Building culture in digital media

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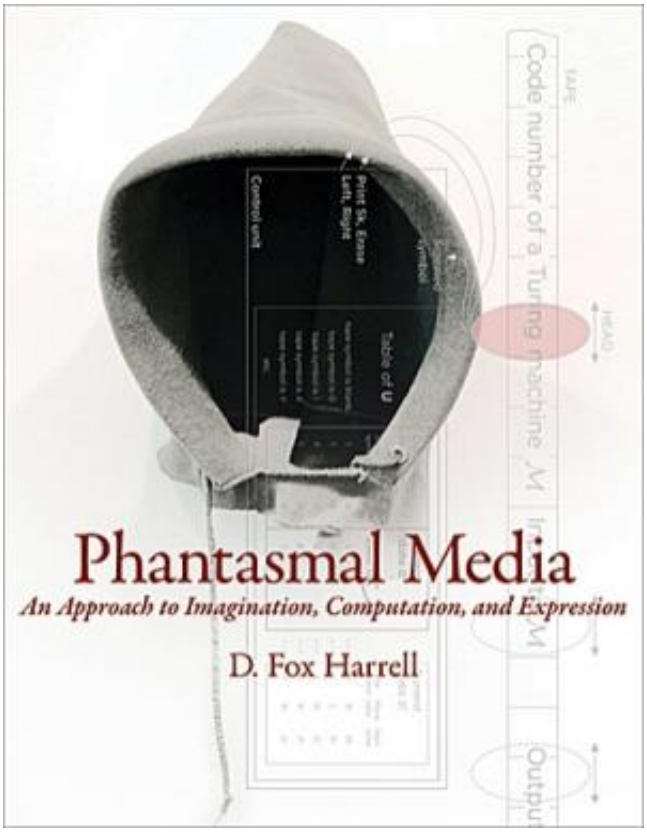

The video game "Grand Theft Auto V," which recently grossed $1 billion in its first three days on sale, is set in the fictional city of Los Santos. But if you've played the game, you probably don't need anyone to tell you that Los Santos is a simulation of Los Angeles. The setting, the characters, and the objects in the game all draw upon—and reinforce—a reservoir of existing cultural images about theft, violence,

urban life, and other aspects of U.S. society.

Such elements of stories, and indeed many cultural images based on particular worldviews, are "phantasms," as MIT associate professor of digital media Fox Harrell writes in his new book about computing and expression. A phantasm, as Harrell writes, is "an image integrated with cultural knowledge and beliefs." Such images help imbue stories with meaning—constructing imaginative worlds that may affect an audience member's understanding of society or even sense of self, for better or for worse.

Harrell's book, "Phantasmal Media," published this week by MIT Press, outlines an approach to analyzing many forms of digital media that prompt these images in users, and then building computing systems—seen in video games, social media, e-commerce sites, or computer-based artwork—with enough adaptability to let designers and users express a wide range of cultural preferences, rather than being locked into pre-existing options.

"A lot of people take interfaces we use everyday in media, such as online stores or video games, for granted," says Harrell, who is a faculty member in both MIT's Program in Comparative Media Studies/Writing and the Computer Science and Artificial Intelligence Laboratory. "They think that's just the way the world is structured. But when we see images or characters in a video-game world, or when we see a virtual world, developers are building values into all these systems."

Poetry and programming

Why does it matter which images we process? Because it affects the way we think about ourselves, for one thing. In a famed 1947 experiment that Harrell notes in the book, African-American children were asked to play with two dolls that were identical except for their coloration: One was

pale, blue-eyed, and blond, and the other was darker-skinned, brown-eyed, and dark-haired. The study showed that a majority of the children thought the light doll looked "nice" and that the darker doll looked "bad."

Clearly, "the children had internalized negative self-conceptions," as Harrell states in the book, which, he adds, were "based on the dominant worldview of the time."

In much of "Phantasmal Media," however, Harrell argues that, conversely, it is possible to build empowering phantasms, rather than oppressive ones, and finds examples ranging from the website of a creative record label to works of science fiction. Such novel imagery can also reveal phantasms, shaking up habits of content development that may otherwise rely on conventional cultural assumptions.

"It's not that people are engineering values into images with the aim of manipulating everyone," Harrell says. "But people are building systems based on their training and experiences, and at some point there are subjective decisions being made and values are being implemented into these systems."

And precisely because computational media are expanding, Harrell—who also founded and directs MIT's Imagination, Computation, and Expression Laboratory (ICE Lab)—would like to seize the moment and nudge designers, programmers, and engineers in the direction of creating content with depth and meaning, while exercising sharp self-awareness of their own cultural assumptions. In one chapter of the book, Harrell takes some of the symbolic analysis that cognitive scientists have produced about poet Robert Frost's "The Road Not Taken" and presents, in tandem, an analysis of developer Jason Rohrer's 2007 video game "Passage," which is built thematically around life, mortality, and death. Then, Harrell charts in detail the programming decisions that go into a

game such as "Passage."

The larger point is not that creative expression should always involve weighty, inward-looking content like Frost's poems or Rohrer's game, but that it is possible to think systematically about the values embodied in media works, and create various blueprints for digital designers today. In so doing, programmers can think about how to build media works such as games that express the thoughts and feelings of players, rather than games in which players deploy characters representing familiar cultural tropes.

"On the engineering side, people want something that can be rigorously pinned down," Harrell says. "I'm showing how you can describe the structure of these [digital media] systems in precise mathematical ways, and use very structured tools to think about their values."

A manifesto for computational media

Scholars have responded well to "Phantasmal Media": George Lewis, a music professor at Columbia University, calls it a "bold and audacious view of the relationship between computing and the imagination," and adds that it "is what a groundbreaking book looks like."

Harrell is not explicitly judgmental about the mass-market video game content that produces blockbuster hits. Instead, his project is meant to spur people to think about the creative possibilities of digital media —that it can enable products and programs other than adrenaline-heavy games.

"The powerful thing for me about many works of art, literature, and cinema, is their ability to both create imaginative worlds and poetically express ideas that cause us to reflect upon and even change our societies and cultures," Harrell says. "If you look at art that contains that kind of

poetic social commentary, you can ask what would it take for computing to get there? This is a manifesto to say that computational media has that potential."

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