

gaming

The Undead Zone

Why realistic graphics make humans look creepy.

By Clive Thompson

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In 1978, the Japanese roboticist Masahiro Mori noticed [something interesting](#): The more humanlike his robots became, the more people were attracted to them, but only up to a point. If an android become *too* realistic and lifelike, suddenly people were repelled and disgusted.

The problem, Mori realized, is in the nature of how we identify with robots. When an android, such as R2-D2 or C-3PO, barely looks human, we cut it a lot of slack. It seems cute. We don't care that it's only 50 percent humanlike. But when a robot becomes 99 percent lifelike—so close that it's almost real—we focus on the missing 1 percent. We notice the slightly slack skin, the absence of a truly human glitter in the eyes. The once-cute robot now looks like an animated corpse. Our warm feelings, which had been rising the more vivid the robot became, abruptly plunge downward. Mori called this plunge "the Uncanny Valley," the paradoxical point at which a simulation of life becomes so good it's bad.

As video games have developed increasingly realistic graphics, they have begun to suffer more and more from this same conundrum. Games have unexpectedly fallen into the Uncanny Valley.

Consider *Alias*, the new title based on the TV show. It's a reasonably fun action-and-puzzle game, where you maneuver Sydney Bristow through a series of spy missions. But whenever the camera zooms in on her face, you're staring at a Jennifer Garner death mask. I nearly shrieked out loud at one point. And whenever other characters speak to you—particularly during cut-scenes, those supposedly "cinematic" narrative moments—they're even more ghastly. Mouths and eyes don't move in synch. It's as if all the characters have been shot up with some ungodly amount of Botox and are no longer able to make Earthlike expressions.

Every highly realistic game has the same problem. *Resident Evil Outbreak*'s humans are realistic, but their facial expressions are so deadeningly weird they're almost scarier than the actual zombies you're fighting. The designers of *007: Everything or Nothing* managed to take the adorable Shannon Elizabeth and render her as a walleyed replicant.

The Uncanny Valley can make games less engrossing. That's particularly true with narrative games, which rely on believable characters with whom you're supposed to identify. The whole point is to suspend disbelief and immerse yourself. But that's hard to do when the characters create goosebumps. You fight searing battles, solve brain-crushing puzzles, vanquish enemies, and what are you rewarded with? A chance to watch your avatar mince about the screen in some ghoulish parody of humanity.

The screwiest part of this phenomenon is that game designers pride themselves on the quality of their sepulchral human characters. It's part of the malaise that currently affects game design, in which too many designers assume that crisper 3-D graphics will make a game better. That may be true when it comes to scenery, explosions, or fog. But with human faces and bodies, we're harder to fool. Neuroscientists argue that our brains have evolved specific mechanisms for face recognition, because being able to recognize something "wrong" in someone else's face has long been crucial to survival. If that's true, then game designers may never be able to capture that last 1 percent of realism. The more they plug away at it—the more high-resolution their human characters become—the deeper they'll trudge into the Uncanny Valley.

Instead, maybe they should try climbing out, by going in the opposite direction and embracing low-rez simplicity. Roboticists have begun doing this. Like Mori, they've learned that a spare, stripped-down robot can seem more lifelike than an explicitly humanoid one. I own a Roomba, one of those Frisbee-shaped vacuum robots, and it doesn't look even vaguely human. Yet as it zips around my living room, it seems amazingly alive, and I can't help but feel warmly toward it. This is because of another quirk of our psychology: If something behaves in only a slightly human way, we'll fill in the blanks—we'll read humanness into it. (That's partly why our pets seem so intelligent and humanlike.)

Comic-strip artists have known this for years. As comic-book theorist Scott McCloud points out, we identify more deeply with simply drawn cartoon characters, like those in *Peanuts*, than with more realistic ones. Charlie Brown doesn't trigger our obsession with the missing details the way a not-quite-photorealistic character does, so we project ourselves onto him more easily. That's part of the genius behind modernist artists such as Picasso or Matisse. They realized that the best way to capture the essence of a person or object was with a single, broad-stroked detail.

Some of the best game designers understand this, too. Jet Grind Radio, the old Fear Effect* series, and the more recent Viewtiful Joe all use the chunky style of cel-shaded animation to create characters who are cartoonish yet vividly alive. Lara Croft is another good example. Even as her games became more graphically precise, the designers left Croft as a very stylized figure, the better to have players identify with her. And the only game designer who has produced a 20-year string of popular characters is Shigeru Miyamoto, the architect of Nintendo's Disneylike visual style.

Unfortunately, though, gaming's Uncanny Valley could be here to stay, simply because players have become used to it. In the real world of plastic surgery, face-lifts used to look horrifically strange but now go unnoticed. Likewise, we've played with dead, fish-eyed characters for so long that they seem kinda normal. Creepiness, like beauty, is in the eye of the beholder.

Correction, June 10, 2004: This piece originally described the Fear Effect series of games as the "Fear Factor" series. ([Return](#) to the corrected sentence.)

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