

AR[t]

05 | may
2014

AUGMENTED REALITY, ART AND TECHNOLOGY

How will we do it?
A look into the future
of 3D animation and AR
Wim van Eck

Towards Hybrid Disciplines
in a Postdigital World
Isjah Koppejan

The Great Pig in the Sky
Interview with Theo Botschuijver

ISSN
2213-2481

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GRAPHIC DESIGN

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PRINTING

Media Krachtcentrale, Rotterdam

COVER

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Photography: David Joosten
Designer: Manouk Hasebos
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Model: Wouter @ Republic Models

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Virtual Illusions

What Psychedelics, the Counter-culture and Virtual Technologies have in common

by Dorien Zandbergen

In Spike Jonze's latest movie *Her* [1], the lonely Theodore develops a relationship with his Operating System Samantha. After an initial period of romance, the two alienate from each other. Yet, different from human-to-human relations, the cause for this alienation is that Samantha really *is* - in her very being - alien to the human Theodore. While for Theodore, Samantha is the One and Only, Samantha has thousands of simultaneous connections with virtual other entities. And where Theodore relies on verbal communication to express himself to Samantha, Samantha is at a loss of words when she wants to explain to Theodore what happens to her while she is rapidly evolving into something *else*. Samantha's capacity for connecting, learning, developing and evolving is so big, that she can't rely on the limited repertoire humans have available for communication. In this she finds companionship with the uploaded spirit of a certain Alan Watts, who will be further discussed later on.

Jonze's movie is set in a near future city modeled on a combination of Los Angeles and Shanghai. The story could be interpreted as most people understand the science fiction genre in general: as giving people a taste of the future and particularly of the role of advanced technology in this future. In this understanding, a movie like *Her* has predictive value; it helps people anticipate the strange realities of a world more and more characterized by the non-intrusive, intuitive, interfaceless presence of forms of artificial intelligence with emotional and rational intelligence that exceeds that of people. Jonze shows a world of all-immersive games that become one with



Joaquin Phoenix in *Her* (2013), image courtesy of Paradiso Filmed Entertainment

people's living rooms, voice-controlled personalized digital assistants that seem able to read people's minds, and the normalized and seamless use of small cameras, earphones and microphones as habitual extensions of the human senses.

Yet, the brief appearance of Alan Watts showed me something else. Namely, that our ideas about the potential of digital technology - such as the idea that it can manifest higher forms of awareness - are inspired by cultural domains not commonly associated with technology. Domains such as spirituality and political orientation, for instance.

Alan Watts (1915-1973) was a British-born, self-educated theologian, philosopher and lecturer. In the 1960s and 70s he was a mystic teacher and a spiritual leader for the so-called countercultural movements predominantly in California. The term

"counterculture" generally refers to the post-war international movements of students, poets, writers, academics, bohemians and others who felt united in a desire to reinvent western culture - away from corporate greed, war-related violence and environmental destruction. Within this cultural milieu, Watts represented the so-called mystic strand: for him, cultural change had to come from a change in personal perception. Watts regarded "society's official version of reality" as "silly and inadequate." For him, another type of reality can be experienced that reveals the "grandeur of the cosmos." (Watts in [2, p. 54]).

Those within the counterculture who were drawn to this type of explanation regarding the causes of social alienation, warfare and environmental destruction, embraced a variety of techniques. These would help them "decondition" from social narratives that preach competition, dominance

and exploitation, and rebuild a new, holistic sense of awareness. Zen meditation, brought to California by Indian guru's and returning Indian travelers, as well as psychedelics, yoga, absurdist theatre and encounter groups were among this repertoire of de- and re-conditioning techniques.

It is less well-known that electrical, electronic and later digital technologies played similar de- and reconditioning roles. In his *The Electric Kool-Aid Acid Test* (1968), American author Tom Wolfe [3] describes how this was the case for a group of hippies, *The Merry Pranksters*. The pranksters lived communally in a cottage in a forested area south of Palo Alto, and made cross-country trips in a 1939 International Harvester school bus that they bought from a man with 11 children. They had wired their house, the forest around it and the bus with speakers, microphones and stroboscopes so as to create disorienting environments of sound



Biofeedback practitioner. From D.B. Payne and C.T. Reitano, *BioMeditation: The Scientific Way to Use the Energy of the Mind* (Brookline, Mass.: BFI, Inc., 1977), ii

and light. The culmination of this cacophony was the three-night *Acid Test* held in San Francisco in 1966. Like many other such events at the time, the venue of the *Acid Test* housed projectors, oscilloscopes, music and strobe light. The idea was that in this ‘cacophonous’ multi-media environment there was no room for rational contemplation and attachment to conventional thought systems.

