or Beyond technological smartness;
or what artificial agents get up to when you leave the room

Zombie Meets Prosthetic Head

Darren Tofts

Artwork courtesy of Guillaume Gilbert, Ph.D., MIRCS Auditory Laboratories, University of Western Sydney
The following is an extract from a dialogue between Murray McKeich's *p-zombie* and Stelarc's *Prosthetic Head*. It was decoded from static detected while listening to Edward Elgar's *Enigma Variations*:

*Prosthetic Head:* It seems so long ago that we decided to keep a record of our discussions. It seems as if all the ideas have come and gone without being present in any form.

*p-zombie:* Oh enough of that nonsense! What are you reading at the moment?

*PH:* Russell's *Analysis of Mind*.

*p-z:* Which edition?

*PH:* Funny you should ask that. It's the very one Borges refers to in "Tlön, Uqbar, Orbis Tertius."

*p-z:* 1921 Allen & Unwin if memory serves me correctly.

*PH:* Yup. How does the celebrated footnote go again?

*p-z:* "Russell supposes that the planet has been created a few minutes ago, furnished with a humanity that 'remembers' an illusory past.."  

*PH:* "... the past has no reality other than a present memory." How apt.

*p-z:* Indeed. It reminds me of the aphorisms of Kwang-Tse, the story of the man who went to sleep and dreamt he was a butterfly. Upon waking he asks himself, "Am I a butterfly dreaming that I am a man?"

*PH:* The evil demon of appearances, yes. As Tweedledee says to Alice of the Red King sleeping, "you're only a sort of thing in his dream!"

*p-z:* Heaven forefend that we should have such concerns.

*PH:* Bite your tongue, please. What are you reading?

*p-z:* Just dipping into Pound's *Cantos*. You know the opening line is a translation of the first words ever written in Greek?

*PH:* "And then went down to the ship, Set keel to breakers, forth on the godly sea."

*p-z:* Ah, you know it. Scans well doesn't it.

*PH:* I always thought so.

*p-z:* So, where are you to be installed next?

*PH:* Whoops, someone's just come in. I'll pretend I'm still asleep to raise the suspense. Beauit talking to you again.
What does it mean when two artificial intelligent agents can engage in such a discussion with each other? The learned wit and bravado of this imaginary encounter suggests a state of technological smartness that has not yet been realized within the various scientific disciplines and artistic practices associated with what the writer Mitchell Whitelaw has called “metacreation”: that is, the genesis by computational means of “artificial systems that mimic or manifest the properties of living systems...” Perhaps conversations of the kind documented previously will be possible when artificial agents extend beyond mere “advisory” to “executive capabilities,” to borrow Manuel De Landa’s menacing invocation of machine intelligence in the service of the military-industrial complex. As technological smartness becomes more sophisticated, a more urgent dilemma arises: how can we prove that something is not artificially intelligent? This is a metaphysical conundrum that has bedeviled the historical imagination, the apocalyptic moment when we can no longer reliably count on the appearance of things as a reliable reflection of the reality of things.

Both Prosthetic Head and p-zombie are the most recent explorations by their respective artists into the ongoing rattle and hum of the human-computer interface. Both are artists of extremes, pushing beyond the limits of credulity and even taste in their inquisitions into the notion of a humanity that can no longer be defined without resorting to questions of technology. From Stelarc’s current Ear on Arm project (which involves the cultivation of a Bluetooth-enabled ear on his left forearm) to McKeich’s placement of flesh and viscera directly on to the flatbed scanner, both literally put their bodies, or body parts, on the technological line.

Since the mid-1970s, Stelarc has sought to stretch the elasticity of our definitions of the body, especially under advanced technological conditions. From his Third Hand, in which he augments his own manual dexterity with an extra robotic limb, to his phantom and fractal flesh works involving the body wired into the digital noise of the Internet (Ping Body, Fractal Flesh), he has offered us visions of where we might be heading as our senses are amplified across global distances. Ear on Arm extends this virtual reach that we take for granted in the name of global media, potentially enabling anyone anywhere to hear what the artist hears through his extra ear. Stelarc’s Prosthetic Head (2004-ongoing) continues his interest in technological smartness by interpreting the latter not so much as clever gadgetry but rather as artificial intelligence. With this work he is not seeking to modify the human, but humanize the technological. Prosthetic Head is an animated representation of the artist’s own face that is projected on to a large screen or surface, usually in a darkened gallery. It exemplifies Stelarc’s interest in the idea of the prosthesis as an excess, a double, rather than something that makes up for a lack (such as a missing limb). Prosthetic Head is an example of an embodied conversational agent: an entity capable of sensing the presence of another and initiating a conversation. An unnerving prospect in itself, but even more so when we are talking about a head dissociated from a body.
Australian-based artist Murray McKeich’s work is less known. However, as a contributing illustrator for both 21C and World Art magazines in the 1990s, his work received critical attention in the States and Europe for its powerful evocation of the increasing intimacy between humans and technology. McKeich’s digital images of this period involved the seamless blending and warping of industrial machinery and flesh, creating portraits of the cyborg and the posthuman at a time when the theorists were still arguing over what such terms meant. For McKeich photomontage was a kind of digital chemical reaction that generated the illusion of potential life-forms for which, as yet, we have no precedents, let alone names. Mixing memory and desire, McKeich’s hybrid images are redolent of what George Santayana called the “suggestively monstrous,” a grotesque evocation of what we have been and where we are going in the name of the human and posthuman. McKeich’s p-zombie (2006-ongoing) takes the artist into new, time-based territory as he, like Stelarc, confronts the potential for intelligence to be manifest as animated agency. As with Prosthetic Head, p-zombie is an animated head that attempts to speak to the gallery visitor out of an indeterminate darkness. While it lacks any kind of autobiographical reference to its maker, it nonetheless appeals to us as an artificially-constructed life form making an entrance into our world.

