

Art Review:

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'Eventually you realise that it's not so bad to be the enemy - to be outside of the crowd, of the mass' Ai Weiwei

MAY
2008

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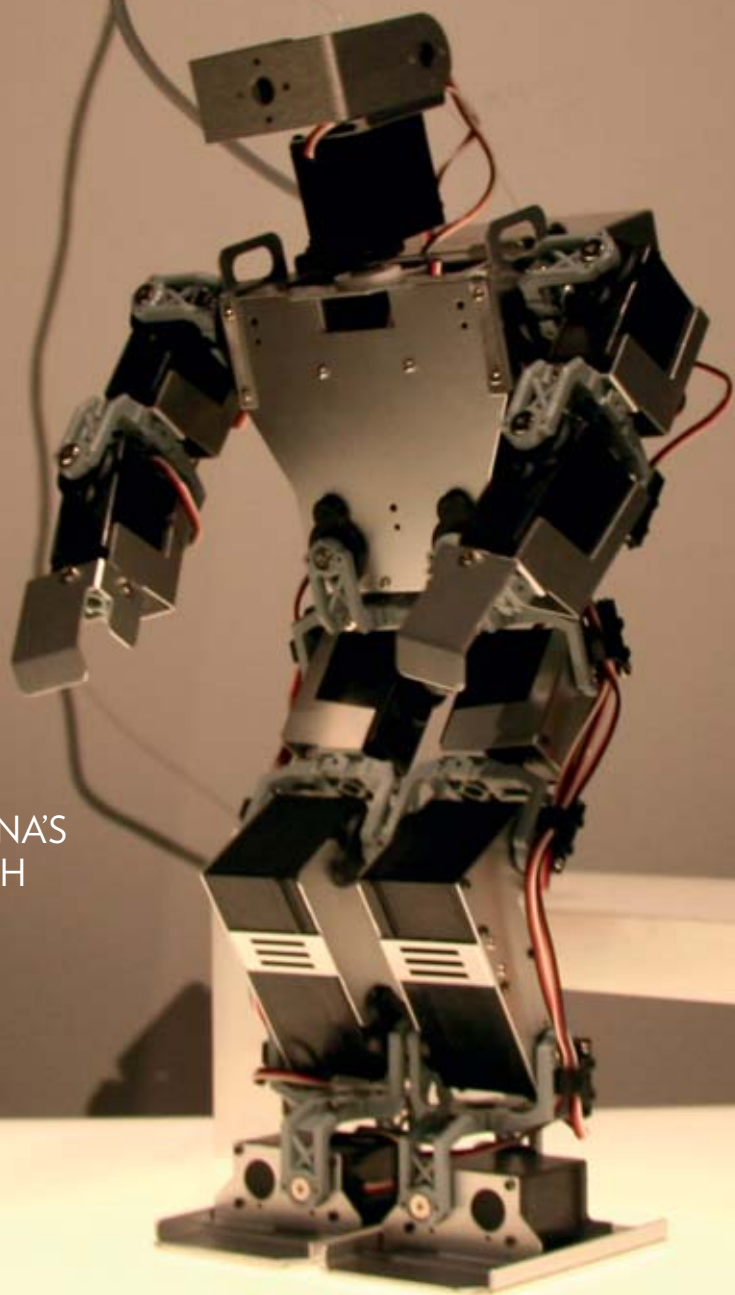


MIXED MEDIA: DIGITAL

Do the Robot

FORGET FREUD: ARTIST FERNANDO ORELLANA'S
ROBOT INTERPRETS YOUR DREAMS THROUGH
THE MEDIUM OF DANCE

words REGINE DEBATTY





IN LITTLE MORE THAN TWO MONTHS I managed to visit two exhibitions presenting artistic explorations of current progress in neurological research. The first was *Emotional Systems, Contemporary Art Between Emotion and Reason*, the inaugural exhibition of the Centre for Contemporary Culture Strozziina, Florence. The other show, more prosaically named *BRAINWAVE: Common Senses*, was at Exit Art in New York. I approached both with high levels of weariness, feeling much like the old dog who refuses to be taught new tricks. I've seen my fair share of brainwave-activated pieces: the one that allows you to communicate with electric fish, the ones that have you pilot a robot with the sheer power of your brainwaves, and a seemingly endless list of other brain-controlled games and gadgets. I decided I needed search no further after an experience a couple years ago at the Brainbar. Now *that* is a project worth activating your neurons for. Brainbar is a mechanical bar that mixes drinks adapted to your brainwaves. From reading your cranial frequencies with a sensor-studded headband that's wrapped around your head, the robot bartender is able to infer your mind's levels of relaxation and stress, and accordingly mix a cocktail to exalt or suppress your feelings. Whether the Brainbar is an art piece or just a crowd-pleasing gizmo depends on how many of its drinks you've consumed.

At a time when men in white coats are busy creating 'Franken-mouse' (a mouse with a camera in its brain), breeding the world's first schizophrenic rodent and devising implants to control people remotely, it's easy to be nonplussed by 'neuro-art'. But these two shows awoke me to the fact that I had been underestimating artists' power to bring poetry, and a space for reflection, to the snowballing advances of neural science.

Better than any science teacher, some artists are able to give a tangible face to the most arcane advances of neuroscience, allowing people the opportunity to think critically about the implications of current scientific research.

Sleep Waking (2008), the latest work by Fernando Orellana, was exhibited as part of *BRAINWAVE*. In collaboration with artist Brendan Burns, he used recorded brainwave activity and eye movement during REM (rapid eye movement) sleep to determine the behaviour and actions of a rather 1980s-inspired robot, making it 'play back' the events of Orellana's dreams.

As research for the piece, Orellana spent a night at the Albany Regional Sleep Disorder Center, in New York. He was wired up to an array of sensors that recorded everything from electroencephalography (EEG) to electrocardiogramming to eye-positioning data – this last, as explained by Orellana, applied to a function controlling the positioning of the robot's head. Running his EEG data through a 'machine learning' algorithm, Orellana was able to identify several patterns, which he then had associated with several preprogrammed robot behaviours. Periods of high activity during sleep, for example, were associated with dynamic behaviours (such as flying or feeling scared) and low activity with more subtle ones (gesturing, looking around). The actions then demonstrated by the robot are some the artist might imagine doing in a dream.

"*Sleep Waking* is a metaphor for a reality that could be in our future," says Orellana. "In the piece we use a fair amount of artistic licence; though the eye-positioning data is a literal interpretation, what we do with the EEG data is a bit more subjective. Perhaps one day we will have the technology to literally allow a robot to act out what we do in our dreams. What could we learn from seeing our dreams played back for us? Will we save our dreams like we save our photographs?"

Only time will tell.

Fernando Orellana and Brendan Burns, *Sleep Waking*, 2008,
Kondo KHR-2HV biped robot kit, electronics, software, wood,
Plexiglas. Courtesy the artists