

The False Problem of Consciousness

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ABSTRACT

The orthodox neuroscientific approach to the study of consciousness is paradoxical: scientists examine consciousness (with their own consciousness) and, infatuated with neurons, claim that brains must be the source of everything, and then declare consciousness epiphenomenal. Empirical expediency can provide spectacular scientific answers. Yet, one should make sure it is not to philosophically ill-posed questions. Investigating "how experience ensues from the brain", rather than exploring a factual claim, betrays a philosophical commitment. Here we examine the thesis of parallelism between cerebral and mental states: "consciousness tells no more than what is going on in the brain; it only tells it in a different language". We retrieve an argument by Henri Bergson to expose the fundamental self-contradiction of parallelism: it forces the idealist to sustain that "the part is the whole", and the realist that "the part subsists when the remainder of the whole vanishes". We then recast Bergson's image-movement theory from Matter and Memory as a way forward to overcome the conceptual dead-end of parallelism. Consciousness is real. So is its special relation to the brain. Differentiating between solidarity (as lesions demonstrate) and equivalence (as no data does) offers an alternative point of departure for an understanding of consciousness that does not, from the outset, outlay a false problem.

Keywords: consciousness, neuroscience, Bergson, parallelism, memory, mind, brain, behavior

*"The hardest thing of all is to find a black cat in a dark room, especially when the cat isn't there."
(attributed to Confucius)*

1. BRAIN-CONSCIOUSNESS PARALLELISM: A DEAD END

Neuroscientists studying consciousness have found their truth before their research actually begins: the brain produces consciousness; the vital question is how.

Understanding consciousness had been an exclusive province of philosophy for centuries. In the recent years, such a quest has been reinvigorated by the opportunities and promises that neuroscience offers. Current neurobiological attempts to dissect mechanisms and correlates of consciousness give the impression —both to the research community and the general public— that fMRI scanners have rendered armchairs obsolete, namely, that the neurobiological quest for consciousness can do without metaphysics.

As there is no state of consciousness that does not have its cerebral concomitant, as a variation of the brain state does not take place without a variation of the state of consciousness, and as an injury of the brain activity causes an injury of the conscious activity, it is concluded that any fraction of the state of consciousness corresponds to a

certain part of the brain state and that, consequently, one of the two terms can replace the other. The clues of that *something* have been followed in the body itself, in the hidden folds of the brain, increasing the table of correspondences between the mental and the cerebral. Following Henri Bergson, it is this, the very idea of parallelism, that we call into question.

In a lecture given in 1904, at the Geneva Philosophy Congress, and published under the title *Le parallélisme psychophysique* (Bergson, 1904), Bergson argued that the brain does not produce nor contain representations, that brain function is limited to selecting images and memories useful for the action of the body. Bergson went so far as to claim that memory is not stored in the brain (we will come back to this later). This is view in sharp contrast with the current dominating idea that the brain ought to produce them.

For Bergson the thesis of parallelism does not find its origins in anatomical or physiological studies; it is a legacy of the metaphysics and Descartes. Kepler and Galileo had prepared the terrain, reducing the astronomical problems to mechanical problems. From this arose the aspiration (recovering in passing old Platonic-Pythagorean doctrines) to represent the totality of the material universe subjected to mathematical laws — a solution that pleased physicists and placed them at the very centre of the axis of knowledge. Descartes gave the final blow: living bodies are clockwork mechanisms, and nothing of what we will do escapes a Universe mathematically determined beforehand.

According to the strong version of parallelism, the cerebral and psychological state correspond point by point, without it being necessary to attribute to one the creation the other. That is, if we were able to see the full dance of brain activity we could know what happens in consciousness. In other words, parallelism between mental and brain states affirms that “consciousness tells no more than what is going on in the brain; it only tells it in a different language”. This belief is a metaphysical hypothesis adopted by physiologists and physicians of the eighteenth century, who did not have other models to choose from. Its problem is not that. Its problem is that it suffers from internal contradictions.

