Can we create a new creature?

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Abstract

During dinner time when eating grilled fish, we asked ourselves a fundamental question '*whether we could create a new creature?*'. This evokes many interesting thinking, and I believe that it is worthy to be documented in case someone elsewhere is interested.

1 Problem Statement

Starting from a *fertilized egg* (受精卵), it can then be evolved to a creature that could learn, think, memorize, as well as smile. In some periods of babies, there exists a time window when humans are sensitive to learn languages, and then other cognitive process. The mysteries of life have puzzled humans for thousands of years.

Today, we might asked ourselves the following question :

whether could humans create a new creature?

This question is particularly interesting if we are considering creating intelligent creatures – this might be beneficial to artificial general intelligence – which is simply equipping some intelligence to such a creature.

The above question is difficult to be answered without a concrete definition for '*what could be a creature*'. Therefore, 'what makes a creature a creature'?

A literature definition could be found in Definition 1 when using Google Search Engine [1].

Definition 1. Merriam-Webster Definition A *creature* is something created either animate or inanimate: such as a) a lower animal; b) a human being; c) a being of anomalous or uncertain aspect or nature.

Obviously, Merriam-Webster Definition does not help at all.one could seek help from Wiki, which suggests us to refer to 'animal', and one gets another definition from WikiDiff [2]

Definition 2. Wiki Definition Creature is a synonym of *animal*. As nouns the difference between creature and animal is that creature is a created thing, whether animate or inanimate; a creation while animal is in scientific usage, a multicellular organism that is usually mobile, whose cells are not encased in a rigid cell wall (distinguishing it from plants and fungi) and which derives energy solely from the consumption of other organisms (distinguishing it from plants).

In other words, *creature* is *a kind of multicellular organism that is mobile and can eat other organisms*. This proposes three important properties for a creature: a) be organism that is composed by multiple cells; b) be mobile; and c) can absorb energy.

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[1] `https://www.merriam-webster.com/dictionary/creature`
[2] `https://wikidiff.com/creature/animal`

2   Desiderata

For clarity, this work denotes such a creature-like artificial stuff – this could be human-made robot or something – as a 'bingo'. The purpose of a 'bingo' is to approximate a creature as possible as it could. In the artificial scenarios, one actually do not care whether a 'bingo' is organism, as b) in Definition 2 stated. Considering b) in Definition 2, it gets

Property 1. *Mobile ability: a 'bingo' can move.*

Considering c) in Definition 2, one could obtain the following property.

Property 2. *Energy Absorption: a bingo could absorb energy to for movement, or thinking if it could.*

Besides Property 1 and 2, this work believes that there exists some other necessary properties for a bingo to be a creature. Inspired by the evolution that enable creatures to be updated in a process which could discard shortcomings and obtain new advantages, the act of reproducing new individuals biologically is essential. Therefore, this work defines the third property as below:

Property 3. *Reproducibility: a bingo could reproduce a new individual from himself.*

Fortunately, it is trivial to make a 'bingo' to move, for example equipping it with some wheels. One should focus more on the latter two properties which are more challenging.

3   Methodology

3.1   Challenges

Conservation of energy/matter for sustainability. To support basic activities of a creature, a bingo should absorb energy. To support evolution, a bingo should absorb some materials that could reproduce itself. Considering *conservation of energy* and *conservation of matter*, sustainability might also be essential.

3.2   Method

To this end, we propose 'Mars Robot' as a ideal bingo that is like a so-called new creature.

Definition 3. a **Mars Robot** is a 3-D printer robot which could print itself. Moreover,

- it is equipped with **wheels**;

- it absorb **solar** energy to maintain its energy consumption for daily activities;

- it is made of some **cheap materials** that universally exists in a environment, *e.g.* and airs, dusts, and rocks.

We could direct send such a *Mars Robot* to Mars. it can move; it make use of solar energy; it can reproduce a new Mars Robot using airs, dusts and and rocks in Mars as materials. After some years, Mars will be full of Mars Robots until their number is in saturation.

More importantly, of course, one can equip such Mars Robots more intelligent behaviors, like thinking, learning and memorizing. At least, we could let them mine bitcoins and send these necessary info of mined bitcoins back to Earth through some communication tools.

4   Experiment

It is trivial to build such a bingo under such the imagination, therefore we leave it as a future work.

5   Conclusion

To create a new artificial creature, this work first defines the problem in a principled way. Plus, we define the necessary properties for such a problem. A proposal named 'Mars Robot' is stated to satisfy such properties and complete the mission to create a new artificial creature. Last point to remind, do not forget to storage some energies in Mars Robot for the consuming during night.

Acknowledgement

References

The idea of this paper is too novel to have any references.