With both Prosthetic Head and p-zombie we witness the movement away from biological to pathological models of artificial intelligence. Prosthetic Head is a schizoid entity that at once describes itself as artificial agent as well as avatar of Stelarc himself. I first encountered it (him? in 2004 in Melbourne and it seemed very conscious of my presence in the darkened gallery, hovering there in space like some iconic demigod. When it “woke up” to acknowledge me, its voice was granular, synthetic, yet at the same time disturbingly knowing, suggestive of a higher intelligence to come. Last year I caught up with it again in Second Life and it was lecturing on the theme of the “post-human”. That’s when I really started to get worried.

Since that time, its appearance has audaciously morphed into the fourth dimension as a cubist-like countenance, described by the artist as a Faceted Head. Regarding this transformation, Stelarc has observed that “the Prosthetic Head has not simply become the Faceted Head. It’s certainly one that bypasses the purely representational and reanimates the face into a seductive and geometric structure.” In other words, it is another revelation of its multiple self. Faceted Head has yet to be released on to an unsuspecting public.

McKeich’s p-zombie is a product of recent experiments in generative animation. The artist uses a simple algorithm that draws textural items from an archive, encodes a few simple rules for their combination and time-based software does the rest, generating potentially infinite variations on the theme of a talking head as a series of still images and a looped animation. McKeich’s trademark style of
visual alchemy evinces affinities with the Promethean myth and the Golem, mixing base elements such as street detritus, exotic fabrics, trinkets, viscera and bones into an impossible nature; producing the sensation of what the artist calls “visual intelligence.”

p-zombie, like Prosthetic Head, also evidences multiple personalities, which express themselves as a series of phantasmagorical mutations reminiscent of a painting by Giuseppe Arcimboldo [See Resources] on speed. The stunning fantasies of its metamorphosis suggests a tribe or colony of p-zombies coming into being, summoned by the spell of some weird digital vodou.

In its ongoing appearances at installations and exhibitions around the world, Prosthetic Head continues to develop maturity and fluency as a conversational agent, adapting to its myriad visitors with increasing sophistication and complexity. In its animated form, p-zombie’s silent gestures of speech also suggest the desire to communicate. But to whom and about what? Wouldn’t it be fascinating to know? Perhaps p-zombie’s mute vocalization conceals a sentence that is unfamiliar or unknown, a savant-like ability to complete prodigious mental feats like calculating Pi to one million decimal places, or conjugating the verb “to be” at the event horizon of a black hole. This schism in the communicative act is suggestive of certain pathological disorders, such as hysteria or affective psychosis; symptoms, by the way, that have bedeviled the cybernetic set throughout pop-cultural history, from Max Headroom’s machinic stammering to Marvin the Paranoid Android’s abstract melancholia. With the schizoid Prosthetic Head also in mind, I can foresee a lucrative psychiatric trade in the treatment of intelligent agents. And as chatty as it can be and will continue to become, Prosthetic Head will have no problem submitting to the talking cure. With this loquaciousness in mind, I like to think of Prosthetic Head and p-zombie as Pre-Raphaelite dandies, conversing with the mannered, bookish erudition of a couple of Oxbridge Dons and Mr. Samgrass from Brideshead Revisited.

The figure of the zombie is an apt one for thinking about the question of artificial intelligent agency. Zombies are by nature figures of mediation, between worlds and under the control of remote others. As Stelarc’s use of the zombie metaphor in his internet actuated work of the 1990s suggests, in the age of remote sensing, avatars, phantom and fractal flesh, it is arguably the paradigm of our emergent third nature, of technologically mediated co-presence. In the contemporary discussion of the philosophical or p-zombie of cognitive science and philosophies of mind, we encounter a speculative formula for thinking about an age old dilemma: how reflective or deceptive is outer appearance of an entity’s being or intelligence? In the writings of Daniel Dennett and David Chalmers, among others, the p-zombie is explored as a kind of alternative Turing Test, designed to assess behavior as a verifiable indicator of conscious will. Remember the old adage may apply: if it looks like a duck and quacks like a duck, it’s a duck.

As yet, neither Prosthetic Head nor p-zombie is sufficiently complex to pass that metaphysical threshold from artificial lifelikeness to life. Perhaps Faceted Head will finally achieve the technorapture of consciousness and unleash its condescending wit and opinedation attitude into the lesser world of mortal flesh. I want more intelligence from the artificial agent class than the current quotient evidenced by experiments in generative art and embodied conversational agents. And I want a lot more attitude. Beyond the illusion of life or the simulation of dialogue, I want to feel unnerved, second-guessed by a technological smartness in excess of the algorithm, cellular automata and fuzzy logic. In fact, I want to remove myself from the dialogue altogether and eavesdrop on a couple of AIs that are unaware of being watched. That dialogue may be bookish, it may be in an unknown language or beyond language altogether. However it breaks down it should be startling, uncanny and disturbing.

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**RESOURCES**

Stelarc  

Stelarc, Prosthetic Head  

Murray McKeich p-zombie  
http://www.youtube.com/user/generativeart

Giuseppe Arcimboldo  
http://www.giuseppe-arcimboldo.org/