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The Question of Consciousness

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The Question of Consciousness

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Abstract

Western philosophers since the time of Descartes and Locke, have struggled to comprehend the nature of consciousness.

Starting in the 1980's, an expanding community of neuroscientists and psychologists have associated themselves with a field called "Consciousness studies".

First, this paper will take a quick look to these approaches and we will underline that if consciousness is by essence subjective, it cannot be properly studied using the objective methodology of science.

Then we will present our Theory of consciousness which's originality is to call into question the Postulate of objectivity on which science is based.

Keywords: Consciousness, Postulate of Objectivity, Hegel

Introduction

The Enigma of Consciousness

We know very well what consciousness is but it seems quite impossible to reach a definition which would both encompass the intuitive notion we have of it and lend itself to a scientific study based on objective experiments.

A common sense definition of consciousness one could find in the literature would be “A state of feeling or awareness...”.

Such a definition leaves us with (at least) 4 things to be explained:

- consciousness is qualitative: what it feels like...
- consciousness is subjective: implies a subject
- consciousness generates a unified awareness of our perceptions and knowledge
- consciousness is intentional.

To go a little further in a respectable attempt David Chalmers¹ proposed to differentiate the “hard problem” from the “easy problem”.

The easy problem can be seen as the ability of the mind to process the different types of information received by the brain.

The “hard problem” is this puzzling state of awareness which characterises consciousness i.e. the core of the problem.

The Concept of Qualia

In a comparable attempt the word “qualia” has been coined to mean “the what is like “character of mental states. For instance the way it feels to have mental states such as pain, seeing red, smelling a rose etc.

There have been other definitions and many discussions in the literature for or against the existence of qualia. But qualia “being private, ineffable and non-relational” (Daniel Dennett)² does not lend itself to a rational discussion. Giving a name to a problem does not solve the problem.

Nevertheless the importance of qualia comes from the fact that it has been seen as a path to solving the fundamental mind/ body problem.

The Mind Body Problem

The impressive success of science leads to believe that everything in the universe can be explained by a proper chain of causes and effects. Several philosophers maintain that there is only one realm of being in which consciousness and matter are both aspects. Such a solution is called “monism” or “reductionism”.

In that perspective theories proposed by neuroscientists such as Gerald Edelman³ and Antonio Damasio¹ and by philosophers such as Daniel Dennett

¹David Chalmers Journal of Consciousness Studies 2:200-219

²Daniel Dennett Consciousness explained Penguin ISBN 0-7139-9037-6

³Gerald Edelman On the Matter of the Mind Basic Books ISBN 978-0-465-00764-6

seek to explain consciousness in terms of natural events occurring within the brain.

Alternatively it has been held that the subjective aspect of the mind may not ever be sufficiently accounted for by the objective methods of reductionistic science.

In his paper “What is it like to be a bat?” Thomas Nagel² states that “it seems unlikely that any physical theory of mind can be contemplated until more thought has been given to the general problem of subjective and objective”

The Theory of Consciousness

Introduction

The Postulate of Objectivity

Studying the “general problem of subjective and objective” is precisely the basis of our “Theory of consciousness”. Derived from a thesis of Doctorate in Philosophy Epistemology it has been published by Edilivre³. We will give hereafter the main ideas and results of the Theory.

Science is based on the postulate of objectivity, by its method science poses that the universe is only composed of entities which can be observed and explained independently of any subject, of any knowledge process. As a consequence the concept of subject is outside the scope of science.

By definition a postulate cannot be demonstrated, holding to what cannot be proven is nothing else than a dogmatic attitude which is contrary to the very spirit of science.

To understand the role of subjectivity the postulate of objectivity must be called into question. So doing, we will come up with a comprehensive theory encompassing both the experience of subjectivity and the objective world that physics addresses.

Calling into question the postulate of objectivity is our starting point.

This leads to taking into account the so-called knowledge (or awareness) function $C(X)$ by which the object X is known. The conditions to which the function $C(X)$ must comply for a knowing subject to be a self-conscious one are expressed and called the Conscience relations. The theory is composed of three books, briefly presented in the final paragraphs of this paper.

