Evolutionary and Dynamical Systems

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Evolutionary and Dynamical Systems

- Cybernetics
- Artificial Life
- Optimisation
Emergent sources of autonomy?

In contrast to learning systems where behaviour is derived from a corpus.

Inspiration from Sims, Kauffman, etc.
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CA music – Eduardo Miranda

Swarms/dynamic oscillators – Impett, Blackwell and Young

Dynamic agents – Magnusson

Chaotic and complex systems - Di Scipio
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One of a number of “ecosystemic” artworks.
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Uses of evolution:

Interactive
Targeted
Exotic
Novelty search
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Gen 1

Gen 2

Clarke’s 3rd law

Any sufficiently advanced technology is indistinguishable from magic
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Evolving structure versus evolving behaviour

Evolution as a means for achieving novel complexity in hard-to-comprehend systems
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Latham, Mutator (1987)

http://latham-mutator.com/1987/05/mutator-1/

Palle Dahlstedt, MutaSynth (2001)
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Exotic:
e.g.,
Biles: GenJam,
Gartland-Jones, Parameter Interpolation.

Hybrid:
e.g.,
Bown: Zamyatin
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Multiobjective functions.

Possible optimum solutions
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