The internal contradiction of the psycho-physiological parallelism lies in the surreptitious passage of a system of notation to its opposite, without noticing or recognizing that displacement. Let us explain how.

These two systems can be called, in a general way, realism and idealism. Of course, deeper definitions could be provided for such opposed tendencies, but this shall not be necessary for our purposes here. Realism treats the objects of the external world as *things*, and idealism as *ideas*. What is of relevance is that they are incompatible with respect to each other. Note that we do not call the realist or the idealist world-view into question here. We explore the consequences of affirming the thesis of parallelism from either realism or idealism.

For the idealist it is absurd to speak of a property of matter that is not the object of representation. There is nothing virtual or possible, all that exists is current representation. For the realist, the question is very different. If the matter exists independently of the representation it means postulating something inaccessible under the represented (paradoxically, realism favours the occult); behind the perceived there are powers and hidden virtualities. Idealism is more prudent and limited to that which can be represented, while realism ambitions what is outside of representation.

Bergson constructs his critique of parallelism in that it is not legitimate to apply the two approaches to the same object at the same time. And whether one opts for idealism or opts for realism, the proposal of parallelism falls into a fundamental self-contradiction. The thesis only seems sustainable if realism and idealism are used at the same time, but this is also illegitimate. Such is the illusion that the psycho-physiological problem arises.

The approach suggests two points of view: the term *brain* suggests the word *matter* and the term *thought* suggests the word *representation*. This, as we intend to show, causes grave confusions and deep misunderstandings.

The idealist considers that external objects are representations and that the brain is one of them. But when the brain is analysed in the laboratory, it is considered a thing, so we move to the realistic framework. What was representation becomes a thing.

Notably, such surreptitious shift from idealism to realism is favoured by the facts. When we remember the objects after having perceived them, when they are no longer before us, their image becomes visible in the form of a memory. It seems necessary that some part of my body can evoke that image, if not to create it, or at least to arise it. And how could it be done if a certain memory did not correspond to a certain brain state? The idealist answers that it is impossible to represent an object in complete absence of it. If in the present object there is nothing but representation, it will be, apart from its presence. In memory the same happens; it lacks many things and only retains some elements. In addition, memory is private, only exists for the person who evokes it, while the object is part of a common experience. Suffice it for now to say that in the idealistic hypothesis the perceived objects coincide with the complete and completely active representation, while in the remembered ones they coincide with the same incomplete representation.

The realist, on the other hand, considers the objects that fill the field of vision, including the brain and sensory centres, the displacements of molecules and atoms caused by the interaction with external objects. But the essence of realism is to assume behind our representations a cause that differs from them. Some even affirm that brain states create representations, which are only an *epiphenomenon*; others assume that brain movements cause the appearance of conscious perceptions.

However, both realism and idealism agree that a certain state of the brain corresponds to a certain state of consciousness. And that the movements of the brain, if we knew how to interpret, would give to the one who reads them all the details of what is going on in consciousness.

The shift between realism and idealism is tacit and illicit

Despite the vast empirical evidence that seems to point to parallelism, the modern neuroscientist is, without knowing it, a “metaphysical trickster”.

It is here that Bergson points out the contradiction: in considering the brain (or the neuronal interactions themselves) as an isolated system. An idealist can legitimately declare the object isolated, because for him the object is not distinguished from the representation. But realism consists precisely in rejecting that pretension, in considering arbitrary or relative the lines of separation that our representation traces in things (since it involves reciprocal influences “below” them).

One begins by saying that the brain undergoes modifications of external objects so that representations arise in it. Then *tabula rasa* is made of those objects external to the brain and the ability to trace the representation of objects is attributed to it. But when the objects are removed, the brain state that takes their reality from them is also removed. It is only conserved because it passes from the idealist framework (which allows a representation to be isolated) to the realist (who does not admit it).

With the external objects present to the brain, representation occurs. Admittedly, this representation is not only a function of the brain state, but of both. The brain state and the presence of the objects constitute an indivisible block. But the thesis of parallelism consists in isolating the brain states and in supposing that they could create by themselves the representation of the objects.

