

Chapter 1

Sound in Electronic Gambling Machines: A Review of the Literature and its Relevance to Game Sound

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ABSTRACT

A much neglected area of research into game sound (and computer games in general) is the use of sound in the games on electronic gambling machines (EGMs). EGMs have many similarities with commercial computer games, particularly arcade games. Drawing on research in film, television, computer games, advertising, and gambling, this chapter introduces EGM sound and provides an introduction into the literature on gambling sound in general, including discussions of the casino environment, the slot machine EGM, and the physiological responses to sound in EGMs. Throughout the article, we address how the study of EGM sound may be relevant to the practice and theory of computer game audio.

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INTRODUCTION

A much neglected area of research into computer game sound is the use of sound in electronic gambling machines (EGMs; also known as slot machines, video slots and video fruit machines). To put the influence of EGMs into perspective, the computer game industry in the United States contributes approximately \$8 billion in sales each year to the country's GDP (Seeking Alpha 2008). The slot industry, on the other hand, generates approximately \$1 billion *a day* in wagers in the United States alone (Rivlin, 2004). Moreover, this amount is increasing as slot machines grow in popularity and are increasingly found outside of designated casinos. In 1980, an average of 45% of the gaming floor of a Nevada casino was devoted to slots, whereas today this number is at least 77%, with machines generating more than twice the combined revenue of all other types of games (Schull, 2005). Although they are also increasing in complexity (see below), slot machines are attractive to players because they require little or no training or previous experience, they are quick and easy to play and, perhaps most importantly, they elicit a number of sights and sounds that make them striking and exciting on the casino floor.

EGMs have many similarities with commercial computer games, particularly arcade games. In fact, many of the early video arcade game companies also had a long prior history manufacturing slot machines, including Bally and the Williams Manufacturing Company. As such, many of the creators and designers of slot machines today have also worked for computer game companies. In fact, much of the sound design and music of slots is still outsourced to game sound designers and composers, such as George "The Fat Man" Sanger (composer of 7th *Guest*, *Wing Commander*, and others).

Furthermore, until the 1990s slot machines had fairly standard mechanical or electro-mechanical reels and parts. Today, however, with the digitization of slot machines there are now considerably

more structural components to slot machine gameplay. Many of these structural components have been adapted from computer games, such as cut scenes, bonus rounds and specialist plays. And while the arm of the "one-armed bandit" remains on many slot machines, more commonly players use simple rectangular or round blinking buttons very similar to those of many arcade games.

There are also, of course, some notable differences between computer games and electronic gambling machines. Historically, the vast majority of EGMs have been exclusively installed in casinos, where the usual age for entry is 21, thus effectively excluding young people from gameplay. However, this is changing as the companies attempt to capture a younger audience and the machines proliferate in non-gambling environments (Rivlin, 2004). Today, EGMs can be found in bars, restaurants, arcades, hotel lobbies, and entertainment and sporting venues. There are also, of course, virtual slot machines online, and these represent a significantly growing proportion of slot income. Research has further shown that casinos and gaming companies are seeking to target women, particularly those over 55 as its main demographic, although as the venues change, the target market is becoming younger.

Electronic gambling machines today are also much faster to play than their mechanical and electronic ancestors. Now, the average player initiates a new game every 6 seconds (Harrigan & Dixon, 2009a, p. 83), playing up to 600 games per hour, and there are even artificially intelligent machines that adapt to the speed of the player—when they start slowing down, the machine will slow down with them, but work to build them back up after a little break. Many games aim for "immersion" (what might be best described in terms of Csíkszentmihályi's concept of "flow", characterized by concentration on the task at hand, a sense of control, merging of awareness and action, temporal distortion and a loss of self-consciousness—see Csíkszentmihályi, 1990). It is, however, often possible to jam the button

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