

Consciousness

The word "consciousness" has several possible meanings depending on the context, be it philosophical, moral, medical, or other. For example: to be aware of oneself, or to do one's duty with conscience, or to regain consciousness after a coma. Consciousness is often considered as the prerogative of human beings, and as more or less synonymous with reflective and emotional intelligence, associated with a perception of oneself and the reality of the external world. But given the emergence of consciousness from life, is it not more reasonable to admit that it can take on a more nuanced meaning than a simple "all or nothing" alternative: conscious or non-conscious. It is therefore important to define very precisely the meaning in which this word will be used here to differentiate it from the notions of intelligence, thought, perception, morality, or feeling.

I will define what I call consciousness by the presence of the following three characteristics:

- Individuality.
- Receptivity.
- Freedom.

More in detail, any entity will have according to this definition a form of consciousness if:

- 1) It has an existence of its own, even if ephemeral (individuality).
- 2) It receives and integrates signals (receptivity).
- 3) It can react in an *a priori* unpredictable way (freedom).

This definition avoids any reference to logical or intuitive reasoning capacities, it applies as well to the human being as to other living beings. If we wanted to integrate notions of intelligence or reasoned thought, we would have to consider that they constitute different possible levels of consciousness. The clearest thing to do is to distinguish these different notions from each other: consciousness, instinct, emotions, intelligence, thought, intuition, reason.

In fact, the first two properties of consciousness - individuality and receptivity - are quite general. It is especially the third one, the freedom of action, which is characteristic of the conscience.

[...]

You have the right, of course, to disagree with my definition of consciousness, which is not precisely one of those in the dictionary.

It is a definition!

As such, it has the advantage of being clear and precise, and therefore usable.

Under this definition, let's see which are the entities that may be considered as endowed with consciousness. There is the human being, of course, otherwise, this definition would be without interest. The superior animals, without any doubt, since they are recognized as having a certain level of intelligence and thus a capacity to make decisions [...].

But how far down the tree of life should we go? The insects? The ant's behavior shows that it perceives messages from its senses and responds to them by making individual decisions within its environment. It even has a language of communication by odors.

Further down, the living cell exchanges hormonal messages with its neighbors. In fact, all life has a form of consciousness. Where should we stop? To the DNA, to the protein? We arrive there at the level of molecules, even atoms or particles. We can say to ourselves "Well no, these are objects that blindly obey the laws of chemistry and physics". But what do these laws say? At this level, it is your quantum physics that applies. [...]

To illustrate the behavior of a quantum object, let's take the case of a hydrogen molecule: it is made up of two quasi-point protons whose positive electric charges strongly repel each other. They remain close to each other only because they are surrounded by a small "cloud" of negatively charged electrons that is denser between them than outside. The electrons attract the protons and thus compensate for their tendency to repel each other. The molecule is an entity with individuality. This is criterion number one.

Exposed to light, it can absorb a photon, and thus receive a signal from its environment. In doing so, it will "memorize" this signal by changing the state of motion of one of its two electrons. This ability to receive and memorize a signal is criterion number two.

What about criterion number three: freedom? Well, here is what your quantum physics says: the molecule will later, in turn, emit a signal in the form of a new photon, but it is impossible to know when. This moment is the object of an arbitrary choice! A free choice that only obeys the laws of probability. Exactly as for humans who leave for the weekend. The laws of probability tell us that one hundred of them will leave between six and seven in the morning, one thousand between seven and eight, two thousand between eight and nine, and so on. But if you take only one of them, it is he who freely chooses the time of his departure. The third criterion is thus well satisfied!

The molecule has a form of consciousness, in the sense of the above definition.

Well, I can see that you have the impression that I have just played a joke on you. The molecule is not in a state of thinking to know when it will emit its photon. But it is not a question here of thought, reasoning, or intelligence, simply of freedom, the famous freedom of consciousness. But then who chooses? Chance? No doubt. Its rules are unstoppable.

But if you don't mind, we'll talk a little later about chance, and also about necessity, since these are the two motors of the evolution of life - and the rest of it too, for that matter.

