

Open-Endedness, Evolution, and AI

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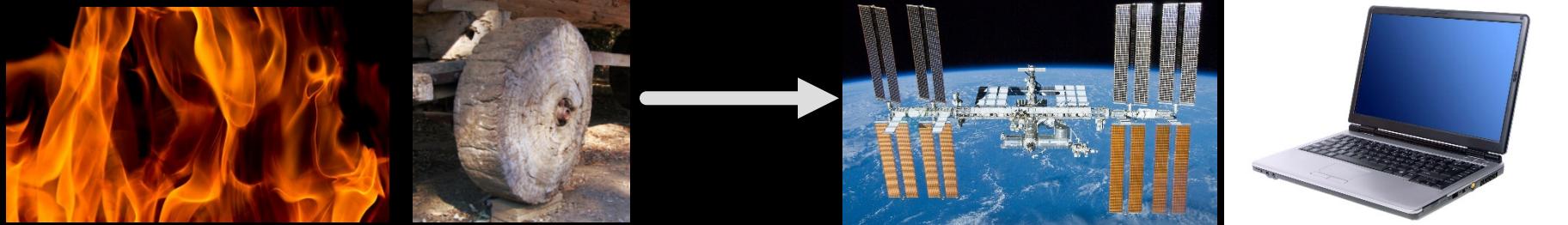
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Open-Endedness: Where Intelligence Is Still Human

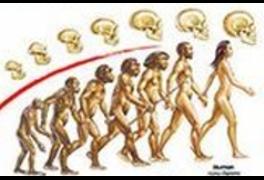
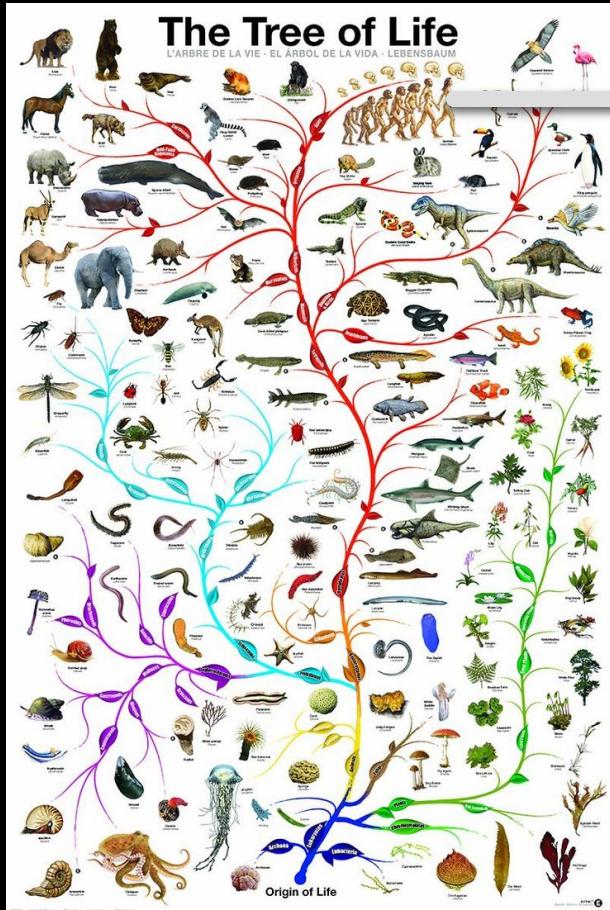
- ❖ AI can solve problems



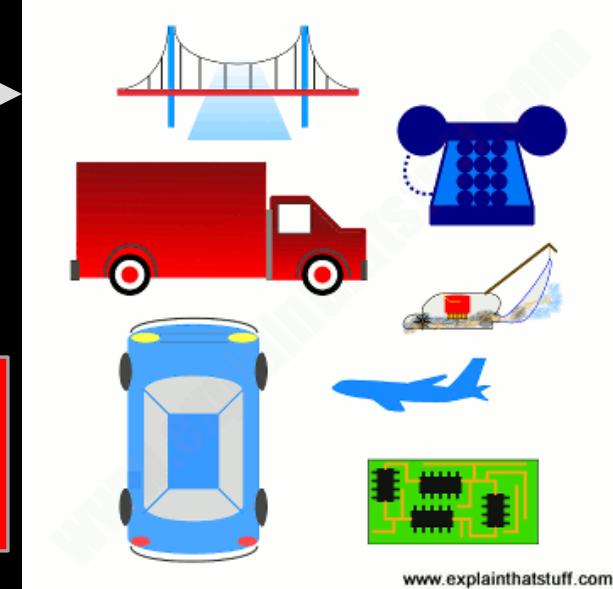
- ❖ But humans do something still very unique: *open-ended innovation*



Open-Ended Phenomena Precede and Follow Us



We should be trying to understand these phenomena



Human Civilization:
Millennia of creativity

- Invention
- Science
- Art
- Music
- etc...

Natural Evolution:
the eternal inventor

The Pursuit of Open-Endedness Highlights New Principles

- ❖ These are neglected dimensions of intelligence
 - ❖ divergence, populations, diversity preservation, stepping stone collection, generating new solutions and new problems/opportunities at the same time
- ❖ And very importantly: The environment!
 - ❖ What property of our universe facilitates unbounded open-ended innovation?
 - ❖ Very little research has focused here

