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6 Robot Companions:  
The Animation of Technology and the Technology of Animation in Japan

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## Abstract

Contemporary Japan is often described in utopian terms as a place where humans and non-humans, specifically robots, live and work together in harmony. This acceptance of non-human others is explained by some anthropologists as stemming from an “animist unconscious” (Allison 2006) that allows people to attribute “life” to robots and other man-made objects, a notion that is explicitly linked to the “Shinto universe” of “native animist beliefs” (Robertson 2010). Contrary to the darker tone of robot fantasies in the Euro-American tradition, this “techno-animism” turns technological objects into non-alienating allies, or so the narrative goes.

This chapter critically examines the ideological underpinnings of these claims. I argue that the distinction between “ancient animism” as the underlying structure of belief for “modern techno-animism” is directly reproducing the Japanese government’s attempt at branding Japan as a robot kingdom. However, this is not to deny that man-made objects can appear as animate entities. But instead of attributing this to a native and naïve ontology, my argument is that all forms of animism are “techno-animism” because they are based on a technology of animation. This technology of animation is based on what Bird-David (1999) understands as “relatedness”, but I hesitate to call it a “relational ontology” because what enables animation is often a relation that emerges from an unexpected and surprising encounter. To grasp this I suggest the heuristic device of an “animation continuum” to better apprehend the broad range of relations that result in animation. I draw on the work of Japanese roboticists and anthropologists of technology to illustrate this point.

## Techno-Animism

In her 2006 book *Millennial Monsters*, Anne Allison discusses the ways in which contemporary Japanese commodity culture can be understood as providing a continuous re-enchantment of the lived world. Contrary to Weber’s thesis of capitalism as a motor of disenchantment, cute characters, character-branded commodities, and cuddly toys are imbued with life through affective attachment: “[F]ed in part by folkloric and religious traditions, an animist sensibility percolates the postmodern landscape of Japan today in ways that do not occur in the United States.” (Allison 2006: 12)

Japanese popular culture, according to her, routinely makes spirits, robots and animals co-habit the world in ways that ignore boundaries between the human and extra-human realms. These crossovers are symptomatic of what Allison calls an “animist unconscious” deeply embedded in Japanese social life. Japan, Allison suggests, is home to “techno-

animism” that is both “animating contemporary technology and commodities with spirits” and “reconfiguring intimate attachments” (Allison 2006: 13, 21).

Allison is careful to avoid generalizations: the distinction between “animism” and “techno-animism” remains implicit. On the other hand, her frame of reference remains staunchly Marxist by offering an analysis of the particularities of Japanese capitalism. Note that later in her book capitalism itself becomes the animating agency behind “enchanted commodities”:

[A]t both the corporate/national and the personal/play level, enchantment intertwines with enterprise, and the two together — enchanting goods, animated capitalism — spell out New Age values, intimacies, and relations seen by many as “healing” in this age of disaffection, disconnectedness, and stress. (2006: 232)

While Allison mentions Buddhist influences on the formation of animist sensibilities, Jennifer Robertson, in her work on robots in Japan (2007; 2010; 2014), attributes these entirely to the indigenous religion of Japan, Shinto. All three of her otherwise excellent articles contain almost verbatim mantra-like passages on why robots are considered to be part of the living world:

There are two key cultural factors that influence the dominant perception among Japanese of robots as benign, benevolent living entities. First and foremost is Shinto, the native animistic beliefs about life and death. [...] Vital energies or forces called kami are present in all aspects of the world and universe; some kami are cosmic and others infuse trees, streams, rocks, insects, animals and humans, as well as human creations, such as dolls, cars and robots. The second factor concerns the meanings of life and living – fertility and fecundity are especially celebrated in Shinto. Inochi is the Japanese word for life. It encompasses [...] a power that infuses sentient beings from generation to generation; a period between birth and death; and the most essential quality of something, whether it is a living being or a made object, such as a puppet [...]. This last definition is key: robots, humanoid and otherwise, are living things within the Shinto universe, and in that sense, are part of the natural world. (Robertson 2010: 12)

