender-specific, although its artificial voice sounds more feminine than masculine. Gotō's decisions regarding Mindar's appearance are also explained in a document on the temple website:

Mindar wears no religious clothing and bears no religious articles. This is because we did not create an image of Kannon out of a robot. Rather, Kannon has transformed into a robot. It was necessary that the entire figure be a machine. The voice is purposely artificial. We took the liberty only of making the face human so

¹² Several video excerpts of Mindar are available online. See, for example, the short feature by the *Japan Times*: https://www.youtube.com/watch?v=hLoF5_-OUKY.

¹³ See http://www.kodaiji.com/mindar/press_data/data03.pdf.

that it could actually look at people and smile or visually express emotions such as sadness and melancholy. Those are things that it could not do just as a machine.¹⁴

Just as paintings and statues have been among the various media through which Kannon has previously appeared, AI is nowadays another potential tool or skilful means (*hōben*) to transmit Buddhist teachings. Although Gotō does not go so far as to claim a special relationship between AI and Buddhism, he does speak of the android creating a ‘new deity’ rather than a new human. Despite the current limitations of the project, not least the financial costs associated with maintaining the robot, Gotō’s aspiration is to see the android develop and become able to teach Buddhism.¹⁵ The android, he says, cannot die and it can constantly improve, as his successors can continue to input new teachings. Gotō also sees Mindar as a potential educational tool to encourage younger generations, in particular children, to learn more about Buddhism, thus eventually reigniting interest in Buddhism in Japan.

The initial briefing prepared by the temple regarding the building of the android explained that the main aim of the project was to make Buddhist scriptures and doctrine easy to understand and accessible to everybody, including young students from middle and high schools. Mindar is therefore not only the first android Kannon, but, according to the press release, the first Kannon to deliver sermons directly to visitors. These sermons are delivered in a language that speaks to modern people. The *Heart Sutra*, often presented as a difficult and esoteric text, is explained in a simple and straightforward way, to make it accessible and relevant to people living in today’s world. The *Heart Sutra* (*Hannya shingyō* in Japanese, *Prajñāpāramitāhṛdaya* in Sanskrit) is a popular *sutra* in the Mahāyāna tradition and consists of less than 300 Chinese characters. Despite its brevity it condenses important Buddhist concepts, in particular emptiness. It includes the famous sequence “form is no other than emptiness, emptiness no other than form” (in Japanese *shiki soku ze kū, kū soku ze shiki*). In the Japanese context this *sutra* is performed across Buddhist sects and it is also associated with ritual practices, such as pilgrimage or *sutra* copying (*shakyō*), for acquiring merit. It is also regularly discussed in priests’ sermons and countless commentaries, and several popular explanatory books about it have also been published (Reader,

¹⁴ http://www.kodaiji.com/mindar/press_data/data02.pdf.

¹⁵ Mindar was built in two years. The total project costs roughly 50,000,000 yen (over 400,000 euros), while the robot itself costs about 25,000,000 yen (c. 200,000 euros). Additional costs are required for maintenance.

Tanabe 1998, 30). In recent years the *sutra* has also gained social media attention via computer-generated performances that show the vocaloid Hatsune Miku singing it (Shultz 2021).¹⁶

Mindar's sermon aimed at making the *Heart Sutra* accessible could therefore be seen both as part of an established tradition of performances, commentaries and explanations of the *sutra* by Buddhist temples, and as contributing to the recent rediscovery of and renewed interest in the *sutra* and its message. The pedagogical potential offered by Mindar also lies in the possibility of direct transmission of teachings from the bodhisattva to listeners, without the mediation of a priest. This, however, assumes that there is an audience ready and willing to accept this form of teaching transmission. But how do visitors react to Mindar and its performance?

4 Audience Reactions and the Buddha in the Robot

According to the temple staff, Mindar has received mixed responses from visitors, including Buddhist priests. These have ranged from people crying during the sermons or attempting to touch the android to have contact with it, to criticism of the inappropriateness of a robot preaching in a temple.