Note that the essence of idealism consists in focusing on what appears in space, while realism considers that emergence superficial, as artificial divisions, and postulates reciprocal actions not always representable. Hidden variables are a need of the realist, not the idealist.

However, all scientific work always involves certain idealism, because it requires isolating phenomena to study them, abstraction being one of the prerequisites of experimental activity. In this way the realist is forced to hypostatize the representations that appear to her and to call them things. These *things* are receptacles of hidden virtualities, which allow to consider the intra-cerebral movements (already converted into things and not into representations) as if potentially, or virtually, they had the whole representation. And thanks to it can affirm the psycho-physiological parallelism. She forgets, however, that she had placed the receptacle outside the representation and not in it, outside space and not in space, that is, she forgets that an undivided reality has been supposed, articulated in a different way than the representation. And by making each part of the representation correspond to a part of reality, she articulates the real as representation; it unfolds reality in space and abandons realism to enter into idealism. The relationship of the brain with the rest of the representation is that of the part with the whole.

For the realist the brain cannot be an independent entity but in the hypothesis of parallelism it considers it as such. Therefore, in the hypothesis of parallelism there occurs a tacit shift from idealism to realism and from realism to idealism. We move astride the two systems, apparently reconciling two irreconcilable systems.

There is solidarity, but not equivalence, between brain and consciousness

If we accept this reasoning, we may feel puzzled and protest with an irrevocable empirical fact: the brain is absolutely necessary for consciousness.

Bergson gives a simple example: let us say that the presence or absence of a nut makes a machine work or stop working. Can it be inferred from this that each part of the nut corresponds to a part of the machine, and that the machine has its equivalent in the nut? The relationship between the brain state and the representation could be the same as that between the nut and the machine, that is, a relation of the part with the whole.

All that experience and experiment really show us is a certain solidarity between the life of consciousness and the life of the body (neuronal activity, the nervous system, breathing, etc.). But such mutual dependence does not mean the equivalence between both. For Bergson it is clear that consciousness is not a function of the brain, and that the brain does not draw all the details of consciousness. Rather, the brain is the place where the insertion of the mind into matter occurs. This sounds (and perhaps is) unacceptably dualistic. But let us hold on.

A simile serves to clarify Bergson's position regarding the relationships between mind and brain. Thought is oriented towards action. Actions (real or virtual) are simplified projections of thought in space. Motor activity is what is manifested in brain activity, which in turn is overflowed by mental activity in much the same way as the movements of the conductor's baton fail to exhaust a symphony. Such correspondence obfuscates that the brain is not, strictly speaking, the organ of thought, feeling or conscience (not even a store of memories) but only —and this is not a minor point— the place of attack of consciousness in matter. This is consistent with the effects of drugs, intoxications and other altered states of consciousness, as well as with lesions. In these phenomena what is affected is not the mind, but only its mechanism of insertion in the body.

[place **FIGURE 1** here]

2. IMAGE-MOVEMENT: A WAY FORWARD

Apart from exposing the self-contradiction of those who, from realism or from idealism, sustain the thesis of parallelism, it is possible to address the brain-consciousness problem from a stance that does not fall into similar flaws. In his 1896 work, *Matter and Memory*, Bergson not only demonstrates the dead-end; he also proposes a way forward (Bergson, 2012).

So false would it be to reduce matter to *representation* (as in Berkeley), as to make it a *thing* that produces our representations (as in Descartes). Matter is, for the French philosopher, a "set of images", but what he means by image has a greater existence than what idealism calls representation and less than what realism calls thing. The solution of the problem of consciousness then starts to look more like a dissolution.

When Bergson raises mind-body relationships in terms of memory and matter, his point of departure is to state that what we call the universe is a set of images. Among those images there are perceptions for the outside and affections for the inside (a stomach ache, for example). But the brain and the nervous system are in turn images, and it would not make much sense to say that an image can produce other images, because the brain is part of the material world, not the material world part of the brain. From the outset we must discard the representation of the world as a brain production. The brain is not so much a source, but a channel; it does not produce representations, it conduits movement. The horses of the western movie you watched last night were not in your living-room, nor in the cable that actually brought the TV signal to your house. We then face an even thornier problem: the possibility to conceive "stuff" that does not occupy space, but only time. *How* does the brain produce consciousness? *Where* is memory? Both questions are entangled. Both are ill-posed. Making the brain the condition of the image would be a contradiction. How to describe the situation then?