The Knowledge (or Awareness) Process Involved in Consciousness

In our experience, consciousness and subjectivity are linked to each other. The self-conscious person is before all, the one who has a knowledge of being and a knowledge of this knowledge. But this double knowledge appears as a

¹Antonio Damasio Body and Emotions in the Making of Consciousness Ney York Harcourt Press ISBN 978-0-15-601075-7

²Nagel Thomas What is like to be a bat? Philosophical Review 83,435-50

³Theorie de la Conscience Introduction to The Theory of Consciousness Edilivre France

mystery because it does not come from a deduction, it is based on nothing, it imposes itself: it is what we will call *immediate knowledge*.

The singularity of consciousness cannot be found in knowledge in general, since a knowledge function $C(X)$ can be clearly used in cognitive science, but rather, in what appears as knowledge of knowledge.

Knowledge of knowledge is a concept which seems to defy any possibility of a mathematical definition, because a definition would establish a connection to something else. But knowledge of knowledge depends only on itself: a concept impossible to define, then, and nevertheless certainty for the self-conscious person.

Notice that, here, we are considering the *feeling of consciousness* as opposed to consciousness as being thought of. The above mentioned properties are an experience we are certain of. We know and we know that we know: consciousness is, before anything else, the living experience of knowledge of knowledge and knowledge of being. One of the most puzzling properties of consciousness is its ability of knowing itself.

It is like seeing yourself in a mirror: you don't see yourself but yourself watching yourself.

It is an infinite open ended (therefore non deterministic) process which permanently asks: who am I?

From this questioning come the other questions: what should I do etc. and then the general questions of choice and free-will.

When I make a choice I see myself wondering and eventually making that choice. I am always at a distance from myself. Whatever the cause of my choice, I see myself making that choice.

If you ignore this process, in the mirror you see an image i.e. an object which, as such, has to obey the laws of nature.

But of course consciousness is also knowledge of what is not myself. Therefore, as a starting point we define consciousness as follows.

Limited Definition of the Feeling of Consciousness

- knowledge of knowledge (reflexivity condition)
- knowledge of being and existing
- knowledge of something else (the thing)

Two Hegelian Concepts: Knowledge in Itself - Knowledge for Itself

As it appeared, consciousness is *my* experience, i.e. *my* knowledge or the knowledge of what is commonly referred to as "the subject". At this point, we will simply say that the subject is knowledge itself; (further in the theory, the subject is defined as a mathematical operator). Then, what knowledge is for the subject is what knowledge is for knowledge, which is generally designated by the expression: *knowledge for itself*.

So doing we are distinguishing in a classical sense, two sides of knowledge: *knowledge in itself and knowledge for itself*.

- Knowledge for itself: what the thing is for me, my experience of it.

- Knowledge in itself: what the thing is objectively.

Knowledge of Being / Knowledge of Existing

Assuming we have solved the reflexivity condition in the definition of the feeling of consciousness here above, let us replace, in the previous statement “the thing” by “me”, we obtain:

- Knowledge for itself: what “me” is for me: my experience of being.
- Knowledge in itself: what “me” is objectively: knowledge of existing.

Indeed, knowledge of existing can be objectively defined. I exist as any other object or living creature in this world. My physical characteristics and my behaviour can be seen and analysed (perhaps partially) by an observer in terms of cause and effect, as any other phenomenon.

In other words, existing means existing in space at each instant of time: existing is a function of time.

But if existing is a function of time, we cannot say so for the feeling of being: I was a child, I am a man, I will be an old man, but this is still me. The knowledge of being is the knowledge that I last or stay beyond or above time. The knowledge of being is spread over time. It lasts.

Therefore we can say:

Knowledge of existing is reflexive knowledge in itself and is a function of time.

Knowledge of being is reflexive knowledge for itself and is not a function of time.

Preliminary Conclusion about the Being, the Non-Being and Time

Being and knowledge of being are the same.

The being is related to knowledge for itself (it lasts)

The non being is related to knowledge in itself: existing at each instant of time.

It may be surprising that we call the non-being, existing at each instant of time. But actually an instant having a zero duration is nothing.

The non-being is existence at each instant of time (duration = zero).

The being lasts.