Visitors' comments have generally been very positive.¹⁷ Some viewers were impressed by the features of the android, in particular by the movements of its eyes, hands, and face, which give the impression that the robot is interacting with the public ("when moving I felt like it was alive"; "the eyes and mouth moved like a human being"). Other visitors focused on the emotions they felt during the performance, how the android looked "kind", and the warm feeling they felt during the sermon. Some visitors expressed their surprise about these feelings because they were initially sceptical and felt rather uncomfortable or had odd feelings toward robots. In the words of one visitor, they did not think a robot could "have a soul". Many viewers were captivated by the sermon and in particular the teaching on emptiness. They remarked on how the android made this teaching accessible and easy to understand, and some related the teaching to personal struggles. For these visitors, the performance seems to have provided a "sense of tranquillity" and a break from anxieties they were experiencing in their lives. For others, however, the experience

¹⁶ The popularity of Hatsune Miku singing the *Heart Sutra* increased with the release online of the video *Hannya shingyō Poppu* (Pop Heart Sutra) in September 2010. See <https://www.youtube.com/watch?v=yX4jjeu1nGyo>.

¹⁷ These observations are based on comments written by visitors who attended Mindar's sermons between March and May 2019.

has not worked. Some people felt uneasy, disliked the features of the robot (“the voice is too young”) or struggled to identify the robot as a bodhisattva. Others could not refrain from noticing that the event felt like a staged act rather than spontaneous or real (“I cannot really see the android as Kannon”). For some the sound and images surrounding the robot were distracting, while others noted how this experience differed from listening to *sutras* chanted by a priest. In particular, they remarked on how the full experience of the sermon was compromised by the lack of interaction with and inability to ask questions directly to Mindar.

In my interview with Rev. Gōto, he mentioned that non-Japanese attendees were more critical of the android; they asked why it did not look more human and compared it to Frankenstein’s monster. In his opinion, Japanese visitors, who grew up with popular culture representations of friendly robots such as Astro Boy or Doraemon, are more able to relate to androids emotionally and see them as friends. These observations seem to resonate with commentaries in the media that present Japan as a ‘machine-loving’ nation or as synonymous with the technology of the future, including AI and robotics – a techno-mythology that Morley and Robins (1995) have defined as “techno-orientalism”. A recent example of those representations can be found in the British TV programme “Eco Town, Future Farming, Robot Cemetery”, which was an episode in the series *Rough Guide to the Future* that aired on the British television network Channel 4 in February 2020. The documentary featured a funeral performed for AIBO robots in a temple in Chiba prefecture so that these robots could be used as spare parts. It explained that Japanese are “spiritual about their technology” and associated the ritual practice with the idea that spirits can inhabit inanimate objects.

Gotō’s discussion of Mindar, however, does not refer to animistic or techno-animistic (Jensen, Blok 2013) views of robots as spirits,¹⁸ but rather to a view of human beings and machines as ontological identical, which is grounded in the Mahāyāna Buddhist notion than both sentient and non-sentient beings have buddha nature. A similar argument was brought forward by the roboticist Mori Masahiro – well-known for coining the term “uncanny valley” (*bukimi no tani* or the ‘valley of creepiness’) – who in 1974 published a book titled *Mori Masahiro no bukkyō nyūmon* (lit. ‘Masahiro Mori’s Introduction to Buddhism’, but published in English as *The Buddha in the Robot*). Inspired by the *Lotus Sutra*, Mori argues that robots have buddha nature and the potential to attain Buddhahood (Kimura 2018). Similarly, Rev. Gōto does not see Mindar as a representation of Kannon or an updated version of a statue, but as the bodhisattva itself.

¹⁸ For a discussion on animism in the Japanese context see Thomas 2019.

Gotō's remarks seem to indicate the possibility that Mindar might go beyond fulfilling the role of a bodhisattva as a mediator between buddhas and humans – and thereby potentially replace the role of a priest. Mindar might also introduce new ways of transmitting the Buddhist teachings based on human-robot interactions. However, as Mindar itself explains in its sermon, an android, while able to go beyond human limits, is not (yet) a sentient being able to feel suffering. It is therefore unable to fully feel others' suffering and distress.

5 Affective Possibilities

David White (2018) discusses the “new affective possibilities” for caring offered by a so-called ‘emotional machine’ like Pepper,¹⁹ which is able to sense feelings and read facial expressions. Social robots offer new opportunities for companionship, care and therapy in a super-ageing society like Japan, and even more so during the Covid-19 pandemic when social distancing restrictions have been imposed (Kimura 2017; Lam 2020). The Japanese government has been actively promoting the development of care-robots and robot-enhanced lifestyles as a way to address pressing social issues (Robertson 2017, 19). Robots can support people living alone, help people with disabilities, and make patients feel looked after. In other words, they can offer assistance and allow humans to go beyond their physical and social limitations and even to construct a social community that “humans alone could not achieve” (Kimura 2017, 15).

