

Cybernetic Bacteria 2.0

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“Life did not take over the globe by combat but by networking” (Margulis, 1997)

The transdisciplinary art project Cybernetic Bacteria 2.0 brings together an artist, a philosopher, a microbiologist, an artificial life programmer and an interactive media specialist, to investigate the relationship of the emerging science of bacterial communication to our own digital communications networks, looking in particular at ‘packet data’ and bacterial quorum sensing.

The project seeks reflect the complexity of communication taking place at a microscopic level in comparison with human communication technologies such as the Internet.

The first artwork in the series, by Dumitriu, involved a clear plastic tube of liquid agar jelly planted into the earth - allowing the soil bacteria below to grow upwards and become visible to the audience. 100 µL of Homoserine Lactone, a hormone used by bacteria for quorum sensing, was added. Dumitriu, in effect saying: “I’m here” to the bacteria below, which ‘pass the signal on’ to their neighbours, until the signal has travelled around the globe. The issue with this work is one of Hermeneutics; the bacteria will not identify Dumitriu as human - simply as another bacterium.

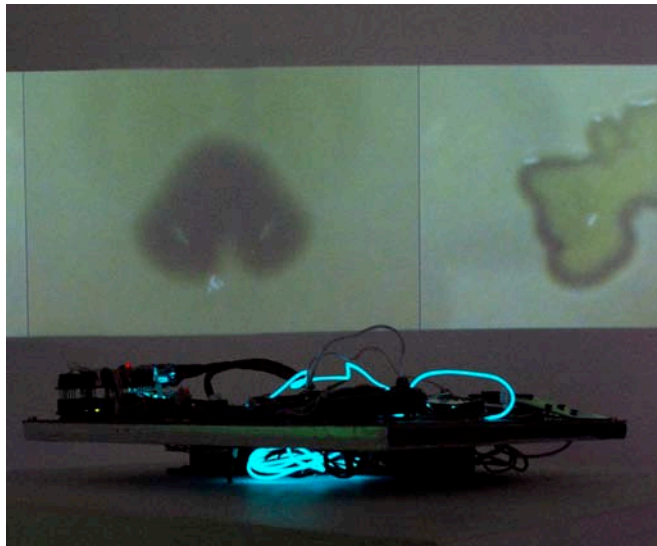


Figure 1 "Cybernetic Bacteria 2.0" (shows RFID/Bluetooth 'sniffer' and bacterial communication)

The next stage of the project involved a multiple screen projection showing network traffic taking place in real time, a film of bacterial communication occurring (using two strains of genetically modified bacteria) and an interactive visualization of the data from both sources generated using artificial life technology.

The artwork revealed the wireless/Bluetooth and RFID data being transmitted in an around the local area, including device names and IP addresses of gallery visitors' phones, laptops and PDAs. The disclosure of this information often surprised and sometimes shocked the audience, as if some personal or private secret was being made public, but that was never the case.

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