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Bacteria Genome Dresses and Judgmental Robots Probe Tech Boundaries

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Ivor Diosi's Molding the Signifier. Image courtesy of artist

Virtual reality, biofeedback devices, and artificial intelligence: all rapidly developing industries and areas that involve a human-computer relationship. How that relationship will evolve is an intriguing question that's currently being played out at the hands of big tech firms and startups. It's also the focus of an exhibition, *The Games Europe Plays*, currently on at the Stephen Lawrence Gallery at the University of Greenwich, London. The show has been curated by Ghislaine Boddington, creative director of body>data>space, and a Reader in Digital Immersion at the uni.

Boddington has a particular interest in the body and its relationship to technology and the exhibition looks at some of the many ways artists, scientists, and game developers from Europe are seeking to understand and develop that interconnection. It also looks at what happens when there's a disconnect.

Artist Marco Donnarumma's *XTH Sense*, for example, explores a very immediate and intimate connection with the body. The open source wearable instrument uses bioacoustic sounds from the body—heartbeat, blood flow, muscle movement, breath—to create music and sound FX. Donnarumma uses it for intense performances by strapping it to his arms or legs so it becomes a complex body instrument. "A bit like a one-man band but the future way of doing that." notes Boddington. The sounds are then sampled in real-time creating "biophysical music" like in his *Corpus Nil*, which he'll be performing live at this year's FutureFest. As an experiment in social robotics, he'll soon be heading to the Berlin University of the Arts to work with and develop, over two years, an intimate relationship with a developing robot.

Grendal Games' Gryphon Rider. Image courtesy of Grendal Games

Another piece looks at not wearables but how motion tracking technology and video games interact with the body, specifically a Kinect. This isn't for entertainment, though—using the aesthetics of commercial video games Dutch company Grendel Games have developed *Gryphon Rider* which is used to aide physical therapy, for equilibrium and

company [Greener Games](#) have developed Glyphen Rider which is used to aide physical therapy, for equilibrium and balance, in children who have suffered brain damage. A physiotherapist collates data, remotely, through the game on their physiotherapeutic progress. It's effectiveness as a treatment can be measured by the fact that, in the Netherlands, it's soon to be made available through health insurance.

In *The Sequence Dress* from [Anna Dumitriu](#) and [Alex May](#), a projection-mapped dress' pattern features the sequence of the whole genome of some *Staphylococcus aureus* bacteria taken from Dumitriu's body. The dress itself is also injected with the bacteria, which is a human pathogen and in different circumstances could be deadly. Dumitriu, a scientist and artist, is exploring the inside of us and bringing it outside to emphasize our ignorance of our own bodies. "The bacterium I have studied is one of millions which go to make up my microbiome." Dumitriu notes. "The detailed knowledge of this one organism only serves to highlight how little knowledge we have of the workings of our own bodies, as we reflect on the sublime microbiological worlds we carry with us." The bacteria can also be experienced as VR visuals.

Sequence Dress. Image courtesy of The Games Europe Plays

A kind of reverse of this piece is Slovakian artist's [Ivor Diosi](#)'s *Molding the Signifier*. In his installation, he's bringing the outside in by infecting three computer avatars with a biological agent. The avatars respond to visitors through eye contact and speech, but this slowly disintegrates as they become infected. The infection comes from a "contaminated bioculture," basically various species of mold. The mold is grown in the installation and digital sensors monitor and measure it.

The data is then digitized and transferred in real-time to the logic that governs the AI simulation of the avatars and the facial recognition they use to "see," turning them crazy. In effect, he's not creating artificial intelligence but *artificial insanity*. "We use the word virus in computing, so this is obviously a play on that," says Boddington. "But this is also like taking an outside virus from the physical world and infecting the virtual world."
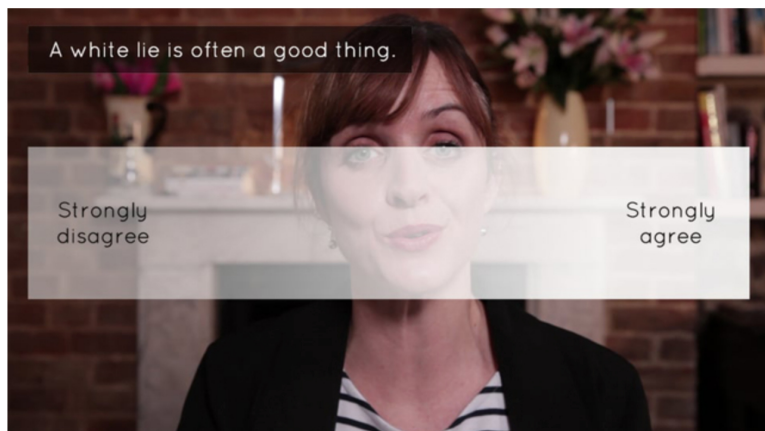
Blast Theory's Karen. Image courtesy of the artists

It's a twisted reversal of augmented reality, a terrifying Cronenberg movie yet to be made. Complimenting this in terms of our technology going insane on us is [Blast Theory](#)'s *Karen*. It features a self help guide, called Karen, in the form of an app. She starts off interacting with you pleasantly, asking you about yourself and trying to understand and help you. The questions atually come from psychological profiling questionnaires, but then each time you reopen the app she

appears more desperate and disturbed, becoming increasingly needy. If you open the app after three days she demands to know where you've been, before eventually going full-on psychotic on you the longer you leave her.

It's a case of technology saying it's going to do something, but actually doing something else enitrely, fueling our anxieties rather than soothing them. It's the flipside of the technological coin to, say, Grendel Games' piece. But that's the aim of the exhibition: to highlight, in a playful manner, both the ills and the benefits that our interactions with technology can take.

"What I'm really interested in is how we reflect ourselves into technology, into gaming, into interactive art—what comes from our bodies and what can be used towards interactivity," explains Boddington. "So what data we can transmit from our bodies: sound, touch, biofeedback, but what also can come back to us as different types of data—a feedback loop between ourselves and into technology and back again, with the living body in the centre of it."

The Games Europe Plays will b e on display through August 26, 2016. To find out more about the exhibition, click here.

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