Let's first talk about consciousness, freedom, and time. For a given consciousness, yours, for example, there is the present, from which it can never escape, except to disappear, temporarily or definitively, in death or dreamless sleep, that of anesthesia for example. Every consciousness is a prisoner of this small instant in perpetual becoming between two immensities: the past and the future. When your consciousness receives a signal, it necessarily comes from an event that has already happened, since any signal takes a certain amount of time to reach it. On the other hand, when you freely choose to act in one way or another, even if only in thought, you produce a signal whose role is to act on your future and that of the world. There is thus a close relationship between the three properties of consciousness and time: receptivity with the past, individuality with the present, freedom with the future.

It is consciousness that determines time.

I echo here the ideas of the famous philosopher Henri Bergson:

"Wouldn't the existence of time prove that there is indeterminacy in things? "

Each individual, each entity, each consciousness, has its own time, its present, which is not the same as that of others. The relativistic theories highlight this...

Let us now return to the microscopic objects of the quantum world. One of their puzzling properties is that they are imperfectly localized in space and time, to the point that some of them are completely non-separable after having been brought together, even if they have become very distant in space and time. They are said to be correlated. They behave as a whole, as would a single consciousness. The choices of one are the choices of the other because they are the same entity, however far apart they may be. It is astonishing but experimentally incontestable!

If you accept your big bang theory, it means that everything that constitutes the least particle in the universe was gathered in one place at an original instant. The universe was then an inseparable, interlocking whole, and it continues to be so, even if the correlation between the particles is more limited than in Alain Aspect's experiments with pairs of photons.

Each particle in the universe has a strong probability of presence locally, but not completely null at the other end of the universe - which, moreover, has no end! The whole universe participates in each particle, which cannot be completely separated from it.

And this is where I wanted to take you: the consciousness of a quantum particle is that of the universe as a whole. Its free will is that of the whole universe, and it obeys the probabilistic rules.

I wish to put you here in the presence of the existence of a form of universal consciousness, in the sense that I have defined consciousness above. A form of global consciousness whose support is the whole universe.

Once again, you are not obliged to follow me, just to think about it, since you are humans capable of logical reasoning.

For this universal consciousness, let's take the three criteria of my definition:

- Individuality: Omnipresence, the universe is an inseparable whole.
- Receptivity: Omniscience, no interaction between particles is foreign to it.
- Freedom: Omnipotence, i.e. it determines the quantum choices of any particle, respecting the probabilistic rules.

[...]

You still don't have to believe me. Nothing is more odious than compulsory Faith. Only the reason, sifted by experience, counts. Pierre Joliot said:

"Any certainty is, in essence, contradictory with the philosophy of research."

Would we have to conclude from such a definition of the conscience that finally everything is conscious, even a paving stone? Perhaps not. But that there is consciousness everywhere, yes, undoubtedly, at least at the microscopic level. On the other hand, in the case of a rock or any other object at our scale, quantum effects disappear, and the freedom of behavior disappears with them. Macroscopic determinism exists for statistical reasons because the laws of probability become certainties for large ensembles of particles. Freedom disappears at this scale.

Finally, the way around this problem is what life has found: to make individual consciousnesses emerge more and more complex in the course of evolution. These consciousnesses - yours in particular - do not seem to directly perceive the presence of the universal consciousness. In any case, they have a certain independence from it. But do you believe that their experience evaporates without hope of return? Each choice made in the present moment leaves an indelible trace in the memory of the universe. It participates in the experience of this universal consciousness.

[...]

For your "idealist" philosophers like George Berkeley, the only reality is that which is perceived. For them, nothing that no conscious being perceives has a real existence. Many physicists in the field of particles have ideas close to these: for them, the reality is only that which can be measured or observed, therefore that on which they can all agree. The rest is metaphysical, and therefore imaginary. Living and conscious beings would thus have to play an important role as observers of the universe to ensure its global coherence.

To answer the interrogations of these idealist philosophers, for whom no reality has truly an existence apart from a consciousness to perceive it, we can say that the universal consciousness is a solution to their questionings on the permanence of the real. [...]

Life is a way to bypass the obstacle of macroscopic determinism. It makes emerge individualized consciousnesses that see the world from another angle than that of the particles. An external vision rather than an internal one, as it were. Is this THE reason for life?

Albert Einstein said: "*Apparently, life has no meaning, but yet it is impossible it has no one!*"