Chapter VII
Game Interfaces as Bodily Techniques

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ABSTRACT

This chapter discusses the way that new video game interfaces such as those employed by Guitar Hero™, Dance Dance Revolution, and the Nintendo Wii™ are being used to invoke the whole body as a participant in the game text. As such, new video games involve more than cognitive education; they impart a set of body habits to the player. Drawing on Marcel Mauss's concept of "bodily technique," I propose a new vocabulary for understanding these devices, referring to them as bodily interfaces. Next, I discuss three aspects of bodily interfaces: mode of capture, haptics, and button remapping. In order to help educators take advantage of these developments, I conclude by pointing to theoretical literature on the relationship between the physical and mental aspects of the learning process that may be useful in rethinking electronic games.

INTRODUCTION

Electronic gaming involves learning new habits of interfacing with game texts. Each new medium brings with it a particular set of what sociologist Marcel Mauss (1973) termed "techniques of the body," where the body is conditioned to interact with the physical medium according to a set of cultural codes associated with it. In this chapter, I will explore the techniques of the body that emerge in our interactions with electronic games

and examine the ways that they are transforming the user's bodily experience of the medium. It is my argument that electronic gaming trains our bodies to navigate texts in a new and significant way, in some instances electronically reproducing or mimicking the non-electronic (as is the case with games such as *Guitar Hero* and *Dance Dance Revolution*), and in others creating a new set of bodily habits. My focus on the interface as something encountered physically is intended to orient the reader away from visual and audio aspects of information display and toward the materiality of

the gaming experience. Underlying this focus is the assumption that learning does not happen only through the eyes and ears, but also in the fingers, hands, legs, and feet, and in the skin, muscles and joints.[1] So my focus in this chapter on the interface is designed to spark educators' thinking about electronic games as they are encountered physically by the player, and the new possibilities for learning that this conceptualization provides.[2] The gaming body is no longer static and disengaged; it is now hailed as a participant in the game text. As such, playing electronic games becomes a play of the body, invoking what Gardner (1993) in his theory of multiple intelligences referred to as bodily/kinesthetic intelligence, no longer confined to the hands.

This paradigm shift in thinking about games is not simply a theoretical one. In the drive to innovate within an extremely competitive marketplace, some game designers and developers have turned away from the pursuit of increasingly realistic images and sounds to instead pursue new forms of interface mechanics. Nintendo has been the most explicit about this in its development of the Wii and Dual Screen (DS™) gaming systems, with the former system eschewing high-definition graphics (the Wii's maximum resolution is 480 horizontal lines compared to 1,080 for the PlayStation® 3 and 720 for the Xbox 360™) and instead focusing on the motion-capture controller (the Wii Remote or as it is cutely nicknamed "Wiimote") as the system's primary selling point.[3] The DS featured its touch-screen interface, a first for a portable gaming system, prominently in the "Touching is Good" ad campaign produced for the product's November 2004 launch (Parisi, 2008). This strategy has been extremely successful, with the DS selling 35 million units worldwide in just over two years (Mitchell, 2007), and the Wii eclipsing sales of other next-generation consoles in every month since its November 2006 release. Nintendo's success was somewhat unheralded and can be read as emblematic of a new paradigm in gaming, further evidenced by controllers developed for specific games, such as the floor mat controller for *Dance Dance Revolution,* the guitar controller for *Guitar Hero I* and *II*, and PlayStation's *Eye Toy.* Each of these interfaces solicits greater bodily involvement in the gaming experience. The SIXAXIS™ controller for the PlayStation 3 tracks the controller's tilt and uses it to direct the onscreen action, with the intent of creating a more "intuitive" and "natural" gaming experience ("SIXAXIS Wireless Controller").[4] In June of 2007, Novint Technologies released an interface called the Falcon that renders three-dimensional objects to the user's hand through the use of vibrational feedback. Through the deployment of haptic technology, this allows users to feel the weight, texture, and shape of onscreen objects.[5]

This chapter will trace the current deployment of what I refer to as *bodily interfaces.* We can define the bodily interface as the physical aspects of the computer interface, where the interface involves and depends on the body to come into contact with it. Recognizing that all input devices in the human-computer interface (HCI) involve the use of the body in some capacity, this term is somewhat redundant. I use it to orient the reader away from thinking about the graphical user interface (GUI) toward thinking about the interface as something material that is encountered by the body. Bodily interface has a material connotation that HCI does not, and as such, I feel it is a useful term for thinking about this most recent generation of game interfaces.

I will discuss three interconnected aspects of these interfaces that are used to reorganize the body in relation to the game. The first aspect, *capture,* involves the interface's ability to "read" the user. All human-computer interfaces depend on the computer's ability to legibly interpret inputs from the user. A keyboard or a voice-recognition program interprets information provided by the user. Despite their similar function, these two interfaces involve the body in radically different ways. So in discussing this first aspect, it is

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