The Conscience Relations (Simplified)

The First Conscience Relation

Consider the statement:

“let S be a subject and O an object”.

Actually S and O designate two objects, the real subject being the one who makes the statement. S and O are external to the subject.

A statement bears always the form: “I say: there is...” Or: “my knowledge is: ...”

In other words:

- a) The subject knows only his knowledge of the objects. What the objects are for him: knowledge of knowledge or *knowledge for itself*.
- b) But as he does not realise this process, he says: “the object I see, exists as such”; and he considers the thing as being objective: the thing in itself.

Therefore:

- knowledge in itself is built from knowledge for itself.
- knowledge for itself is built from the knowledge in itself.

In other words:

Knowledge for itself and knowledge in itself pass into one another by the knowledge process.

Let us formulate this condition.

Let C be the objective knowledge (knowledge in itself).

Let C' be the subjective knowledge (knowledge for itself).

Let £ be an operator (£ reads L, the word “operator” does not presume anything about its nature), which operates the passage between C and C', then

$$C' = \text{£}C$$

But this is impossible because £C cannot be expressed objectively because it is a subjective knowledge (I know...).

Thus it seems here that it is impossible to formulate objectively, subjectivity and subjectively, objectivity.

Let's look for a condition under which this formulation would be possible.

To achieve this we need a relation C1 which links C and £C in a way that knowing one side, we would know the other one.

In that case it would exist C1 such as: C1(C, £C) exists.

But again this relation will be objective and we need to consider £C1 to which the previous reasoning applies:

Then it exists C2 such as C2 (C1, £C1) exists, etc.

To avoid an infinite loop we must satisfy two conditions:

- this relation must be C itself,

- this relation must stand true on both sides: objective and subjective. In other words, in the universe (the thing C) and in consciousness (£C).

This leads to:

$$C(C) \equiv C(\text{£}C)$$

C and £C are the same from knowledge standpoint.

Remarks

C and £C are different things which become the same by the knowledge process. This is expressed by the sign “ \equiv ”: C and £C pass into one another.

From knowledge standpoint there is nothing else than knowledge. Therefore from knowledge standpoint C is the objective totality and £C the subjective totality.

These considerations lead to the first Conscience relation CS1 (simplified).

$$C(C) \equiv C(\text{£}C)$$

From the knowledge standpoint:

C and £C pass into one another

C is the objective totality; £C the subjective totality.

Meaning of the First Conscience Relation

When CS1 is satisfied the knowledge function satisfies 2 conditions of consciousness:

Reflexivity

If it exists C and £C complying to CS1, C(C) is defined by C (£C): C is a function of itself: C is reflexive.

Knowledge of being

£C is knowledge of the subjective totality: the being (above time).

Then C(£C) is knowledge of being

C is knowledge of the objective totality: what exists at each instant.

Then C(C) is knowledge of existing.

Consciousness appears where the Conscience relations are effective.

CS1 is circular, the knowledge process is sterile and the subject knows only itself. The third condition “knowledge of something else” cannot be satisfied by CS1. This leads to CS2.

The Second Relation of Conscience (CS2)

The Concept of Externalisation

C and £C pass one into the other by the knowledge process. Saying that CS1 is satisfied means that it could be non satisfied, therefore we must consider the two states:

CS1 satisfied /CS1 non satisfied.

Since knowledge is reflexive (CS1 satisfied), these two states are known; CS1 is itself an object of knowledge.

When CS1 is not satisfied, this state is known and this experience, which is the knowledge process itself, is “externalised” in order to go back to the state CS1 satisfied. The concepts of experience and externalisation are defined in the theory.

Memory

£C is the totality of knowledge for itself. As a consequence £C cannot vary, i.e. at the end of the knowledge process, £C is found equal to itself: totality as seen by knowledge.

But when something new is acquired, a variation of £C occurred, but this change in knowledge is not only the object (O) but the experience of the object. More precisely, it is the experience of the fact: CS1 was not satisfied, that is to say, the knowledge process itself which from C standpoint does not exist anymore when CS1 is satisfied again. But what happened cannot be erased. The corresponding object is not knowable since it does not comply to CS1. Therefore it is external to knowledge.