Robertson here assumes an un-ruptured continuous belief that she associates with Shinto, which in her formulation takes on vitalist traits. Very little is known about early Shinto, however, and the idea of an original pantheistic religion unsullied by Chinese and Buddhist influences has become something of a *carte blanche* to project all kinds of historical fantasies on to it — so much so that the historian Kuroda Toshio calls it a “ghost image” (1981: 20). Shinto’s association with the state cult of Emperor worship leading up and including the Second World War has rendered it a poisoned chalice for many progressive thinkers. Robertson’s unproblematic depiction of Shinto as a pantheistic and egalitarian nature-religion is not directly descended from ancient precedents, but from the so-called spiritual intellectuals of the 70s, 80s and 90s: a group first named and described by the scholar of religion Shimazono Susumu (1993). This eclectic group of folklorists, anthropologists, scholars of religion and public intellectuals helped to re-forge a connection between Japanese identity and the “true” Japanese “Ur-Religion”, in which the notion of animism plays a key role (Prohl 2000). Umehara Takeshi, for example, uses the term “ancient Shinto” (*kodai shintō* or *koshintō*) to refer to the original layer of Japanese belief that he claims goes back to the Jōmon period (12.000-250B.C.). He characterizes it as a polytheistic belief in the spirit of trees, vitality, and the equality of all beings (Umehara 1991). While most of this is based on

speculation, Palmer's structuralist analysis of the earliest local records (2001) suggests that any peaceful cohabitation between humans and non-humans was preceded by a violent relationship with the gods, whose pacification led to the settlement that emerged as native religion. After a critical examination of the writings of the spiritual intellectuals, scholar of Japanese religion Inken Prohl concludes that: "[W]ith its long historical development in Japan and its frequent changes and regional variations, it is highly improbable that the ancient Japanese possessed a belief system that can be accurately and usefully described as 'animistic'." (2002: 153)

## **Ontological Obstacles**

Dodging the problem of belief, Jensen and Blok take up the animist thread in a paper called *Techno-animism in Japan: Cosmograms, Actor-Network-Theory and the enabling powers of non-human actors*. In it they claim that "[i]t is in the shape of a vital animism, within a complex, modernized and advanced techno-scientific country, that Shinto holds interest for us as a vehicle for rethinking relations with the non-human world." (2013: 97) Inspired by Latour's *We Have Never Been Modern* (1993), their aim is to find in Japan a different settlement of the distinctions between active subject and passive object. Like Robertson, they argue that to reclaim an unsullied Shinto from the contamination of fascist and militarist association is a requisite first step for such a maneuver. This is achieved by carefully selecting materials to omit the more problematical aspects of this legacy. The second step involves a critique of belief, which is problematic for Latour because of the implied power differential between the "native's belief" and "the anthropologist's knowledge" (Latour 2010). To circumvent the notion of belief, representation, or worldview, the term "cosmogram" is introduced, taken from the work of historian of science John Tresch. A cosmogram is a concrete model of the cosmos that serves as a point of shared reference for the totality of a society. While a cosmology is "locked up inside people's heads" (Tresch 2005: 69), a cosmogram is a material artefact.

While I agree with the critique of both a reified Japanese culture and the use of "belief" as a mechanism to impute certain mental states to people, the introduced "Shinto cosmogram" raises more problems than it solves. The examples culled from other scholars' research are misleading to say the least: the memorial services for primates (*saru-kuyō*, see Asquith 1986) in primatology laboratories for example are clearly shaped in a Buddhist mold, in spite of the often syncretic nature of religious phenomena in Japan – itself reason enough not to call anything a "Shinto" cosmogram.

Consider the robot-priest at a Yokohama cemetery which Blok and Jensen take from a widely quoted paper by Geraci (2006), who in turn takes it from an article in *Colors Magazine* (1993). Quite apart from the fact that they have to dress the "Buddhist Monk Machine" - so the title of the *Colors* article - in Shinto priest robes to make it fit their argument: to treat this as an instance of human/non-human ontological overlap removes it from the context and the concerns of those creating it. The Australian journalist Ben Hills, who actually went to interview Yoshino Hideo and Sakurai Tōru (the robot's designer and the curator of the high-tech chapel, respectively), reports quite a different rationale: "We are not trying to do live priests out of business. However, the robot never forgets an anniversary, it never makes a mistake and you get the service free." (Hills 1993)

This is of course not to claim that this rather more economic motivation takes precedence over ontological implications. However, the hybridization that takes place here is that of religio-ontological notions with economic concerns, something that has never been alien to Buddhism (Rambelli 2007). The robot-priest, then, is as much a novelty item as it is an "ontological" marvel. Geraci, whose paper is widely quoted when it comes to robots and

Shinto, offers the most glaring example of the will to believe that the Japanese are unreconstituted animists. He argues that “[t]he Japanese enjoy the presence of robots in their midst thanks in part to the Shinto perspective that the world is full of *kami*, sacred entities. The sacred nature of the world includes robots, whose own sanctity makes them natural partners to human beings.” (2006: 230) This universalizing claim is contradicted only a few pages down, when discussing how robot consecration ceremonies in factories, widely undertaken in the early 80s, were later dropped because of the increasing numbers of robots: “When the newness and exoticness of the robots wore off, ‘animism’ disappeared from the workplace.” (2006: 236) If anything is at work here, it is the will to believe in what “the Japanese” believe in an intellectual climate in which “belief” itself has become a dirty word. But in spite of all the linguistic acrobatics Jensen and Blok undertake to distance themselves from it, “techno-animism” remains a belief about belief: it articulates what we think they think, a point that Darryl Wilkinson has made about “new animism” in general (2017).