The essence of the proposal, as defined by Bergson, is that matter is a set of images, and my perception of matter are those very same images now in relation to the possible action of a very particular image, that is precisely my body. External images influence that other image that is my body, and my body in turn influences external images, receives and returns movement. What is decisive here is that the body is the center of action, as it occupies a special situation in the framework of images that is the universe. It exercises on the other images a real influence. Images, although they do not create each other, can influence each other (an influence that need not be circumscribed to effective causation). Thus, the objects that I perceive are those that reflect the possible action of my body on them. Bergson anticipates Von Uexküll's Umwelt.

To perceive then is to select the possible action of my body on the objects. Perception and memory are always intertwined. Our entire past survives and remains latent (why should it disappear, while objects in space do not when we do not perceive them?). But it is inhibited by the needs of the present (it does not have the strength to cross the screen of now). This is something that does not happen during dreams, when memory is inflamed. Hence, the suffocated or the hanged see parading concrete moments of his life before his eyes. Memory becomes uninhibited and inscribes glimpses of the past at that critical moment.

The brain selects and screens what happens around that image called body. But, can the nervous system be conceived without the atmosphere in which it breathes? Can the brain really think in a vat? Doesn't it need a body in the world? Is it not inconsistent to conceive an isolated material object, as Whitehead's notion of "internal relations" emphasizes?

The body is a center of action. This is probably a core point of friction between the objectivity of science and the subjectivity of consciousness. The first operates as if there were no centers (objectivity implies de-centering), while the second as if all the images orbited around a central image, the body itself. Situation matters.

Life is precisely to verify that there are systems of images related to a single, singular image, on which the others are regulated. Hence, Bergson affirms that perception has a completely speculative interest, which is pure knowledge. And all the discussion will be what rank should have in scientific knowledge—which tends to give a confused and provisional status—, while, from consciousness, science will only be a symbolic expression of the real.

Bergson's proposal is surprising (and to some extent perplexing for neuroscience): for the French philosopher, the nervous system does not produce or store images, its sole purpose is to receive, inhibit or transmit movement. Unless upgraded to some sort of "vibrancy", matter is incapable of creating the facts of consciousness, not even as epiphenomena or phosphorescences. To unfold his position Bergson dove into a subject that obsessed his time, that of memory. Actually, for Bergson consciousness is, above all, memory. Except if one is willing to see panpsychism as a logical conclusion of materialism, matter has no hidden powers by which it would engender images and representations. Despite brain mechanisms can condition memory, the brain is not the container of memories, nor a device of representation; it is an instrument of action.

Where is the past?

If the body is no more and no less than the one image in charge of collecting movements and transmitting or inhibiting them, if the body itself is one of those images (where the past survives in the form of motor mechanisms or independent memories), this allows to consider it as the moving limit between the future and the past. Brain injuries would affect those movements, not memories. Put plainly, memory cannot be located (neither in the brain nor in any other place) because it is not material; it is not extended. A lesion does not destroy memories as much as it severs the attachment of memory with reality, with the nascent or possible action that manages the brain, responsible for activating the sensory-motor mechanism.

That memory and perception only vary in degree is a modern idea that comes from Malebranche and Locke. Yet, Bergson insists that memory and perception differ in nature. For him memory is independent of matter. Thus, the need to erect the mind as an independent entity is imposed. And for this he must go into memory and confirm that between memory and perception there is no difference in degree, but a difference, and very radical one, in nature. When the situation requires it, memory comes to the encounter of perception which, in turn, summons the memories.

