Chapter 20
Robot Double:
Hiroshi Ishiguro's Reflexive Machines

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ABSTRACT

This chapter discusses Japanese roboticist Hiroshi Ishiguro's performance experiments with robotic machines (humanoid and android) as a case study for this book's theme, "the techno-self." Ishiguro's robots are highly sophisticated pieces of engineering intended to replicate human physical movement and appearance. In addition to claims relevant to robot engineering, for Ishiguro, these machines are reflexive tools for investigations into questions of human identity. In Ishiguro's thinking I identify what I call a "reflexive anthropomorphism," a notion of the self's relation to the other that is tied equally to Buddhism and Japanese mythology. Using concepts from Japanese studies and theatre and performance studies, this chapter examines one culturally specific way of thinking about concepts of the self and identity through Ishiguro's discussion of the human-robot relation.

INTRODUCTION

Andrew Feenberg (2010), philosopher of technology, discusses the globalisation of technology in terms of "branching" and "layering". The former denotes multi-directional spreading like a tree branching in which "the trace of values appears clearly in design features of technical artifacts" (Feenberg, 2010, p. 123.) In the "layering" of technology, specific cultural values and codes are maintained within technical objects. Feenberg discusses complex entanglements between technology, society, and culture in a globalised world. This chapter aims is to draw attention to one instance of the latter in the recent development of robots in Japan.

Robotics is an important area within Japan's technological development. Japanese universities, corporations, and government agencies have been developing prototypes of next-generation communication and service robots designed for use in domestic situations.[1] These next-generation "humanoids" or "androids" are often of human appearance: i.e., humanoids that have metallic surfaces and the basic forms of human bodies, and androids that are not only human-like in body shape but are equipped with

skin-like surfaces, and often detailed facial features. The development of humanoid and android research in Japan is widely acknowledged in popular science books (Geary, 2002; Wood, 2003; Hornyak, 2006; Levy, 2007; Benford & Malartre, 2007) and in the science and engineering context (Menzel & D'Aluisio, 2000; Perkowitz, 2004; Bekey et al., 2008; Bar-Cohen & Hanson, 2009; Guillot & Meyer, 2010; Kaplan, 2005/2011). However, Westerners often find the Japanese affinity for these robots baffling, as indicated by the title of a 2005 article in the US publication *The Economist* (2005), "Better than People", which suggests that this affinity with robots is so foreign to its Western audience that it needs detailed explanation. Responding to such reactions, Hornyak (2006), a journalist, and Kaplan (2005/2011), a roboticist, who have both lived in Japan, explain the general Japanese affinity for humanoids and androids in terms of Buddhist thought and Japanese animism. This chapter elaborates upon this insight, examining how the anthropomorphic robot performances of Hiroshi Ishiguro, a leading Japanese roboticist, and Ishiguro's discussions of these performances, intersect with Japanese cultural concepts. I will first discuss prevailing narratives about the robot in the West to highlight that the more accommodating view of the robot in Japan differs from the oppositional view of the human and the robot in Western cultural representations.

The understanding of the robot in the West is the product of a longer history of conceiving of the human body as a material entity like a machine. This is itself a loaded topic that has a long history. According to historian of science Georges Canguilhem (1992), the mechanical interpretation of biological phenomena goes back to Aristotle and, later, Descartes. An eighteenth-century physician, Julien Offroy de La Mettrie, states that the human is a "'self-winding machine, a living representation of perpetual motion'" in his book entitled *L'Homme machine* (Man, a Machine), published in 1747 (quoted in Wood, 2002: 13). The view of the human as akin to the machine persists to the present day. For example, Rodney Brooks (2003), one of the most well-regarded American roboticists, and an professor emeritus at MIT, argues that "[t]he body is a machine, with perhaps billions of billions of parts, parts that are well ordered in the way they operate and interact. We are machines, as are our spouses, our children" (P. 173). On this basis, computer scientists and roboticists such as Hans Moravec (1999), Ray Kurzweil (1999 and 2005), and Brooks (2003) argue for an inevitable human-machine symbiosis in the future, due to ever-developing technologies in the areas of genetics, nanotechnology, and robotics.

Despite or in addition to the material understanding of the human and the likening of the human to a machine, there has also been a belief in Western thought that defines life beyond the material, that the living possesses a special element. According to historian Anson Rabinbach (1992), the idea of the unexplainable life force in the human was the concern of French "vitalists" in the nineteenth century, who claimed that "the principles of 'life' could not be supported by reductionist arguments" (p. 64). Rabinbach (1992) discusses the philosophical division between "the mysticism of the vitalists and the rationalism of the mechanists" (pp. 91-92). Although Rabinbach details how the materialist view prevailed over the vitalist view in science, it would seem that where robots are concerned, there is a kind of persisting vitalism. Brooks (2003) indicates that in the present day, Roger Penrose (physicist and mathematician), David Charmers (philosopher), and John Searle (philosopher) present "the most cogent arguments against people being just machines" and they feel that something yet unknown" – "new stuff" that is "mysterious" and undiscoverable, or "something special about human brains and neurons" – makes the human being unique (pp. 176-180). Interestingly, Brooks (2003) himself is interested in finding this "new stuff" but, unlike the others, his hypothesis leans toward the material side, and he names it "the juice" (pp. 187-188). He states that "we may simply not be seeing some fundamental mathematical description of what is going on in living systems" (Brooks, p. 188).

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