

‘What is knowledge?’ - ‘Edna O’Neil the Alien’ Philosophy thought experiment

One hundred years from now humans have found, on a planet in another solar system, the dead fragments of a once living organism. They nickname her “Edna O’Neil”. The planet has suffered a catastrophic disaster and there are no living lifeforms. On examination, it is found that Edna’s chromosomes are constructed not from DNA but an alternative compound. This “Alternative-DNA” (A-DNA) is taken back to earth.

Geneticists, apply some clever computer technology by using the A-DNA from Edna to reconstruct a graphic representation of what Edna would have looked like. They also are able to determine many of the bio-chemical sequences of this unique organism:

Essentially, the scientists are able to ascertain that Edna was a plant-like organism. From Edna’s structure, colour, size, bio-chemical mechanisms and other characteristics, the human scientists are able to work out details about the conditions pertaining to Edna’s environment. For example:

- i) the light from the planet's sun was weak in comparison to that of earth's;
- ii) the geneticists calculate from the plant's structure that the planet’s gravity is likely to have been half that of earth's;
- iii) they can ascertain that the environment was evidently arid and very windy; and
- iv) Edna’s bio-chemistry indicates how she created energy for respiration, how she reproduced... the understanding they acquire about Edna and crucially, her planetary and solar environment, is extensive!

These are examples of the kinds of conceptual knowledge that the human geneticists are able to acquire about Edna and her environment which is gathered:

- i) first from information pertaining to the A-DNA sequences; and
- ii) secondly, from the computerised reconstruction of Edna's bio-chemical and physiological compositions.

The conceptual knowledge which is acquired by these means demonstrates that the bio-chemical and physiological particulars of any creature are a type of knowledge construct about the environment. It is the particular construction of Edna’s A-DNA that enables the capable human geneticist to derive conceptual based knowledge about Edna’s and only Edna’s particular environmental parameters.

Therefore, bio-chemical and physiological features are a type of knowledge construct.

Regarding lifeforms from earth, this construct is encoded by individual units of DNA data, which include the information by which DNA sequences that data to create the knowledgable construct. The degree of accuracy of the knowledge, as it relates to the environment, is instrumental in determining the survival potential of the creatures replicating construct. If the knowledge about the environment is accurate, the creature's activities enhance survival potential. If the knowledge is inaccurate, the creature tends to expire before it can replicate.

Can this thought experiment be extended in our evaluation of other types of information constructs that are not capable of replication? Can one make conclusions about the constructs such as, for example, atoms?

I believe that one can.

If scientists acquire conceptual knowledge regarding the nature of the construct of, for example, an atom, they can use that information to derive conceptual knowledge about the formation of atoms in general, or the relationship between atoms, and so on. That one can derive conceptual knowledge from any physical construct is to say that all true physical constructs contain information. In other words, physical constructs are information constructs. The deciphering of the various types of information constructs enables humans to develop conceptually-derived knowledge about the nature of the information presented in the interactions of the physical world.

In the absence of this information - for example in the case of the kind of information concerning the construction of consciousness - humans possess no conceptual based knowledge. The experience is one that evades analysis, but this lack of conceptual knowledge ceases if one determines the underlying unified principles concerning all types of information constructs. When this conceptual knowledge about information constructs is realised, the interactive experience of the consciousness phenomenon is no longer a mystery.