The error, according to Bergson, in conceiving memory as weakened perception lies in considering perception from its speculative facet and not from its vital aspect. If memory was knowledge without object, between it and perception there would only be a difference of degree. But the present is the moment in which life risks its destiny inclined to action. Real time has thickness, it is a *durée*, invading both the past, the present and, one could say, also the future. We are beings stretched towards what is to happen and reclined on what has already happened; always in movement. The present emphasizes on the past fundamentally because the body occupies its center. By not seeing a difference in kind between sensation and memory, we end up materializing memory and idealizing sensation.

Where is the past once fulfilled, then? Obsessed with space, we wonder where memories are stored. And so we conceive physical-chemical phenomena that, from the inside of the skull, give rise to it. The answer, so obvious, escapes us: in character. It is there where it has materialized. But here there is no relation of continent and content because it is not in the

space where we have to look for them, but in time; more concretely in the duration, in the consciousness of each one in the present moment. There it is, incisive, and ready for action. It has been said many times: all history is contemporary history.

In tune with Whitehead, Bergson states that there are no things, but processes and activity. Both subscribe to a process ontology, rather than to a substance ontology. Change, rather than stability, is fundamental. Faced with the idea of time as a homogeneous medium such as space, in which states of consciousness take place, as something that is filled with content and that would be there even if there were no content (conscious life), Bergson denies that time is something given (all given at once, as physics tell us), an empty container that hosts a variety of cognitive experiences. This supposes a falsification of *durée*, which is replaced by the homogenous time of the calendar and the clocks, indeed so indispensable for the construction of the objectivity of the empirical sciences.

In fact, all perception is already memory, and we do not perceive practically more than the past. The body is itself an image and so, being part of them, it cannot store other images. Past memories and present perceptions are not located in the brain; the brain is in them. This is an idea that synthesizes at a stroke the fundamental intention of the classic thought of India. The image we call body is, at every moment, a cross section of the cosmic evolution. It is the “place of passage” of the movements received and returned.

In beings perfectly adapted to life, the body is an insurmountable barrier to useless memory and a permissive sieve for the useful. An awareness freed from the necessities of life, freed from action, would be a dream consciousness (or as in psychedelic or near-death experience): it would find no reason to choose a memory instead of another. The body fixes the mind. It offers ballast and balance and allows detention. If it were to overflow it would produce a morbid paralysis in which the evocation would replace the present urgency; but if everything were memory we would be doomed to automatism. Between these two extremes, habit and novelty, the intelligence of life is decided. When that tension is relaxed and the balance is broken, attention is detached from life and vertigo, alienation and other mental states characterized by the loss of connection with the real occur, in some cases accompanied by a feeling of alienation of identity.

The question is not so much whether the past has ceased to exist but whether it has ceased to be useful.

[place **FIGURE 2** here]

3. CONCLUDING REMARKS: A MINORITY REPORT

Bergson rejects materialistic and idealistic monism. Both are excessive and precipitate. Like the authors of the present article, his goal is not so much to substitute the thesis of parallelism for some other hypothesis (even less so for another hypothesis presented as fact), but mainly to show its internal contradictions.

In a certain sense, he assumes, perhaps unknowingly, a Buddhist position. He does so in two senses. First, assuming a dictum attributed to the historical Buddha according to which the mind-body problem (or mind-brain, in this case) is insoluble (*avyakṛta*). Second, adopting the typical position of philosophers like the Buddhist Nāgārjuna (*mādhyamika* school), whose philosophical attitude consisted in reducing to the absurd the theses of his adversaries without proposing a thesis of his own. By showing the internal contradictions of a certain position, both for *mādhyamika* and for Bergson, one can draw a lesson to guide future investigations. The so-called “repulsive schemes” are “propulsive” as well: to expose the dead end is a way forward.

Our manuscript is also a “minority report”, whose objective is to challenge the very premises onto which the neural bases of consciousness are sought. At the same time, the reason for our critique of current neuroscience tendencies in the study of consciousness coincides with our fervent support of neuroscience in its efforts: its privileged position in the elucidation of the brain-mind relation. We believe that allowing for critical views and voices that are at odds with some of the dominant fundamental tenets of consciousness studies is a sign of intellectual courage and academic health.