When CS1 is satisfied, the experience of CS1 not satisfied, which is the memory of the knowledge process, is an unknowable object. It is said to be externalised.

A simplified version of the second Conscience relation CS2, is then:

$C(C) \equiv C(\text{£}C) + M$	CS2
M is externalised by the knowledge process	

Knowledge of Something Else

When CS1 is not satisfied there is an unknowable object M. But since CS1 is an object of knowledge, this fact is known. Therefore: the subject knows that there is an unknowable object whose presence is known. In the subjectivity domain, this object is the unconscious in its proper sense. The Theory of knowledge shows that this object is matter known by its form.

The Principle of the Theory of Consciousness

The knowledge function is our starting point. Notice that CS1 is «acting», the passage must occur effectively for consciousness to appear.

But we have established that the Theory of Consciousness is necessarily global encompassing both objectivity and subjectivity. In other words, CS1 and CS2 regardless of their nature must appear as a natural phenomenon in our world. These considerations lead to the Principle of the Theory of consciousness:

“There is” the knowledge function complying to the Conscience relations.

To summarise:

- The passage described by CS1 and CS2 must occur in order for the universe to appear: consciousness is first.
- CS1 and CS2 are given properties of the universe which should appear as natural phenomenon. The laws of physics must derive from the Conscience relations.
- In a self-conscious subject, the Conscience relations are implemented.

Solutions to the Conscience Relations

Principle of a Mathematical Solution

It exists a mathematical structure called a Hilbert space in which CS1 and CS2 can be expressed and solved.

C and ξC are forms in bijective correspondence (with the meaning of matter and form), a form can be expressed in two ways: waves and sets of points. These two expressions are linked by the *Fourier transform*;

$C(C)$ is then mathematically defined by $C(\xi C)$: the knowledge function C is reflexive.

A relation between forms is also a form: CS1 and CS2 are also objects of the knowledge function.

Principle of the Ontological Solution

CS1 and CS2 must occur and there is nothing else, they are (in Hegel parlance) the being and the non-being. The mathematical formulation is just the description of it. The being is waves one side, and instants on the other side, passing one into the other.

Principle of the Physical Solution

Now we have:

- To see that the mathematical approach used in the preceding paragraph is related to a physical phenomenon which can be observed.
- To confirm that we can satisfy our definition of consciousness.

To reach this goal we have to underline the physical reality of the Fourier Transform.

What a Pure Sine Wave Is

We have to notice an important physical fact which may look strange.

Very paradoxical indeed is the fact that a pure sine wave is everlasting: it is, was, and will be. It is above or beyond time. One can argue that it certainly started at instant T1, and ended at instant T2, but then it is not a pure sine wave, it is a function which can be developed by the Fourier transform as a sum of pure sine waves which are everlasting.

Now we have at our disposal the principle on which rests the phenomenon represented by CS1 with its mathematical description. In brief:

The thing in itself is a form function of time: $C(t)$, for example, the shape of an object in space at each instant of time or the trajectory of something.

The thing for itself is the same form but not as a function of time: $\mathcal{F}C$, (a condensed form of the history of the object, encompassing past, present and future, from the subject standpoint).

\mathcal{F} is the Fourier transform.

Thus:

$C(\mathcal{F}C)$ is the knowledge of a form as waves; beyond time, it is the knowledge of being.

$C(C)$ is this same knowledge but at each instant of time: knowledge of existing.

The relation $C(C) \equiv C(\mathcal{F}C)$ is a resonance, i.e. a wave.

The knowledge of « CS1 satisfied » is the knowledge of a wave: knowledge of being which passes into to the knowledge of a form at each instant of time, i.e. knowledge of existing.

When CS1 is not satisfied (CS2), the presence of something-else is known.

Consciousness as the reflexive knowledge of being and existing is the knowledge of CS1 satisfied.

Consciousness as the reflexive knowledge of something else is the knowledge of CS1 not satisfied.

Time and Knowledge

CS1 describes a circular process by which C and $\mathcal{F}C$ pass into one another. As such it defines both a wave and time: the timing of the knowledge process.

It must be clearly understood that time does not exist "before" knowledge, it is an effect of the knowledge process, its pace.