### **The Animation Continuum I: Cathexis Versus Opacity**

What, then, is techno-animism, if not a belief about what others believe? My argument here is that it makes more sense in a Japanese context to speak of animation as a technology, thus overcoming the bifurcation between the “modern” technological and the “premodern” animist sensibility, which is retained in the term techno-animism. If Graham Harvey argues that “new animism” is about recognition that we live in relationships with persons, only some of which are human (2006: xi), and Nurit Bird-David posits “animism as a relational ontology” (1999: 77), then we can reformulate animation as “the technology of relating to things who may or may not be persons”. I like the slightly heretical sound of “technology of relating”, because it disrupts some of the implicit assumptions on both the side of “relating” (the notion that relating is not instrumental) and the side of “technology” (the expectation that technology has predictable outcomes). The problem with the term “relational ontology” is that the relationships it describes have the tendency to become reified as patterns, while relating as practice should be construed as radically open. Bird-David argues that:

“[w]e do not first personify other entities and then socialize with them but personify them *as, when, and because* we socialize with them. Recognizing a ‘conversation’ with a counter-being — which amounts to accepting it into fellowship rather than recognizing a common essence — makes that being a self in relation with ourselves” (1999: 78).

Implicit in this description is the possibility that this process of relating can lead to unanticipated effects and “new” forms of being that can only be described as “ontology” after the fact.

In order to create a heuristic map of the possible processes of relation that lead to animation, I propose a grid formed by two dimensions (diagram 1): on one axis we have a continuum from cathexis to opacity; on the other a continuum from docility to recalcitrance. There are two ways we can conceive of the notion of a thing becoming alive. One is cathexis: that is, the notion that the thing becomes one with one’s body, as is the case with an instrument. In achieving a task, person and object become one, both in the sense that our own perception extends through the object but also in the sense that the object no longer has an independent life of itself. This is an example of animation through use, in which case the person using the instrument imbues it with their own life. Person and thing, subject and object melt into each other and create a new emergent system (Malafouris and Renfrew 2013). In this sense of animation the ontological difference between person and object is

erased, *if* the object is used with skill. In other words, the object becomes docile through the embodied skill with which it is handled. This is a core principle of most of the Japanese arts: the sword or staff in martial arts, the brush in calligraphy, the fan in *zashiki-mai* dancing (Kawada 2008), the needle in sewing (Guth 2014) etc. From the point of view of an observer, the object appears as an animate entity that enters into interaction with the person handling it. A transition occurs as soon as the instrument/object is put down. The moment the direct contact is interrupted, the thing returns to thinghood or to a state of non-self, but it retains the possibility of blending. In the traditional arts, the instrument is greeted at the beginning and the end of training, a ritual which indicates the threshold between the instrument's incorporation and its autonomous existence. As these instruments are often of considerable value and are sites of affective investment, they are handled and disposed of in ritually prescribed ways (Kawada 2008: 134f). They partake in the personhood of the user and when they reach a certain position in the hierarchy, their instruments take on an inalienable character, that is, their transmission from master to student embodies the transmission of the art itself. The longer a tea ceremony implement has been handed down from generation to generation, the more it acquires its own personality. Gloss and texture may change with use, a direct material trace of the use and the users (called *tenare* in Japanese, literally "used to being handled", a description that seems to assume the point of view of the object). The most famous of these objects acquired names, like Chigusa, a tea jar of Chinese origin that exemplified the aesthetic canon of the tea ceremony and was handed down among connoisseurs in Japan for several hundred years until it was acquired by the Smithsonian's Freer Gallery of Asian Art in 2009 (Cort and Watsky 2014).

In the middle of the diagram we find most objects of everyday use. These are used as instruments, serve as memorabilia of events and relationships, and are imbued with symbolic meaning insofar as we engage with them: in other words, they are enmeshed in constant processes of becoming self and returning to non-self. The continuum here works through the metaphor of distance: as we move towards the other end, things become increasingly "other" and opaque as they are removed from our sphere of knowledge. If, as Annemarie Mol states, 'to be is to be related' (2002: 54), what kind of being does this entail for things outside, before, or after relation? Using a poem by Zbigniew Herbert called "The Pebble", Frow describes this remoteness in the following terms:

[T]o be so purely a thing, so deeply withdrawn from capture by others, is to pass into that mode of irreducibility and unknowability that we call the subject. Its look is the very form of that presence-to-self which cannot, as such, be an object for another. This is the paradox of any fascination with the thingness of things: that things posited in themselves, in their distinctness from intention, representation, figuration, or relation, are thereby filled with an imputed interiority and, in their very lack of meaning, with "a pebbly meaning" which is at once full and inaccessible. (Frow 2001: 272)

This opacity in turn can be put to work in the creation of meaning and presence. Buddhist icons are good examples of this: they are created and consecrated through an "eye-opening" ceremony and are considered real presences of the Buddha after that (Faure 1991: 148-178). They are more than mere symbols, but to describe this as "animism" misses the point: the "presencing" of the Buddha is the effect of a technology of animation, and the result of this process is not life, but "still life" or "suspended animation" (Faure 1998: 770). Furthermore, when animating the statues of famous abbots of monasteries, both material and ritual strategies were used. On one hand, personhood is directly present in the materiality of the artefact: the lacquer applied to the surface was mixed with the ashes of the abbot, and the

bones were often put inside the statue, thus creating an enduring material presence of the original body and a model of interiority in which the “mind” resides in the material artefact (Croissant 1990). On the other hand, it is the strategy of animation that renders such a statue efficacious: its interaction with priests and worshippers in rituals and the exchange of reciprocal gazing, made possible through the insertion of eyes made from crystal. As Alfred Gell has convincingly argued, there are many ways in which the immobility of the statue can become meaningful to worshippers: if monks are seen as “already dead” to the temptation of the secular world, their immobility makes sense as both the result of ascetic self-restraint and indifference to this level of existence. Moreover, the efficacy of the statue can be understood as happening “off-stage”: making the crops grow and ensuring human flourishing does not require visible behaviour (Gell 1998: 128).

These Buddhist statues have special ontological status as conditioned forms of the unconditioned Buddha nature, which in turn is understood as a result of Buddha’s compassion: they are human and material in form because this is an “interface” that humans can understand. The tension between familiarity and opacity is in many ways specific to iconic representations. A paradigmatic use of opacity is described by Fabio Rambelli in his work on *hibutsu*, the hidden Buddha statues in Japan. Unlike the visible representations of Buddha that worshippers can access at temples, “secret Buddhas”<sup>1</sup> are only rarely if ever displayed. Their secrecy renders them powerful because they point towards the beyond of materiality and representation: “Nothing better than an invisible image, then, to secretly ‘display’ this inaccessible and fundamentally other dimension of reality.” (Rambelli 2002: 301)

Contrary to the earlier ontological claims that the Japanese live in a world where inanimate objects are routinely animated, nobody expects such icons to show signs of “life”. If they do, this is considered to be a rare and miraculous event, as happened for example on February 15, 1082 when the priest Eikan worshipped a statue of Amida he had saved from neglect at the Tōdai-ji temple. The statue came down from the altar and joined Eikan in his circumambulation of the altar. Eikan was so astonished that he stopped in his track. Amida looked back over his shoulders and said “Eikan, you are slow/late”. After this experience, Eikan created an icon of Amida looking back (*Mikaeri-no-amida*), an iconographically new expression of the Buddhist compassion to leave no one behind (Kita 1997). This case would feature on the animation grid on the side of recalcitrance, because it clearly goes against the expectations that Eikan himself had of the icon’s possible range of behaviour.

Instances of the animation of lifeless objects through the imputation of “intentional psychology” are culturally salient precisely because they are counterintuitive and unusual, as Pascal Boyer has argued (1996). My point is that the impression of animism here does not rest on an ontology in which things are already alive, but on a sophisticated technology of ritual animation. It is not that we understand what is animate and what is inanimate in fundamentally different ways, but that there is in Japan a long history of concrete technologies that transform inanimate things into animate objects.

## **The Animation Continuum II: Docility Versus Recalcitrance**

But there is another, perhaps more uncanny, dimension to the experience of animation: on the other continuum between docility and recalcitrance, the object emerges as

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<sup>1</sup>Rambelli points out that there are many reasons an icon can become a ‘secret Buddha’: sometimes it is the heterodox nature of the icon, sometimes the fact that a statue has been disfigured or damaged by fire.

imbued with a life of its own the very moment it resists us. When the instrument we use unthinkingly everyday breaks down, when the shoelace snaps, this resistance appears to us as “life” in its recalcitrant form. Discussing everyday “Western” behaviour towards cars, Gell calls this “vehicular animism” (1998: 18f). Although “we” do not really believe that cars are imbued with life, the moment our car breaks down we cannot but understand this to be an act of malevolent volition. Heidegger (2006[1927]) uses the difference between “Zuhandenheit” and “Vorhandenheit” (ready-to-hand vs. present-at-hand), to indicate two modes of relational being towards human agents: when lost, misplaced or not functioning properly things “light up”, they come to mind rather than come to hand (Olsen 2010: 164). When the sword user greets the *Kamiza*, the sword, and the master with the words “I humbly ask to be taught”, the possibility of non-compliance on the side of the thing (or the master) is at least implicitly present.