The neuroscientist, too often, unknowingly speaks as a metaphysician. Virtually all neuroscientific efforts in the field of consciousness take for granted that the brain produces it, and thus are devoted to finding out how it does so. Yet, as we hope to have shown here, that the brain generates our subjective experiences is not a fact but a hypothesis presented as fact. Moreover, as argued, such philosophical commitment (often orthogonal to scientific data) leads to self-contradiction.

Parallelism is actually one of several materialistic attempts to surpass dualism by mutilating it. Amongst its variants we find: eliminativism (consciousness is a folk way of talking about what goes on in the brain), epiphenomenalism (consciousness is a by-product of the brain), illusionism (conscious activity is just an illusion, whereas brain activity is real), and cognitivism (consciousness, like cognition, is information processing, and the brain is, of course, a computer). Parallelism is (literally) doomed to remain lost in translation.

Ironically, the starting point of materialism is that of substances whose existence is independent. Its destiny, then, cannot then be other than to negate one of them. Of course, as one would guess, materialism will end up (sooner or later; in one form or another; with more or less vehemence) denying mind. But in order to overcome dualism, it is required to adopt a more sophisticated strategy than to rush to negate one side of it; one cannot get rid of the north pole of a magnet by splitting it in two.

If one assumes that the world is made of things, then establishing the precise role of the brain in consciousness becomes an arduous task haunted by contradictions. The same happens if one assumes it is made of ideas. If, however, and along the lines of the radical empiricists, one sees the world as made of images (as Bergson does) or prehensions (as Whitehead does), then a new field of theoretical possibilities opens, along with a different research program. The quest for consciousness, under this different conceptualization, is not so much to figure out how the brain produces consciousness but to establish the precise relationship between both.

The problem of consciousness is hard not because it is difficult but because it is false. What to do, then? Must the neuroscientist give up? Not really. Consciousness is real. And so is the brain. Figuring out the nature of their connection remains as an exquisitely wonderful problem. And, although there exist several alternatives (dual aspect monism, pan-experientialism, enactive approaches, process metaphysics), we insist that it is not necessary to promise a solution now. It would suffice to admit, to begin with, that empirical expedience does not take precedence over theoretical consistency.

Future research will look different were it to integrate the idea that the mind-body problem will not be solved. But it is particularly difficult for the scientist to admit “proofs of impossibility”. Scientific progress demands a constant striving forward. This is the “halting problem” of science. To the question “How does the brain produce consciousness?”, one must not rush to seek for an answer. It is important to hold on, and reply: “Does it really?”. Note that, according to Bergson, this is “the greatest problem that humanity can propose”. Bergson has the elegance to give up any kind of final solution. The approach is perfectible and this is the maximum one can aspire to. This is in contrast with the belief that neuroscience already understands the nature of consciousness in principle, only to fill in the

neural details in practice; an excess of humility after so much pride. The undeniable technological boldness of neuroscientists will be necessary but may be not sufficient in the time to come. Conceptual audacity is needed more than ever to understand consciousness. Climbing a tree is not the first step to get to the moon.

