



THE FANTASY

THE WEDDING OF POP STAR HATSUNE MIKU made headlines in Japan last year and mentions of it continue to turn up in articles around the world this year. It was a marriage made for the 21st century: The groom was Tokyo school administrator Akihiko Kondo; the bride, a hologram.

Hatsune Miku, a name that means “first sound of the future,” is a “Vocaloid,” a fictional personality developed around computer-generated singing voices. She is a pioneering product developed by Crypton Future Media in cooperation with Yamaha.

Reality

She is also part of the explosive field of holographic entertainment already attracting large audiences and pushing the definition of reality in all types of live events, bringing fictional and historical characters to life, and allowing the living to defy laws of time and space by appearing in many places at once.

“Hatsune Miku is a piece of software that reproduces the human singing voice,” says Crypton CEO Hiroyuki Itoh. “But because we added a character component to her package, it became famous also as a character. In the video game series that we released with Sega, Hatsune Miku sings and dances thanks to computer graphics. We soon figured out that if we could find a way to bring those visuals onto a stage, we could make an actual concert with a virtual singer.”

While live holographic events are still only a small piece of the virtual reality/augmented reality sector, stories such as the Hatsune Miku wedding illustrate the power of this technology. Fans accept the artificial being as a persona: They bond with her. At her concerts, they scream her name at the anime projection onstage—even as it periodically dissolves into a flurry of pixelated stars or in other ways demonstrates that it is not a real person, but pure animation. Lady Gaga and other stars have collaborated with Hatsune Miku, introducing her to more followers.

Mr. Itoh agrees that “the artifact” of the holographic image “allows the audience to feel Hatsune

Miku is ‘really there.’” But he adds, there’s an important difference. Hatsune Miku songs are written by fans; her performances are an expression of a creative community, events “in which fans, creators, musicians all participate,” Mr. Itoh says.

“Hatsune Miku cannot dance or sing on her own. There have to be human beings to make her do so and she wouldn’t exist without them. The vast majority of her fans are aware of that and are not blindly following Hatsune Miku.”

Yet hologram entertainment is compelling precisely because it does blur the line between reality and fantasy—even the line between living and dead. US company BASE Hologram has set up well-attended tours of deceased stars playing with live musicians, including opera diva Maria Callas and soulful US rock legend Roy Orbison. A new tour this year features the dream duo of Buddy Holly and Mr. Orbison, two now-dead early-era rockers who knew each other in real life but never toured together.

Many have questioned the ethics of this technology—both inventing artists who never existed and resurrecting others into situations they never encountered in real life. But such concerns have had the ironic effect of generating even more headlines.

“This is a theatrical concert experience,” says BASE founder, Chairman and CEO Brian Becker, who was previously Chairman and CEO of Clear Channel Entertainment. “I don’t believe we’re being morbid in any way. You see movies based on people’s lives. You see Broadway shows where actors portray people, impersonators who use prosthetics and make-up.”

BASE also creates interactive museum experiences, bringing historical figures and extinct creatures such as dinosaurs to audiences, and it is exploring other applications. Similarly, a third company, the UK-based Musion 3D, worked on the most famous “digital resurrection,” the 2012 appearance at the California music festival Coachella by deceased rapper Tupac Shakur.

“The interest in our technology increased tenfold” after the 2012 Tupac event, Musion co-founder Ian O’Connell says. Yet in the larger view, “digital resurrection is a very small piece of what we do.”

In 2014, Musion 3D helped India’s Prime Minister Narendra Modi appear at many campaign rallies at once, including in remote towns the candidate could not otherwise have visited. In an interview with the Daily Express, Mr. O’Connell called the Modi events “the most prophetic use of holograms” to date.

“The impact our technology had on this election campaign was massive,” Mr. O’Connell tells the Brunswick Review. “It allowed Narendra Modi

HOLOGRAM ENTERTAINMENT COMPANIES offer true stories from the world of the unreal. Brunswick’s CARLTON WILKINSON reports.

PHOTOGRAPH: COURTESY OF CRYPTON FUTURE MEDIA, WWW.PIAPRO.NET

to reach the voters in a way never seen before in politics. As a direct result, he won the election and became Prime Minister.”

While each of these companies has technology it considers proprietary, they all see themselves as part of a branch of stage production for entertainment and communications that benefits from innovations in other industries. As Mr. Becker puts it, “We’re producers and presenters—storytellers with narratives and characters. We’re not a tech company.”

