

RESPONSIBILITY

RE-IMAGINED



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Trustworthy
Autonomous
Systems Hub

EXIoT



Experimental IoT: Explorations in Sound, Art and Technology

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Chaired by Alan Chamberlain & Dave De Roure

Agency vs Intelligence

What happens when we're all connected?

Ali Hossaini, King's College London

15 May 2023



The Internet of Neurons

A future iteration of the current Internet where humans have direct neural connections which bypass natural faculties of perception.

In this hypothetical but highly probable scenario, humans will interact with each other and with A/IS (Autonomous / Intelligent Systems), which is the preferred IEEE nomenclature for AI.

My work emphasizes that agency is more significant than intelligence when considering the future of human-computer interaction.

Agency in philosophy: Moral agent

An entity who can distinguish right from wrong and forms the locus of responsibility for behaviour, decisions, discourse or intentions.

Agency in law: Legal agent

A relationship where a principal entity assigns another entity the legal right to act on its behalf.

Agency in jurisprudence: Juridical person

An entity which can be held accountable for its actions, intentions and consequences.

Agency in informatics: Software agent

A code-based application which demonstrates purposiveness when acting as a proxy for human owner / clients.

Agency in AI: Rational / intelligent agent

For every possible percept, a rational agent should select an action that is expected to maximise its performance measure, given the evidence provided by the percept sequence and whatever built-in knowledge the agent has.

