Ostrich Effects

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Abstract

The scenarios of computer science suggest the potential for an ‘Ostrich Algorithm’: a strategy of wilfully ignoring potential problems on the basis that the likelihood of their occurrence would be so rare as to negate planning for them.

The paper focuses on the art installation, The Ostrich Effect by David Cotterrell. The work is a generative installation that explores the recursive loops that might occur in hypothetical scenarios. Built using commercial automated call centre servers programmed to dial and trigger each other, The Ostrich Effect is a generative installation that establishes a computer-based conversation, which will never be resolved. The call centres continuously negotiate with each other to sell their products, handle complaints, solicit customer feedback and broadcast government warnings. With systems attempting to recognise each other’s responses, a perpetual loop of questions, diversions and holding patterns ensures that calls will neither achieve their assigned tasks nor fully accept the futility of their method.

This paper considers the role of error in heightening awareness of familiar systems, explores the idea of the Ostrich Effect within a contemporary political and technological context and seeks to contextualise Cotterrell’s artwork within popular film and science fiction references.

Keywords

Call-centre, automation, IVR, recursive, war games, glitch, ostrich, cold war.

Introduction

“Sh,” he whispered. “Listen.”
He swayed in a slow circle, turning his head from one silent house to another. “She'll phone more and more numbers,” he thought. “It must be a woman. Why? Only a woman would call and call. A man wouldn't. A man's independent. Did I phone anyone? No! Never thought of it. It must be a woman. It has to be, by God!... Listen.”
Far away, under the stars, a phone rang. [1]

Who makes the call? A desperate, lonely woman, or a program emanating thousands of kilometres away? Who answers? An equally desperate man, hoping for his happy ever after at the end of Armageddon, or another phone, programmed to respond to voice prompts?

From its beginnings in the nineteenth century, science fiction has spoken to us about our contemporary hopes and fears, though these are often presented as visions of a future we have no way of predicting. A common thread running through our future fictions is the fear of automation. Ludd’s dehumanisation mingles with Marx’s alienation to create dystopic dreams of machines gone mad and human populations living out half-lives characterised by either feckless luxury or terrifying subsistence. As our technologies grow in complexity, we find ourselves entering that uncanny valley, where the more human a technology attempts to appear, the more we are repelled by its lack of humanity.

Willful denial

Roughly put, an ‘Ostrich Algorithm’ is a strategic decision to ignore a potential problem on the basis that it is unlikely to occur. It’s employed to deal with deadlocks in concurrent programming if the cost of the avoidance is deemed too high. [5]

The term first cropped up not in reference to computer science or gaming, but financial risk. In their 2003 paper, Galai and Sade use the words ‘Ostrich Effect’ in relation to finance and the role risk plays in making investment decisions.

We define the ‘Ostrich Effect’ as avoiding apparently risky situations by pretending they do not exist. It is observed that certain individuals, when faced with uncertain investments, prefer investments for which the risk is unreported, over a similar investment (as far as risk and return are concerned) for which the risks are frequently reported. [3]

The term suggests a bird that buries its head in the sand rather than facing threats head on. Ironically, the ostrich does not actually bury its head when in danger – rather, it has a tendency to run away (a more sensible move for an animal that can reach speeds in excess of 70km hour). The human species certainly has the capacity to demonstrate such willful refusal to holistically assess and respond to given situations. In a 2014 study at Claremont McKenna College, California, Josh Tasoff and Ananda Ganguly worked with a group of student volunteers to investigate
‘information aversion’. Having supplied students with graphic details about both Herpes simplex viruses, the pair offered students the opportunity to be tested for the virus stating that taking the test would be free, but those tested who did not wish to know their results would need to pay $10. Over 85% elected to pay to not know their results. [4]

**Evolving Conversations**
The real-life ‘water cooler’ moments, in which peers catch up on gossip or discuss their views on current affairs, still exist but they have a tendency to be played out on social media, in a silent frame of tweets, pins and posts. Real time, real voice chats are increasingly relegated to a new ghetto of automation. The advent of smartphone technologies like ‘Siri’ and now ‘Cortana’ necessitates Q&As rather than discussions. The human speaker is now the ‘asker’, compelled to repeat their query in a variety of intonations until the program is able to recognise something resembling a question. [6] It is the nature of our interactions that is in fact most changed by these new technologies, encouraged as we are to converse with semi-intelligent machines rather than people.

