

Tupac's 'Ghost' Scares Up New Possibilities

By Cindy Atoji



CHRISTOPHER POLK/GETTY IMAGES FOR COACHELLA

With this new technology, Tupac could be beamed out of a smartphone and get a groove on in the air right in front of you.

Oh Pac, will you ever get to rest in peace? Conspiracy theories still surround the death of Tupac Shakur, the rapper who was shot in Las Vegas more than 16 years ago. And “All Eyez” were on him during the last Tupac “sighting” at the Coachella Music Festival last year, when a very convincing-looking Pac danced and sang alongside Snoop Dogg and Dr. Dre. Tupac was in fine form, with chiseled abs and sharp dance moves. He vanished in a burst of light, the proper finale for a multimedia display that was first touted as a “hologram.”

Google defines a hologram as “a three-dimensional image formed by the interference of light beams from a laser or other coherent light source.” But it turns out Tupac’s illusionary performance wasn’t an actual hologram but, instead, a

ghostly projection based on a 19th-century mirror trick that uses glass to reflect images so they appear to be floating in air. This fancy technique is called “Pepper’s ghost,” named after John Pepper, an optics researcher who lived in the 1800s.

Tupac’s “resurrection” was actually engineered by Digital Domain Media Group, a company that has created special effects for movies such as “X-Men: First Class” and “Transformers: Dark of the Moon.”

APPLE: GOING 3-D?

Tupac’s concert reappearance may be only the beginning of a trend. According to many industry experts, you can expect to see holographic images projecting from Apple devices soon, without having to use 3-D glasses. The company that invented the Macintosh computer, iPod, iPhone and iPad has now patented a display system that mimics a hologram and presents realistic, three-dimensional images to several viewers at once. The system uses a screen dotted with tiny bubbles that send slightly different images into the left and right eyes of the viewers. In merging the images, the brain interprets the picture as three-dimensional. Apple may also use tracking technology that follows eye position, so the images are automatically adjusted to keep the picture sharp and in 3-D.

With this new technology, Tupac could be beamed out of a smartphone and get a groove on in the air right in front of you. Shoppers could see products in 3-D before purchasing them, and navigational systems could move users through maps that mimic the real world. If “reality projection” screens break into the television market, you could strap yourself onto your couch and zoom right into the program. Other possible uses include remote videoconferencing, remote medical care (“telemedicine”), creating images for the military, and more.

So expect virtual experiences to become more and more like Tupac’s appearance at Coachella: it will be more and more difficult to tell whether you’re watching a computer-generated image or the real deal. Who’s to say Eazy-E won’t be the next to rise from the dead?

And as far as Tupac’s status as dead or alive, all we know for sure is that his “Pepper’s ghost” version even has his own Twitter account. ■