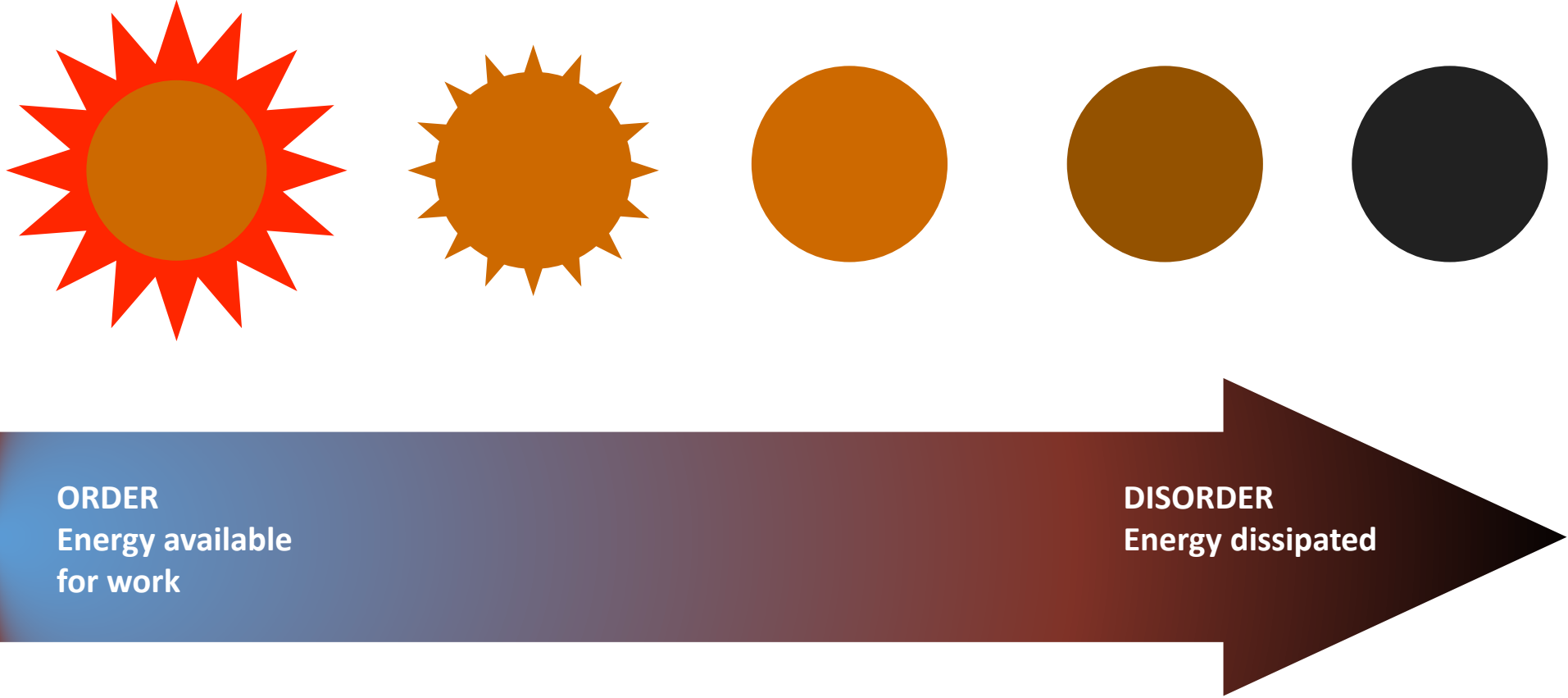
Agency in biology: Organic agent

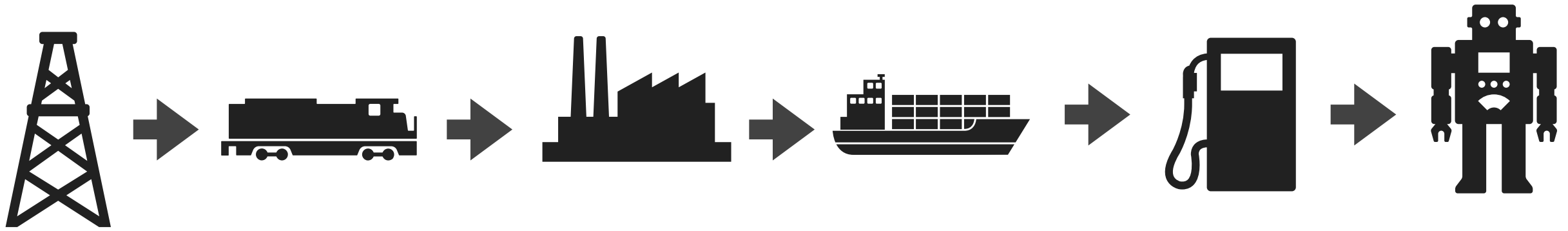
A trait of organisms who self-perpetuate by reversing thermodynamic gradients within an ecosystem.