Ideas that came from this cultural background would later play a role in the Californian enthusiasm for Virtual Reality and Virtual Worlds. Also the first non-military experimentations with sensor-based technologies for motion-tracking or for biofeedback purposes were informed in part by a similar motive - to decondition from engrained patterns of human thought and to get in touch with a higher form of reality. Similarly, cybernet-

ics, conventionally known as a theory of digital information systems, formed one of the (semi) scientific backbones of this cultural environment where people tried to imagine the world and the connection between its parts (nature, humans, machines, etc.) in holistic terms.

It is in this cultural context that the idea of the personal computer, the World Wide Web, Virtual Reality, and today the Internet of Things, Quantified Self and the Singularity have found very positive and hopeful reception. As Richard Barbrook and Andy Cameron (1995) put it [4], this *Californian Ideology* has become the dominant framework for interpreting digital technologies, outside of California as well. Whether phrased in explicitly spiritual terms or not, this ideology perpetuates the idea that humanity’s merging with ubiquitous intuitive technologies helps us empathise more with different kinds of reality, connect with a global humanity, helps us expand our knowledge of the world and make us more creative and efficient.

Yet, where it was the intention of these 1960s and 70s hippies to turn against, what they regarded as, rigid and blinding thought systems - like conventional religion, cultural convictions and norms - today, this digital optimism has become dogmatic in its own right. As such, it blinds people to the very real possibility that the ever-increasing presence of tracing and tracking sensor-based technologies creates an Orwellian nightmare. And to the fact that exploitation, warfare and corporate greed simply continue to exist in our digital worlds, yet in ways that are perhaps even more difficult to discern. It also stops people from carefully contemplating how sensor technologies may alienate humans from their own human senses and direct day-to-day environments.

It is my opinion that we need new types of deconditioning techniques to challenge our collective blind faith in the digital. By beautifully showing the painful yet insurmountable gap between

Theodore and his beloved operating System, Spike Jonze’s movie could be embraced as one such technique. ■

References

1. Jonze, S. (Writer, director, producer). (2013) *Her* [Motion picture]. United States: Warner Bros Pictures.
2. Anderson, W. T. (2004). *The upstart spring: Esalen and the human potential movement: the first twenty years*. iUniverse.
3. Wolfe, T. (1968). *The Electric Kool-Aid Acid Test*. London: Black Swan.
4. Barbrook, R., Cameron, A. (1995). *The Californian Ideology*. Alamu: Bastion of Peace and Information, Retrieved May 8, 2014, from http://www.alamut.com/subj/ideologies/pessimism/califideo_1.html

Further Reading

Zandbergen, D. (2011). *New Edge. Technology and Spirituality in the San Francisco Bay Area*. Leiden University. Non-published dissertation, to be found at: <http://dorienzandbergen.nl/links/>

DORIEN ZANDBERGEN



In 1996, Dorien Zandbergen worked for the helpdesk of the Dutch internet provider XS4ALL. Fascinated by the engaged culture she saw emerge around this new thing called the internet, she became a student of digital culture as an anthropologist. Her MA thesis discussed gender dynamics and the political structure of Open Source hackers in a squat in Amsterdam. For her PhD thesis, she studied the countercultural context in which information technologies developed and popularized in California since the 1960s. Assisted by a Fulbright Scholarship, she conducted this research while spending a year in Silicon Valley. Currently, as an independent researcher, she is studying the way in which European cities turn themselves into so-called *Smart Cities*. Following processes of digitization in different spaces in the city, she wants to understand how this works out in practice. This research will be part of a documentary and will give way to the founding of a critical cross-disciplinary platform on *Smart Cities*. The aim of this platform is to understand better, in a hands-on, ethnographic way, what the conditions are in which information technologies can be empowering, and when they can be disempowering. In all this work, Dorien likes to maintain a hands-on understanding of techniques and technologies varying from woodworking tools to software.

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