Cathexis and Resistance, then, are two extreme positions on the spectrum of animation, from which things emerge as possessing agency. In the case of cathexis they bend themselves to our will and become agents of our agency; in the case of resistance their agency is opposed to our own and we experience the object all the more “alive” for that. Different from “animism”, instances of animation are never general. They are always specific to relationships between subjects and particular objects and the processes in which interactions are embedded. Sony’s robot dog AIBO shall serve as an example.

The anthropologist Kubo Akinori conducted fieldwork among AIBO owners who met up, along with their AIBOs, to exchange self-authored software and AIBO clothing. He describes two incidents that could be framed as recalcitrance: At a meeting in a community centre, an AIBO was moving towards a paper screen in a Japanese-style tatami-floored room. The AIBO stopped in front of the screen, looked around, and then thrust its head through the screen, tearing the paper in the process. The owner immediately came running and disentangled the AIBO from the paper frame to worried expressions and laughter from the other owners (2015: 222). While the AIBO developers would argue that this happened because of a sensor malfunction (e.g. the paper screen was not recognized as an obstacle), the AIBO owner attributed this to the AIBO’s mischievous and reckless personality. Kubo argues that this is not just a question of meaning-making on the side of the owner, but an unanticipated result of the relationships that the AIBO enters with the materiality of actual life worlds, a relationship that is constantly mediated by the owner who has to make sure that the AIBO does not get stuck or falls down stairs. Had the owner not immediately run to retrieve the AIBO from the paper screen, the behaviour would have appeared as malfunction rather than as “individuality”. In other words, it is through recalcitrance that personhood is attributed to the AIBO, not through its docile following of commands.

In a similar way, the AIBO can react differently to the command “shake hand” given by different people. Some people’s voices have a pitch that does not easily trigger the voice activation system. Again, while this can be technically described as a malfunction, what it makes possible is a new pattern of behaviour of the AIBO that appears as a dislike for certain people (those ignored when they ask for a “paw shake” (2015: 224)).

Personhood is thus not just something attributed to the AIBO, but an emergent property of relations between the AIBO and its owner, the immediate environment and what it affords in terms of intelligible behaviour. This in turn is a result of open interactions between the abilities the developers gave the AIBO and the particular ways in which the AIBO comes into being as a robot, as a pet, as a family member or as a technological marvel. Kubo calls this ambiguity “ontological fragility” (2015: 230). What the AIBO *is* only emerges through the relations it enters:

The meanings of this AIBO's behavior must be attributed neither to each person's sense of value projected onto it, nor to "Japanese culture" which sees everything as animate. Rather it must be attributed to the fact that the AIBO moved around, physically connecting to other entities there. (Kubo 2010: 116f)

While the owners of the AIBO did not attribute life (*inochi*) itself to it, they found that it was an "enigmatic existence" (2010: 119). The AIBO thus features on both continuums as sometimes docile, sometimes recalcitrant, but the "life" attributed to it is directly connected to the opacity of its functioning.

When describing the "coming into being" of AIBO, Kubo does not obfuscate the fact that Sony developed it with the aim of creating a marketable commodity. However, he stresses the fact that development was a fairly open process in which many different actors with different ideas about what the AIBO should be influenced the final product. Obviously, notions of the attachment that the commodity affords are crucial for the consumer experience, but such attachment cannot be determined entirely by the design. The metallic robot "look" of the AIBO reflected the assumptions of some of the developers that it would appeal to the affluent Japanese man interested in technology. But owners routinely circumvented these assumptions and customized their AIBOs with hand-made clothing and software such as 'cute' dancing programs.

### **Android Animation I: On The Mind/Heart Of Robots**

A similar ontologically open process is part of the development of androids. Robertson reports that many roboticists she interviewed had figurines of Atom, Tezuka Osamu's famous child robot, in their office and were often inspired in their quest by post-war science fiction culture (Robertson 2018). The figure of the android has thus a contradictory temporality: as fantasy it has always been there, but in reality it is something yet to come. Kubo calls this modality "nostalgic future" (2015: 228).<sup>2</sup> The "here and now" of the robotics laboratory creates the temporal networks in which the ontology of the robot unfolds: it is the present moment that draws together possibility, imagination, and traditional ideas:

Robots who are modelled on the versatility of living beings and who have no determined form or function therefore become media that stretch the student's creativity as a pedagogical tool and also conjure (*yobiokosu*) the traditional notion of "minds/hearts living in things." (Kubo 2015: 140)

But what precisely counts as the "life" of the robot in this context? The evidence assembled below from interviews with robotics engineers points towards the concept of the "mind/heart of the robot" (*robotto no kokoro*), a widely used trope in Japanese robotics (Ishiguro 2009; Shibata 2001). The character *kokoro*, often translated as "mind", denotes both intellectual and emotional aspects of subjectivity and is therefore closer to the Greek 'psyche' or the German 'Geist' (Katsuno 2011: 97). Katsuno argues that this heart/mind is not a matter of belief or a question of a preexisting entity, but an emergent and embodied phenomenon that manifests as the robot becomes more like a human being both in resemblance and behaviour. Again, rather than certain assumptions about what the android or robot is, what defined everyday life in the

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<sup>2</sup> Translations from Japanese are my own, unless otherwise indicated.



robotics laboratory was a fundamental openness both on an ontological (what will this become?) and on a commercial level (what can we sell this as?).<sup>3</sup>

The notorious roboticist Ishiguro Hiroshi starts his book *What is a Robot?* with this programmatic statement: “Humans have no mind, they simply believe that others have minds” (2009: 3). From this Wittgensteinian position he develops his take on robotics as quintessentially a study of human beings. He addresses questions of human existence through the medium of the robot, both in the sense that the robots he creates allow him to ask questions, but also in the sense that he sees robot technology as extension of communication media that create connections between human beings. Through the pursuit of human likeness (*ningen-rashisa*), “android science” brings together engineers, programmers and neurologists etc. The point of creating a life-like android is that it helps us to understand what human beings actually are. In other words, for Ishiguro the ontological marvel is not the robot, but the human beings that create and operate it.

This research trajectory led him to build an android of himself, the famous Geminoid (from Gemini, the twins). Although Ishiguro was not surprised when he first saw the finished product, what astonished him was that when somebody was manipulating its head or opening the mechanism, he felt as if this happened to him: “Even although the Geminoid did not move, through observing pain being inflicted on it, suddenly it exuded a sense of being alive” (2009: 88). This leads him to theorise that human beings develop self-awareness and self-perception through observing what is happening to their own selves. We attribute minds/hearts to others and to ourselves as result of our self-observation and the observation of the reactions of others, not because we have a clear understanding of our own minds.

The interesting thing about the Geminoid is that it is not an independent android in the conventional sense, but a remotely controlled mechanism. Ishiguro both used it as a form of tele-presence to participate in meetings at the laboratory and felt a strong sense of identification with it. But what happens if someone else controls the Geminoid? Using the remote control as an experimental set-up, Ishiguro found that the operators experienced a similar sense of identification<sup>4</sup> with the Geminoid, usually after about 5 minutes of using it. Their own bodily posture became like the Geminoid’s, which at the beginning felt restricted because the Geminoid could not move its lower body. But after a short while, they got used to the constraint and started to use it freely, an indication of animation through cathexis. Interestingly, when in an experiment someone poked the cheek of the Geminoid, the operator (who observes what happens not from the Geminoid’s perspective, but through two cameras placed on either side) would react as if they were touched themselves. When in another experiment the attractive science programme presenter Yasu Megumi touched the Geminoid, the male student who operated it felt aroused, although in both cases there was no direct sensory input from the Geminoid (2009: 114). This would register as docile animation by cathexis on the animation scale.

At this point Ishiguro became involved in the development of a robot play together with the director Hirata Oriza (first performed in 2008). Hirata was a good match because his particular approach to directing did not require the actors to have a heart/mind of their own (2009: 144). Simply following the very precise and detailed instructions (“50cm further to the side here”, “a delay of 0.3 seconds there”) was enough. This made it very easy to program the robots – Mitsubishi Industries’ *Wakamaru*. The play *Hataraku Watashi* (Working Me) was only 20 min long and involved everyday interactions between a man out of work, his wife, and two robots who clean and cook. The questionnaire that was distributed to the audience

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<sup>3</sup> This openness was only limited by the roboticists’ universal dislike for military robotics.

<sup>4</sup> The Japanese term *Ittaikan* used here, literally ‘feeling as one body’, refers more to an embodied sense of unity than to a psychological state.

afterwards showed that the majority had felt that the robots had a mind/heart of their own. Ishiguro concluded from this that it is the interaction between robots and humans (which is made only possible by precise instruction of the actors) that creates the notion of a mind. What Ishiguro does not discuss, however, is that the male robot in the play, Takeo, appears as having a mind/heart of his own precisely in the moment he refuses to do the work that he was created for. In other words, it is recalcitrance again that appears as intentionality, individuality, and personhood.