Agency in biology: Unique traits

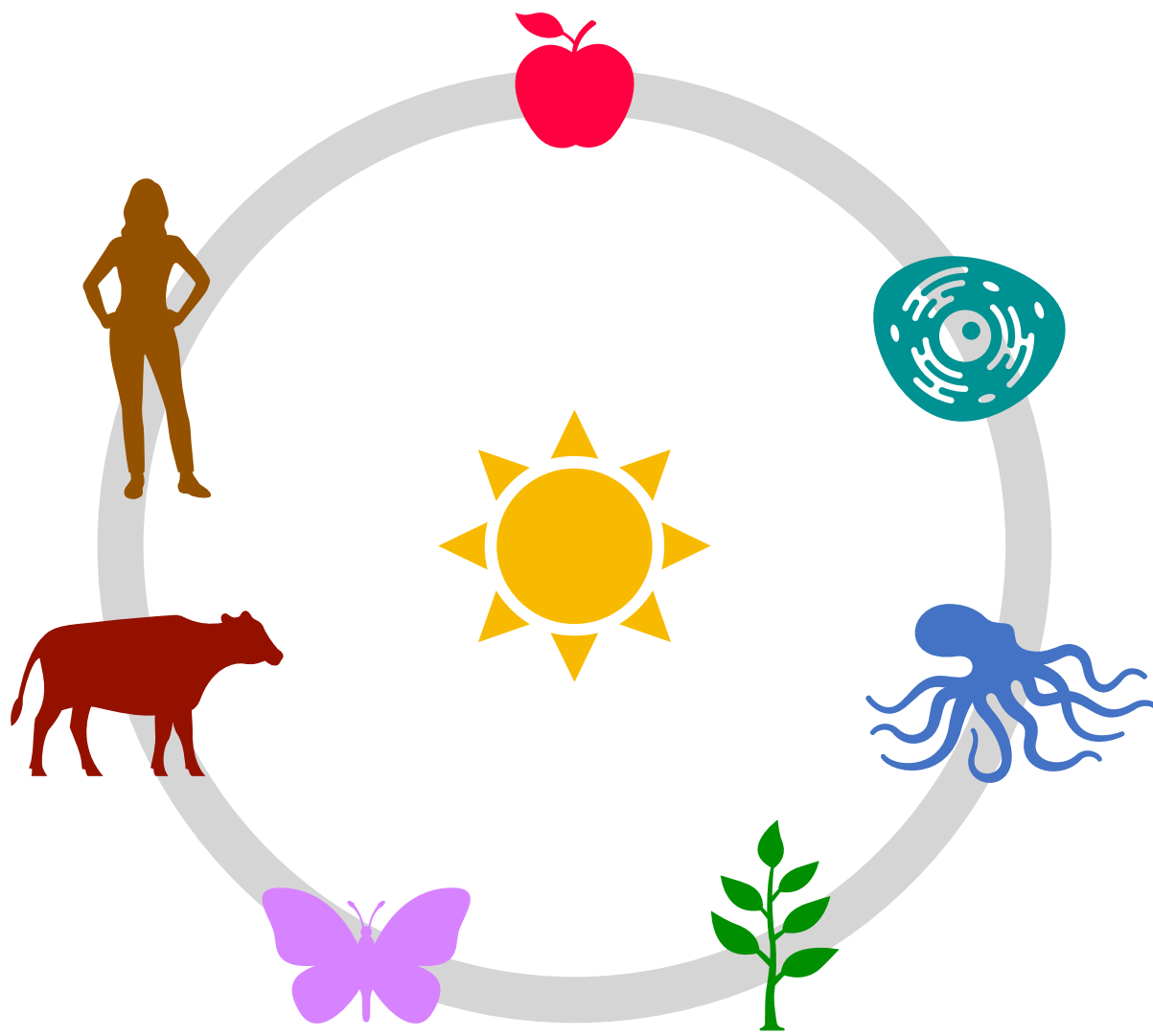
- Proliferation of individuals
- Co-created environment
- Anti-entropic

2nd Law of Thermodynamics



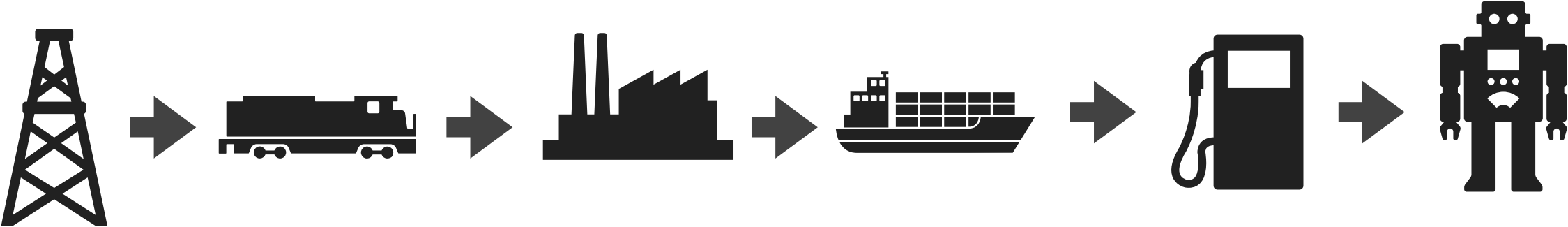


Machines require linear inputs for maintenance.