THE TECHNOLOGY

The key to understanding the appeal of hologram-like events may lie in a stagecraft technique first described by 16th century Neapolitan scientist Giambattista della Porta. Now called “Pepper’s Ghost,” it involves an angled mirror or window pane that, with careful lighting can reflect something hidden from the audience’s view, so that it appears to float in the onstage area.

Mr. O’Connell is an expert in the Pepper’s Ghost phenomenon and, with Musion 3D, has applied 21st century technology to it, including the use of densely placed LED lights for a greater resolution. “It’s a combination of our filming techniques, foil and more recently the introduction of high-pitch LED instead of projection,” Mr. O’Connell says.

Of the three companies interviewed, only Musion 3D specializes in using the Pepper’s Ghost technique directly. The others create a similar illusion using different approaches. Most involve projecting an image onto a type of scrim that appears invisible with creative stage lighting.

“That works for us better than Pepper’s Ghost for our touring purposes,” says Mr. Becker of BASE Hologram. “But Pepper’s Ghost is always an option for other things. And then new technologies are expanding the possibilities.”

A true hologram would allow the viewer to walk around the image and see it from different angles in 360 degrees. By contrast, current techniques are hologram-like illusions that can only be viewed from the front, with tricks of perspective, lighting and stagecraft that make them appear three dimensional.

Though still a ways off, new technologies are pointing toward the development of actual hologram events. The current technology is constantly improving, with the images becoming more realistic and more affordable, and the animation more complex and lifelike. Together with excruciatingly detailed computer graphics and motion capture from film and video, it can appear to make the dead live again.



MARIA CALLAS, singing an aria as “Carmen” from the Bizet opera of the same name, throws a deck of cards in the air in this virtual performance with a live orchestra, produced by BASE Hologram. One of the advantages of the hologram-like projections is the ability to introduce movie-like special effects. When the legendary diva tosses the cards in the air, they don’t immediately fall, but are suspended, highlighting the dramatic moment.

LIFE AND AFTERLIFE

“We don’t say we are bringing people back to life,” Mr. Becker says of events such as the Holly-Orbison tour. “We try to not say that, because it’s ghoulish.”

Since the Tupac appearance, sensitivities about staging hologram appearances of deceased performers have been very much in the public eye. In fact, in the weeks following our interview, BASE Hologram was forced to withdraw plans to mount a 2019 tour for a revived Amy Winehouse with a live ensemble. The star, a six-time Grammy winner, died in 2011 at the age of 27 after years of drug and alcohol abuse. The tour was to benefit the Amy Winehouse Foundation, dedicated to addiction awareness and prevention among young people, and the tour had been endorsed by her father. But according to a company statement, preparations “encountered some unique challenges and sensitivities” that merited an indefinite postponement.

Time is an important factor in avoiding those sensitivities. Far fewer people would raise ethical concerns over a holographic performance featuring Roy Orbison, a genre-defying singer who emerged out of early rock ‘n’ roll and died over 30 years ago. By comparison, Ms. Winehouse’s death is still a fresh wound for her family and her many fans.

In 2018, Justin Timberlake announced he would perform alongside a Prince hologram at a Super Bowl performance, as a tribute to the musician who died suddenly in 2016 at the age of 57. The outcry over Mr. Timberlake’s announcement was immediate and widespread. Such an event, fans and people close to the late performer believed, would trivialize and exploit the artist’s legacy. Even worse, it ran afoul of The Artist himself. In an interview with Guitar Player Magazine in 1998, Prince was asked if he would ever jam with an interactive recording of a dead musician. “Certainly not,” he replied. “That’s the most demonic thing imaginable. Everything is as it is, and it should be. If I was meant to jam with Duke Ellington, we would have lived in the same age.”

A different set of ethical concerns surround the rise of anime character holograms. Akihiko Kondo isn’t alone in marrying one. Japanese company Gatebox makes a small glass-domed device that houses a tiny holographic anime girl. The company is marketing it as a wife stand-in to “single men who live alone” and has issued thousands of “marriage certificates.” It doesn’t take a psychology degree to suspect this could aggravate existing social dysfunctions.

Count the family of Mr. Kondo among the objectors. Not one of them attended the \$18,000 wedding, in which Mr. Kondo used a stuffed doll as a stand-in

for the hologram, which resides in his home via a desktop device. The law is not on his side either as the marriage is not legally binding.

Many of these social and cultural concerns may be simply a factor of the newness and strangeness of the technology itself. The earliest films amazed audiences with thrills the new medium made possible. At the end of the 1903 silent classic “The Great Train Robbery,” a grim outlaw points his gun directly into the camera lens and fires repeatedly—terrifying in 1903, the effect now seems positively quaint. Our reactions have evolved with the medium.