The Theory of Consciousness Is Global

The Theory of Consciousness and Subjectivity

Further in the theory we formalise such concepts as:

- I and myself
- Intentional aiming
- Will

- The unconscious
- The feeling of the “other” and feeling of the “group”
- My conscience.

We also show:

- how thought can appear with its related consequences.
- The principle of the brain as the centre of consciousness.

The Theory of Consciousness and Physics

The general mathematical solutions to CS1 and CS2 are developed by using the well-known properties of Hilbert spaces. These spaces are commonly used in Quantum Mechanics, the link with the Theory of consciousness appears formally.

Relativity considers space-time only objectively. By showing that time plays the role of the subject and space the role of the object in the knowledge process, the Theory of consciousness reaches quite easily the basic relations of Special Relativity.

But even more generally, in modern physics the so-called invariance and symmetries play a central role as necessary explanatory postulates. In the Theory of consciousness, they derive from the knowledge process itself and are not postulates anymore. Actually they are related to the invariance of the being.

The Theory of consciousness leads to a new paradigm in physics. Indeed, physics considers that there are objects (matter, time, space, light, etc.) complying to laws. But physics does not say where these objects and these laws come from. Our starting point is the knowledge function complying to CS1 and CS2. Space, time, matter etc. are “produced” by a universal knowledge process (“produced” is defined in the theory). The theory leads to three “Limit theorems” which are very important in understanding the universe and bear significant consequences.

The Theory of Consciousness and Hegel

The Theory of consciousness is strongly inspired by Hegel’s philosophy of mind.

The Hegel System although recognised as impressive by the community of philosophers, has been discussed and criticised. By retrieving the main results of modern Physics, the Theory of consciousness confirms the Hegel’s vision at least on its main conclusions.

As a mathematical reformulation of the Hegel system, it gives a vision of the universe as an all-inclusive whole comprising the subjective world and the objective world that Physics addresses.

The Theory Is Global: The Three Parts of the Theory

Theory of knowledge

Our theory goes much further than the Hegel system because the Conscience relations are developed mathematically and it is shown that the

fundamental laws of modern Physics (Quantum Mechanics and Relativity) can be derived from the Conscience relations. This yields a new paradigm in Physics. As a consequence retrieving the laws of Physics is a proof that the theory is true at least on the objective side of knowledge.

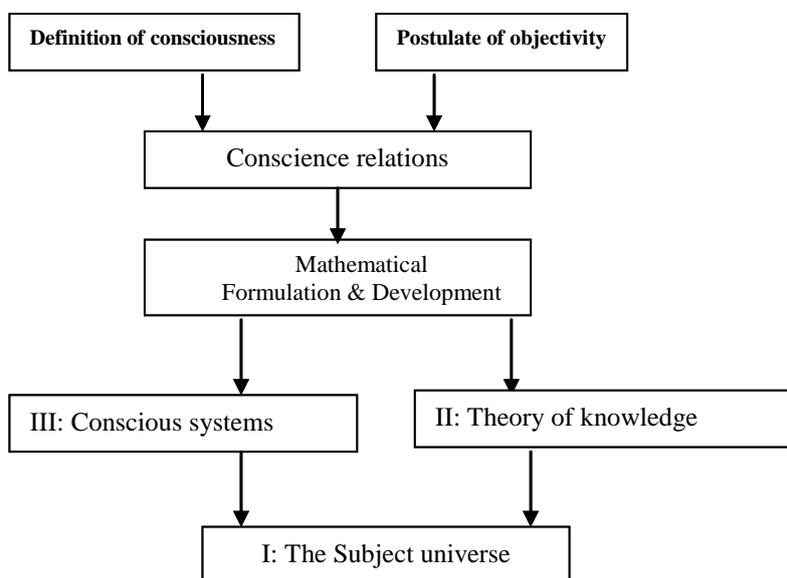
Conscious Systems

A conscious system is a system which implements the Conscience relations. The main characteristics of human subjectivity have been connected to the Conscience relations; the principle of operation of the brain and the corresponding architectures are derived.

The Subject Universe

A philosophical presentation and interpretation of the theory.

Architecture of the Theory



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