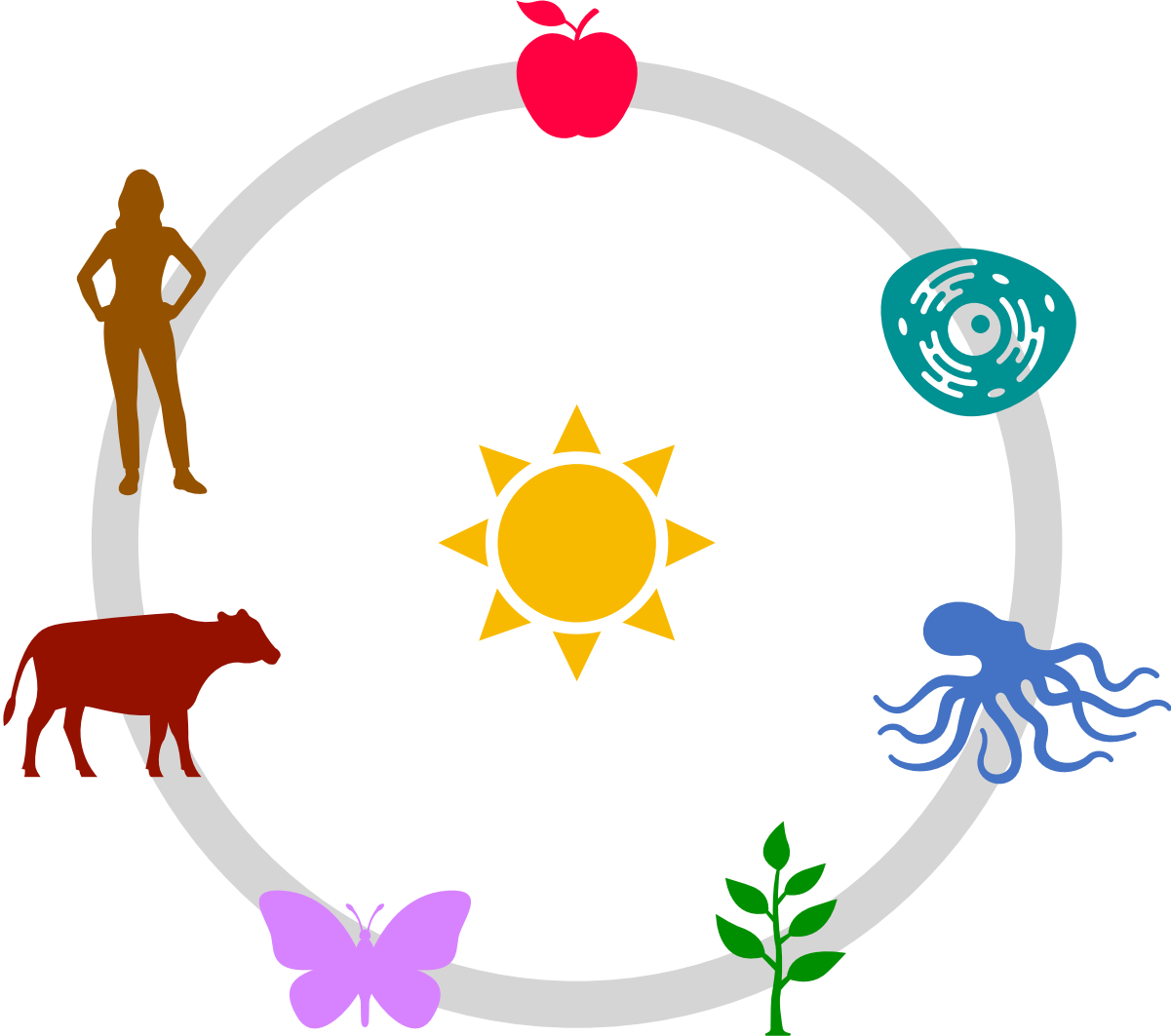


Life gathers and shares energy as sustenance.

Mechanical causality: Entropic



Teleological causality: **Anti-entropic**



Convergence

We have lived comfortably with the variety of 'agents' specified in the domains above.

What happens when these domains – and the entities defined as agents within them – converge?

Another way of framing the question: what happens when the system of industrial production become a system of industrial reproduction?

Are 'business ecosystems' a bad metaphor or an emerging reality?