Mr. Becker sees this strangeness as one of the main concerns of BASE Hologram. He wants people to view holographic performances as an exciting entertainment choice—on par with a Broadway show or a movie—rather than as a novelty. “We have to stay diligent on communicating what we’re doing, what people will see when they get into the theater.”

Once the audience is in their seats, he says, the experience speaks for itself. Take the Roy Orbison show, for instance.

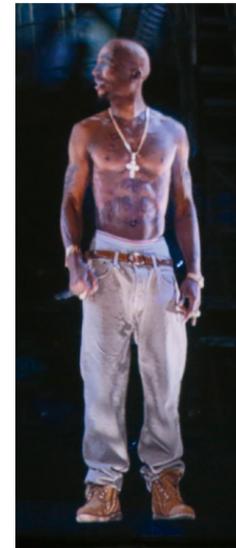
“The first song, people are tweeting, ‘Oh, I can’t believe how lifelike.’ The second song, they start to get into it. The third song, as they recognize the first few chords of an old hit, they start applauding—they’re showing their appreciation and encouragement to the artist, right? You would do that at a Springsteen concert, with a live performer. In this case, the artist is a holographic image. That means they have suspended disbelief and they’re allowing themselves to simply enjoy the show.”

PROJECTING THE FUTURE

For living artists, the use of holographic events may help to grow their reputations with new audiences, and to extend and secure their legacies in new ways. Abba, whose four original members are all still with us but haven’t performed as a unit since 1984, is one group that is seeing the opportunity. A tour of holographic concerts is being prepared, featuring the band members as their younger selves. It may even feature new songs, recorded especially for the tour by the reunited quartet.

In 2011, Mariah Carey made headlines with a holographic recording of Christmas songs that was presented as concerts in public squares in five European countries simultaneously. The singer was flanked by virtual dancers in gray suits and similarly attired live dancers.

The package was part of a promotional campaign created for Deutsche Telekom. And it points the way to the future: commercial applications



TUPAC SHAKUR, a hip-hop star murdered in 1996, made a surprise appearance alongside Snoop Dogg and Dr. Dre in 2012. His seeming interactions with the live performers assisted the illusion that the dead rapper was actually present. The performance helped launch the hologram-style technology into the world of mainstream entertainment.

guaranteed to make the technology more common in our daily lives.

“Think about all the artists that have done Christmas albums and how cool it would be to have some of them—Bing Crosby and Nat King Cole—singing Christmas songs at major malls around the country, around the world,” Mr. Becker says.

From there, it’s a short step to seeing these effects in all aspects of business and entertainment. Mr. O’Connell of Musion 3D sees a long list of opportunities ahead.

“This includes live speeches from CEOs at their corporate events or politicians using our technology to appear live as a hologram in remote locations,” he says. “Our technology is also used to launch products or increase brand recognition. It lends itself well to the car industry when a new model that is not freely available can be replicated as a lifelike hologram. Many theme parks now use holographic technology as part of their attractions.”

Similarly, Crypton Future Media, developers of the vocaloid Hatsune Miku, is “always on the lookout for new collaborations with businesses and professionals all over the world,” Mr. Itoh says.

Looking further ahead, Mr. Becker speculates about curved projection technology that will allow hologram-style illusions to include three dimensions, or of even more sophisticated interactivity that would allow participants to step into imaginary scenes, such as the famous “Star Wars” Cantina, populated by holographic aliens.

“The whole technology area that we’re taking advantage of is actually being robustly developed and improved by other industries—not by ours, necessarily,” he says. “Look at how it’s being used for teaching medical students. There’s a whole host of other uses for this technology. We’re just one of the beneficiaries.”

That perspective implies a dose of reality not just for this nascent entertainment sector but for all communications featuring cutting-edge technology: The focus needs to be not on technological innovation but on content, and how it can be reshaped by the newly available resources.

“I didn’t think to myself, ‘Hey, I want to be in the hologram business,’” Mr. Becker says. “What I thought was, ‘There’s a lot that we can do with this technology to put on a better show.’

“At the end of the day, it’s character, it’s story and it’s music. If we don’t deliver on that, it doesn’t matter what our technology is.” ♦

CARLTON WILKINSON is flesh and blood, and Managing Editor of the Brunswick Review, based in New York.

PHOTOGRAPH: COURTESY OF BASE HOLOGRAM

PHOTOGRAPH: CHRISTOPHER POLK / GETTY IMAGES