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FIGURES

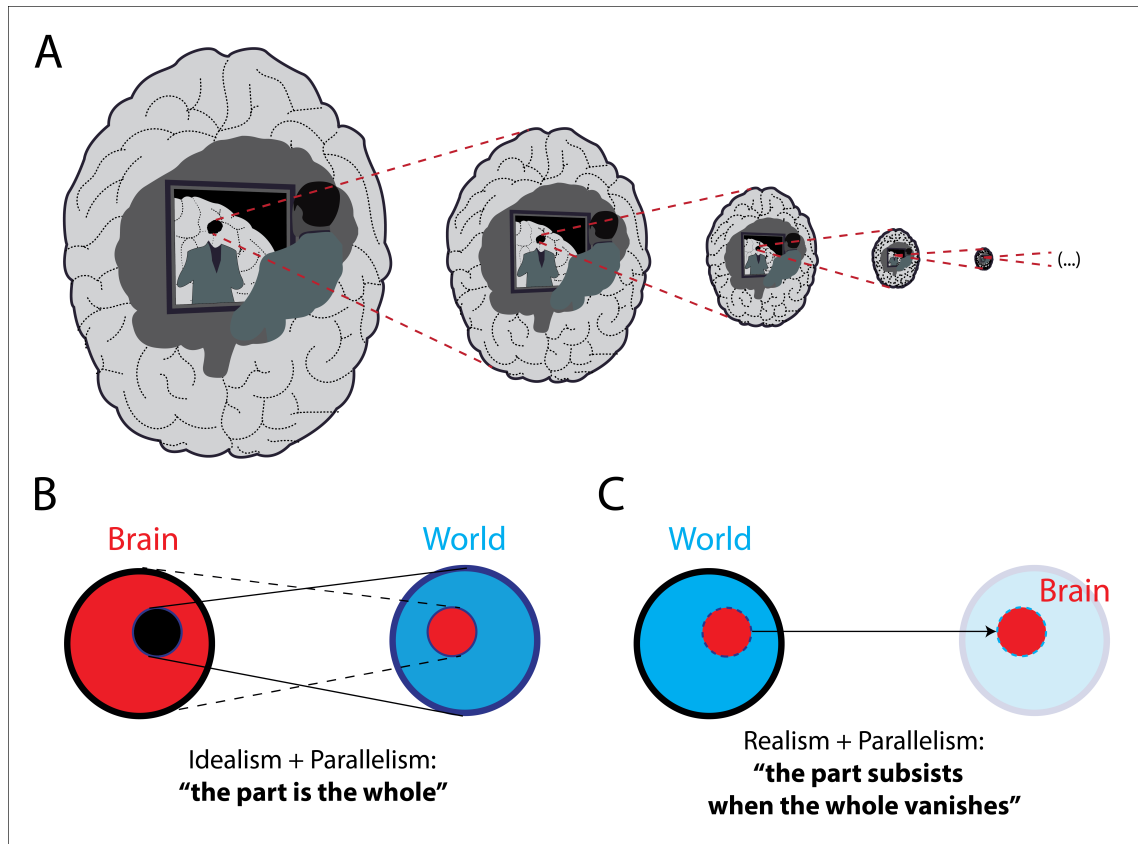


FIGURE 1. Self-contradictions of brain-consciousness parallelism. (A) The paradox of parallelism (consciousness is nothing but brain activity): the brain generates the world including the scientists inhabiting it and also the brain that their study, which in turn creates the world again and also itself again, and so on. As in Escher's lithograph the Print Gallery, this view of the relationship between brain and consciousness leads the Droste effect; an ontological and epistemological picture in which the brain and the world recursively appear within themselves. (B) Break-down of parallelism from the idealist position (reality is made of ideas beyond matter): the brain produces the world with itself in it. In adopting brain-consciousness parallelism, the idealist is forced to sustain the self-contradictory thesis that "the part is the whole". (C) Break-down of parallelism from the realist position (reality is made of matter beyond ideas): the brain, inextricable from the world, produces the world when isolated from it. In adopting brain-consciousness parallelism, the realist is forced to sustain the self-contradictory thesis that "the part subsists when the remainder of the whole vanishes". The way idealists (realists) try to elude their contradictions is to suddenly and momentarily swap to a realist (idealist) position. Yet, once adopted, each position is by definition incompatible with the other. Therefore, the contradiction remains and the thesis of parallelism must be abandoned.