At present, Mindar can only talk and move with information produced and inputted by junior priests at Kōdaiji. Mindar is not yet an emotional machine or emotional robot. However, its features, especially its eyes, and its performance create a “promise of connection”, offering to viewers the possibility of (future) emotional connection and a “heart to heart relationship” (Katsuno 2011, 95) with the android, should Kannon-Mindar become able to understand the human heart and interact directly with viewers.

Yet, even if Mindar does one day develop into an ‘emotional robot’ able to ‘feel’ suffering, it will probably not be effective for everybody. A long-term assessment of viewers’ responses would be crucial to avoid generalisation. A careful analysis of reactions to and interactions with Mindar would also deepen our understanding of viewers’ emotional responses to the android, without falling into essentialising representations of ‘the Japanese’ relating to robots as ‘living beings’ associated with Shinto (Robertson 2017, 10). Such

¹⁹ Pepper was presented in 2014 by the CEO of Softbank as a “personal emotional robot” companion (Robertson 2017, 6).

a view, as aptly discussed by Frumer (2018), not only essentialises Shinto, but also fails to satisfactorily explain how feelings of friendliness towards robots are created. Since the 1970s, robots have had a visible presence in Japan. The possibilities of employing them in the service sectors is widely discussed and has been encouraged by the government. Familiarity with and feelings of friendliness toward humanoid robots may make an android like Mindar more readily acceptable to Japanese visitors. But rather than attributing their responses to some generalised idea of a particular (Japanese) culture, they should instead be contextualised as “a result of a historical process by which robots were consciously designed to elicit positive cultural associations” (Frumer 2018, 158). It is particularly important to consider the role played by different actors, including roboticists, in creating the perception of robots as ‘friends’ among the Japanese public. Moreover, the limited sample of reactions available so far does not allow for a full evaluation of how people interact with robots such as Mindar and Pepper who perform religious rituals or of the sensorial, aesthetic and material dimensions of these interactions. Further study of viewers’ responses will enable a more nuanced understanding of practitioners’ appropriation of technology and robots.

In the case of Mindar, some actors, such as the Kōdaiji head priest, may associate the relationship between human beings and technology in the Japanese (religious) context with a specific tradition (in this case, Buddhism), but this view is not necessarily shared among participants of the events, who may not consider Mindar a “spiritual robot” (Geraci 2006). Even so, most visitors are not uneasy in the presence of a humanoid. This familiarity, enhanced by the expectations created by AI and advances in robotics, is what makes Mindar different from earlier examples of prayer chanting devices or ritual-performing robots. Robots are made by humans in specific cultural contexts, but they (and AI) occupy a particular place in the collective imagination that is associated with the sublime (Ames 2018). They are presented (and at times perceived) as potentially capable of going beyond human limitations - in Mindar’s case, to fulfil the role of a bodhisattva and guide people to salvation.

According to Rambelli (2018, 70) robots and digital ritual practices move the focus from the ritual specialist to the ritual itself, shifting attention away from the physical co-presence of ritual specialists and participants and from direct performance. Gould and Walters (2020) discuss robots as “techno-salvationist interventions” in modern Buddhist ritual practice. Technologically mediated rituals, they claim, can abate human ritual failures and “hopefully mitigate human corruption and penchant for selfishness and ignorance” (Gould, Walters 2020, 280). They can thereby contribute to exper-

imental efforts to re-vitalise the image of Buddhism (Nelson 2013) and address the declining relationship between temples and parishioners. But can co-presence be created with nonhuman actors such as robots? In an interview,²⁰ roboticist Ishiguro defines temples as a kind of virtual reality in which imaginaries about hell and heaven exist, making them ideal places to explore new kinds of virtual realities through technology. Is Mindar able to help Buddhist temples change their image as providers of funeral and memorial services and little else? Gould and Walters (2020) discuss the possibility of human Buddhists being entirely eliminated in a future where Buddhism is conceived of as post or transhuman and where “technological perfection of practice” (24) replaces human flaws and weakness. However, at present, the sermon delivered by Mindar is inputted by human priests and, as such, is not immune from human fallibility – and our encounter with this android bodhisattva is still mediated by a fax machine. For now, Mindar is a robot who performs prerecorded sermons in a multimedia environment, creating a staged sensorial experience for viewers. Its evolvment into a “supreme teacher” as dreamed of by Rev. Gōto still has a long (and costly) way to go.

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²⁰ See “Can a Robot be religious? Buddhist Robot Priest Mindar. Japanese Robots”: <https://www.youtube.com/watch?v=Y3VuHpYPU6Y&t=352s>.

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