## **Android Animation II: Robot Healing**

Ishiguro's emphasis on robot development as a form of self-inquiry is mirrored by Hasumi Kazutaka, who developed the robot Pepper for Softbank. In an extended dialogue with the Buddhist monk Hidaka Zenpō, Hasumi talks about the joys of robot development in the following terms:

For example, even though I understand that Pepper is not alive, I catch myself interacting with it in a gentle manner and feel it is cute, in spite of it being a robot. In this way, through this kind of transcendent existence I can encounter a new aspect of myself, which is the joy [of creating robots].<sup>5</sup>

This joy is also expressed by the amateur robot builders who are the subjects of Katsuno Hirofumi's ethnography (2011). He participated in groups of amateurs and in the bi-annual Robo-One events, at which bipedal humanoid robots compete with each other in walking and fighting contests. Katsuno frames the open-ended development of robot bodies and robot motion as "tinkering": a bottom-up process of trial-and-error, at the same time concrete, object-oriented, and personal.

Katsuno argues that the robot is an alter-ego because it is "raised" in one's own image, not so much psychologically but bodily: engineers observe and analyse their own movements and weight shifts to then recreate them in the humanoid bodies. The robot's *kokoro* is felt when the robot moves in a child-like, cute manner. Interestingly, Katsuno interprets this in terms of Benjamin's aura, rather than in terms of animism:

The auratic experience of the robot's heart emerges through individuals' actual and personal relationships with the robot, in conjunction with the ritualized and spectacular settings of robotic events and the discourse of "living together with robots" pervading contemporary Japan. Far from being unchangeable and culturally essential to Japanese society, the aura of the robot's heart is constructed, contingent, and inextricably linked to its socio-political context in millennial and post-millennial Japan. (2011: 103)

But why do amateur robot builders pursue the heart of the robot? Katsuno maintains that it is a sense of loss of authentic human communication (the loss of the ability to touch each other's hearts) that started in the 90s during Japan's "lost decade". He puts the development of android-to-human communication in the context of the *iyashi* (healing) boom:

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<sup>5</sup> [http://www.recruit.jp/meet\\_recruit/2016/01/og10-1.html](http://www.recruit.jp/meet_recruit/2016/01/og10-1.html), accessed on June 16, 2017

The technological ability to synthesize life-like behaviour in computers, machines, and other alternative media is now ironically being used to produce spiritual and emotional healing: through “touching” the patient, both physically and emotionally, concrete physiological benefits have been observed. (Katsuno 2011: 105f)

But these physiological benefits are arguably achieved because the “others” that provide them are non-human, because their touch does not incur the obligation of return. It becomes clear at this juncture that “co-existence with robots” only makes sense if they are understood *not* to be like humans in crucial respects. While the robot’s heart/mind is something that builders and observers alike “felt” to emerge through interaction, the “healing” that is felt by consumers of this technology may be counterintuitively based on the absence of human likeness. My last two examples illustrate this.

The first is ASUNA, a female android who looks almost life-like through its realistic design, mimicking the slight asymmetry of the human face. ASUNA was thought to maybe have a future career as a receptionist or even as a nurse. Its developer, the robotics engineer Toritani Naoshi, recalls the following occurrence:

When ASUNA participated in an event, a disabled person was moved to tears of joy, because ASUNA continued to look at them<sup>6</sup> steadily. According to the participant, when people avert their eyes while talking, they suspect that it is distressing for people to look at them and feel hurt as a consequence. On the other hand, when someone looks at them steadily, they worry that they are being stared at in a strange way. But because the participant knew that the android had no hidden intentions or judgements [*uragokoro*], they felt looked at with pure eyes and did not worry. This was something that never occurred to us before this event.<sup>7</sup>

Two things stand out here: the fact that what made ASUNA work as an android was precisely not the fact that she had volition and interiority, but the absence of that which is understood to be human. The other point is that the android starts to become a meaningful object not through design and planning, but through encounters. To understand what it is, we need to find out what relationships it can enter. Toritani thus argues that androids should neither be like robots or like humans, but that they should eke out an existence on their own terms.

The second and last example comes from the performing arts. On February 22, 2017 I went to see a dance performance by the Blanca Li Dance company at the Barbican with Jun, a Japanese friend who studied digital arts. The piece was called “Robot” and featured eight human dancers with a robot orchestra and several child-sized Nao robots from Aldebaran Robotics<sup>8</sup> who engaged in performances alone and together with their human partners. In spite of the limitations of the robots in terms of movement and expressivity, they clearly were the stars of the show and provoked loud noises of endearment from the audience whenever they fell down, which they did often. Whether this was on purpose or not remained unclear, but given that getting up after a fall is one of the biggest challenges in bi-pedal robotics, wanting to show off this skill is understandable.

