

In symbio biopoiesis as model of evolved Alife (400 PPM Microbiome)

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Artificial life techniques are illustrative at exploring the wisdom of natural living systems. Genetic algorithms, cellular automata are computationally complex and visually seductive with Alife in silico. Robotic artists, creating Alife installations experience design challenges more akin to works created in vivo. Robotic works function both in silico and in vivo, with the virtual spaces of computer code and unpredictable environment of the real world. With robotic Alife installations, things like; will the interactant test the system with muscle or try to defeat the code, are design challenges forcing evolution.

Interactive artists have pioneered behavior based works conceived with the current understanding of living systems, such as bottom up emergent behaviors, subsumption architectures (Autopoiesis, Fusiform Polyphony), parallel processing (Paparazzi Bots), distributed intelligences and energy autonomy (400 PPM Microbiome & Autotelematic Spider Bots).

Still, in silico / in vivo works within the Alife are islands of artifice. True living systems offer symbiotic convolutions with overlapping living systems at all scales. This is a function of their organic nature. Mitochondria and symbiogenesis are excellent examples.

In order for artificial life to further evolve and emerge artists and scientists, will need to create larger symbiotically intertwined systems. Systems moving beyond in silico and in vivo, to in symbio. Prototypical living systems will need to find and collect their own energy sources from both living and non living systems. They will find symbiotic intertwining through organic interfaces to complex social systems (Augmented Fish Reality) and to bacterial cultures (Enteric Consciousness). Alife research that pioneers natural organic breakdown with bacterial cultures and sustainable practices such as aquaponics offer clear examples (The Farm Fountain).

In Symbio intertwining of natural and inorganic electro-mechanical elements will be an important and very natural confluence and co-evolution that is necessary between living and co-evolving technological cultures, in the future of Alife.