As our society shifts from a production to a service economy, more and more of our conversations are held with the programmed representatives of service providers, which are tied to the lexicons of those who programmed them. So, the nature of contemporary conversation is evolving and we are learning the new rules of engagement: we wouldn’t visit our insurance broker to discuss marital infidelity – equally, we understand that asking Siri, “What is the meaning of life?” will deliver the ironically-devoid response, “A movie.” Try it.

**Testing to Destruction**
Taking as its starting point the workings of a semi-intelligent, voice activated call centre, David Cotterrell’s installation artwork, *The Ostrich Effect* [9] investigates the possibilities for a programing loophole and its ramifications when taken to an extreme level.

The scenarios of computer science and science fiction suggest the potential for an ‘Ostrich Algorithm’, that is, a strategy of wilfully ignoring potential problems on the basis that the likelihood of their occurrence would be so rare as to negate planning for them. *The Ostrich Effect*, which is formally a bank of speakerphones and empty desks, employs bespoke Interactive Voice Response (IVR) programing to generate and broadcast an endless series of phone calls from commercial automated call centres. While these might be traditionally designed to reach a mass audience of unwilling human respondents, within the installation the calls are answered by other computer based call centres running their own automated IVR programs.

As each automated caller is programmed to recognise and respond to voice, ‘conversations’ between two callers are able to flourish, though each eventually breaks down with one (or both) callers electing to put the other into a holding pattern rather than attempt to resolve issues. The conceit for the work is that this futile cyclic conversation has been triggered by the most unlikely of events. The outbound call, which initiates the pattern of prompt and response is the recorded UK Emergency Broadcast System, also known as the Four Minute Warning. Within the installation, this ultimate cold call confounds the receiving IVR servers’ attempts to interpret perceived menu navigation and insistently emerges from holding patterns to advise a long silent public to take shelter before atomic weapons are detonated.

Like the United States’ Emergency Broadcast System, the Four Minute Warning took on a satirical cultural life of its own during the Cold War. Writers, cartoonists and musicians took the threat of obliteration to their hearts, with graphic novels, albums and an endless stream of stage and television comedy pointing the way to the pointlessness of Mutually Assured Destruction (MAD).

This is the Wartime Broadcasting Service. This country has been attacked with nuclear weapons. Communications have been severely disrupted, and the number of casualties and the extent of the damage are not yet known…there is nothing to be gained by trying to get away…Do not, in any circumstances, go outside the house. Radioactive fall-out can kill. You cannot see it or feel it, but it is there. If you go outside, you will bring danger to your family and you may die…We shall be on the air every hour, on the hour. Stay tuned to this wavelength, but switch your radios off now to save your batteries. That is the end of this broadcast. [7]

The artwork suggests the illusion of chance amidst a dominant culture of reductive choice. It asks what the effects of ignoring potential problems based on the understanding that the probability of their occurrence is exceedingly rare might actually be. The work takes this premise to its natural conclusion to create an ongoing endgame, in which its audience is asked to consider their actions and reactions within a closed loop of predetermination.

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*Fig 1. Infinite Call Centre* (Illustration, 2014) © David Cotterrell
The unknowing failure of The Ostrich Effect call centres echoes the example of ‘Joshua’ in John Badham’s 1983 *War Games* [8] – an artificial intelligence that is interested in playing and learning but struggles with the rather human concept of futility. That era-defining *End of Days* scenario of the 1980s, in which we lived with the spectre of a computer error of MAD proportions, created a formidable zone for science fiction. Stanislaw Lem’s 1987 *Peace on Earth*, which transposes the arms race to the Moon, leaving automatons in charge of retaliatory strikes, and James Cameron’s 1984 *The Terminator*, in which overzealous AI becomes self-aware, delivering a fatal blow to humanity following the launch of Skynet, are typical responses to the escalation of the arms race, Ronald Reagan’s rather optimistic ‘Star Wars’ initiative and a general feeling of societal helplessness and disenfranchisement from the activities of cold-war defence technologies.