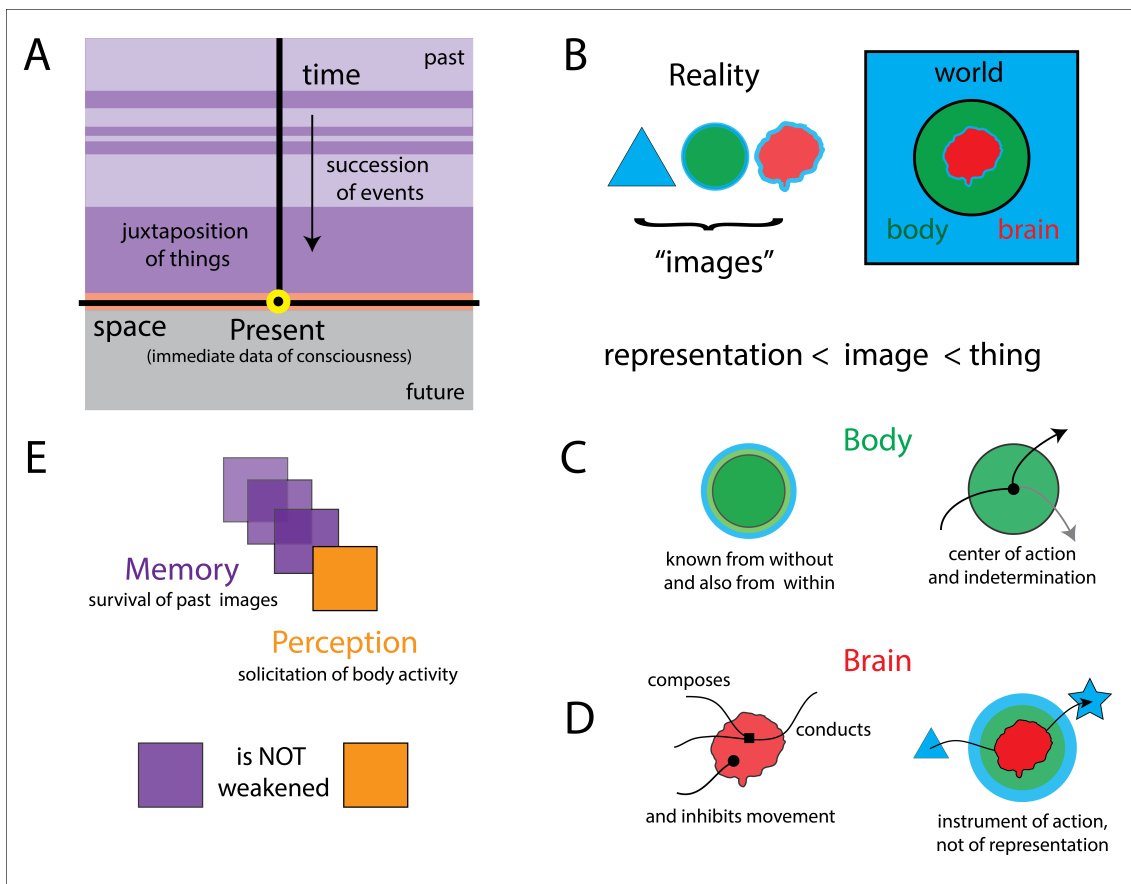


FIGURE 2. Alternative approach that avoids the false problem of consciousness.

(A) Difference in kind between space and time, perception and memory. Scheme adapted from *Matter and Memory* (Chapter III): Why do we accept without doubt that objects are still there in space even when we do not perceive the whole horizontal axis at once, but we only grant existence to the point in the present that we perceive along the vertical axis? (B) Bergson's image-movement scheme. Reality is a set of images. An image is more than a representation, less than a thing. Images can be without being perceived (and are present, not re-presented). Images influence (but do not create) each other. They receive and return movement. (C) The body is another image; a special one: I also know it from within. The body is a center of action, and of indetermination. (D) The brain is another image; one that conducts, composes, inhibits movements. It analyses collected movement and selects executed movement. The brain is thus an instrument of action, not of representation. To act is to influence images. (E) Memory is the survival of past images (which are conserved to become useful). There are two kinds of memory: pure memory (saves past experiences) and motor memory (repeats past movements). Memory is in time, not in space (which are essentially different). Memory is different in kind to perception. Perception is solicitation of the activity of my body. Perception does not create anything (because it cannot). Perception is not contemplation (it is selection). Importantly, memory is not weakened perception. In sum, the brain does not store memories. Consciousness is not in the brain.