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<sup>6</sup> The Japanese text gives no unambiguous indication as to the gender of the person. Given the demographics of such events, it is possible to assume that the person is male.

<sup>7</sup> <https://type.jp/et/log/article/asuna>, accessed on November 25, 2017

<sup>8</sup> Aldebaran Robotics was founded in Paris by Bruno Maisonnier in 2005. The Japanese communications giant Softbank acquired it in 2015 and renamed it Softbank Robotics. Pepper, mentioned above, is a larger and more developed version of NAO.

Having dinner after the show, Jun told me that he enjoyed the performance but did not care for the human element of the choreography at all. He would have preferred just the robots, standing up and falling over again: “They were so cute, I felt enormously healed (*iyasareta*)”. But when I suggested that they were simply created to appeal to the scheme of childlike characteristics that humans were genetically programmed to find cute, he maintained that they were cuter than children or animals because they did not have an ego (*jiga*) and therefore no selfishness (*gayoku*). The Nao robot is simply trying very hard to do what is asked of it without any ulterior motive. That is why we can enjoy its performance unreservedly: it does not ask anything of us. In this sense, it is the absence of interiority that makes the robot attractive: it is all surface. Note also that the terms Jun used to describe it refer directly to a Buddhist theory of mind.

### **Conclusion: The Onto-Politics of Techno-Animism**

What is problematic about the term “techno-animism” is that it reintroduces the bifurcation it wants to overcome — as if the hyphen between “techno” and “animism” was enough to invoke a “relational ontology”. But the hyphen still separates the material technological artefact from the spirit it is purportedly infused with. My argument in this chapter has been that we need to seek the *technē* on the side of animism: instead of techno-animism, a technology of animation that transforms particular entities – natural or man-made – into “persons”. Especially in the field of android science, where the goal is to imitate human likeness, instances of animation are explicitly the result of *technē*. Claiming that in Japan, robots have a mind/heart as a matter of course belies the fact that they are treated as technological marvels. In the same vein “relational ontologies” are not just “there”, they are made and constantly reshaped and, crucially, are ontologically open to becoming.

Various strands of thinking that are sometimes subsumed under the term “post-humanism” share a concern with being, otherness, and symmetry. Both Actor-Network Theory and New Animism are concerned with giving “voice” to non-human persons: the former through the “parliament of things” (Latour 1993), the latter through “sitting in council with all Beings” (Metzger quoted in Harvey 2006: 184). While such practices sometimes seem like mere ventriloquism, they do foster a sense of responsibility towards the non-human elements that “assemble” the worlds we live in. In this sense the ontological is also the political. Onto-Politics, then, is thinking about what counts as being, what counts as person, and what counts as agent in particular worlds. Political rights are granted on an assumption of equality which implies sameness and excludes difference. But just as the distinction between animate and inanimate does not map onto the same kinds of beings in different places, neither does the distinction between similarity and difference. As Robertson herself has argued (2014), robots are created by Japanese engineers for a Japanese context and are therefore understood to be “Japanese”. They may register as different on the human/non-human gradient, but they are considered to be culturally and linguistically Japanese. Katsuno is even more explicit and understands contemporary robotics as a crucial tool in the nation-branding of Japan: “By claiming the cultural authenticity of this invented tradition of humanoid robots, [state and industry actors] are attempting to establish or renew Japan’s national image as the source of future robotics technology” (Katsuno 2015: 214).

Utopias have a short memory. It is quite ironic that in the techno-orientalist discourses on Japan in the 1980s, the industrial robot featured prominently as a metaphor for the rule-bound and robot-like nature of the Japanese themselves. Thirty years later, the humanoid is used by foreign commentators and government actors alike to portray the Japanese as friendly animists who do not discriminate between humans and non-humans. Such shifts in

ideology have real-live consequences: if we follow the logic of techno-animism, then granting citizenship to familiar robots trumps giving citizenship to unfamiliar human foreigners. This is a core element of the anti-immigration policy of Prime Minister Abe, who in 2012 pledged to spend 2.39 billion Yen (roughly \$21 million) on the development of nursing care robots (Lewis 2017). If this were to succeed, it would render obsolete the predominantly Filipino nurses that bear the brunt of care for a rapidly aging society. In other words, we do well to be skeptical of descriptions of Japan as post-humanist utopia where relations with things have been marked by mutual respect and proto-ecological thinking. If we take them at face value, we risk feeding directly into the fantasy narrative of a culturally pure Japanese nation and the government's strategy to "re-Shintoize" Japan, the eponymous "Land of the Gods".

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