Wider Extrapolations

The automated world, in which GIFs repaint the planet’s fastest biped as the feeble-minded butt of jokes while manufacturers and advertisers collude to present new technologies as offering ever-increasing choices, is an Orwellian one, recalling Newspeak’s doublethink. The glitch is built in to Cotterrell’s work. It is a celebration of the system error and the new possibilities inherent in it. The Ostrich Effect suggests there may be untried avenues in these programs that can offer new means of exploring our futility. The thesis explored in this work is that the Ostrich Effect, found through the perverse extrapolation of a series of unlikely scenarios, may serve to reveal the system itself. Witnessing the failure of a system, reminds us of its existence. The mechanics, which have been accepted within the wild-track of contemporary life have the potential to once again attract our attention and reveal their potential futility. The failure of an accepted system allows us once again to explore its meaning, the heroism or folly of its endeavor and the validity of our complacent acceptance of its permanent place within the fabric of our lives.

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**Fig 2. The Ostrich Effect (Installation, 2014) © David Cotterrell**

**Postscript**

Cotterell’s artwork pays homage to Ray Bradbury’s elegiac musing on a bleak and self-defeating future of technological progress and societal failure. The *Martian Chronicles* reflects on the social challenges of the twentieth century as it speculatively charts the human colonisation of Mars at the beginning of the twenty-first. In Bradbury’s narrative, by 2026, the Earth, or at least California, has been laid waste by an unspecified atomic detonation.

The short story, “There Will Come Soft Rains” follows a day in the life (and death) of a fully-automated house, which has survived its biological occupants, whose shadows are burnt onto an exterior wall of the building. With no one to take orders from, the house operates itself, cooking, cleaning, washing up, playing music, reading poetry and, ultimately, attempting to put out the fire that will end its inorganic existence.

…other choruses, oblivious, could be heard announcing the time, playing music, cutting the lawn by remote-control mower, or setting an umbrella frantically out and in the slamming and opening front door, a thousand things happening, like a clock shop when each clock strikes the hour insanely before or after the other, a scene of maniac confusion, yet unity; singing, screaming, a few last cleaning mice darting bravely out to carry the horrid ashes away! And one voice, with sublime disregard for the situation, read poetry aloud in the fiery study... [2]
Fig 3. Infinite Call Centre (Illustration 2014) © David Cotterrell

References


Authors’ Biographies

David Cotterrell is an installation artist working across diverse media and technologies. His practice is typified by an interest in intersection: whether fleeting encounter or heavily orchestrated event, His works explore the human condition and the breaks or nuances that can lead to a less ambiguous understanding of the world they inhabit. Encapsulating the roles of programmer, producer and director, His practice has considered the limitations and potential of representations of complex data considering human behaviour through micro-simulation, macro-planning and mediated representation. Cotterrell’s work has been commissioned and shown extensively in Europe, the United States and Asia. He is Professor of Fine Art at Sheffield Hallam University and is represented by Danielle Arnaud.

Jordan Kaplan is a freelance curator, writer and project manager specialising in the curation of public realm and context specific artwork. Jordan is a founding member of Parabola, a commissioning and curatorial body dedicated to the production of contemporary art and critical debate. Since 2003, Parabola has commissioned over 200 artists to develop new work for projects with the Royal Geographical Society, the Natural History Museum, The Garden Museum, Tatton Park Biennial and the Queen Elizabeth Olympic Park. She has more than ten years’ experience working as a visiting lecturer at the University of Hertfordshire and City University. Jordan holds an MA in Art Criticism from City University, is a Fellow of the RSA and a member of the International Association of Art Critics (AICA).