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Experiences are Objects. Towards a Mind-object Identity Theory

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Abstract Traditional mind-body identity theories maintain that consciousness is identical with neural activity. Consider an alternative identity theory – namely, a mind-object identity theory of consciousness (OBJECTBOUND). I suggest to take into consideration whether one's consciousness might be identical with the external object. The hypothesis is that, when I perceive a yellow banana, the thing that is one and the same with my consciousness of the yellow banana is the very yellow banana one can grab and eat, rather than the neural processes triggered by the banana. The bottom line is that one's conscious experience of an object is the object one experiences. First, I outline the main hypothesis and the relation between mind, body, and object. Eventually, I address a series of traditional obstacles such as hallucinations, illusions, and commonsensical assumptions.

KEYWORDS: Identity Theory; Mind/Body Problem; Consciousness; Hallucinations; Illusions

Riassunto *Le esperienze sono oggetti. Verso una teoria dell'identità della mente in quanto oggetto* - Le teorie dell'identità tra mente e corpo di tipo tradizionale hanno affermato una relazione di identità tra coscienza e attività neurale. Si consideri una teoria dell'identità di carattere alternativo – propriamente una teoria dell'identità che intenda la coscienza come un oggetto (OBJECTBOUND). Suggestisco di considerare la possibilità che la coscienza di qualcuno possa essere trattata come identica a un oggetto del mondo esterno. Sulla base di questa ipotesi, quando percepisco una banana gialla, ciò che coincide con la mia coscienza della banana gialla è proprio la banana gialla che si può prendere e mangiare, piuttosto che il processo neurale innescato dalla banana. In definitiva l'esperienza cosciente di un oggetto che ciascuno ha è l'oggetto che si esperisce. In una prima parte, procederò con il delineare l'ipotesi principale e la relazione tra mente, corpo e oggetto. Successivamente cercherò di risolvere alcuni problemi di tipo tradizionale, quali le allucinazioni, le illusioni e gli assunti di senso comune.

PAROLE CHIAVE: Teoria dell'identità; Problema mente/corpo; Coscienza; Allucinazioni; Illusioni



TRADITIONAL MIND-BODY IDENTITY THEORIES maintain that consciousness¹ is identical either to neural processes or to their properties.² However, the identity between

brain and consciousness has not proved so convincing, due to the obvious difference between neural activity and experience. As a result, alternative second-best notions have

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been taken into consideration – e.g., emergence, local supervenience, constituency, minimal sufficient basis, correlation, and the like. From a scientific perspective, such efforts have been anomalous, though. In fact, in many – if not all – fields of scientific enquiry, scholars do not take into consideration such epistemic detours. They look for the real thing – be it a boson or a virus. As regards consciousness, I revert back to the original and stronger notion of identity which I take to be the only solution compatible with physicalism. In fact, I put forward a *mind-object identity theory* of consciousness.

Being a die-hard physicalist, I assume that, if consciousness is real, it must be physical. By physical I mean material – energy and matter being two forms of the same stuff.³ In this regard, I share Armstrong's view that «a man is a certain sort of material object».⁴ Yet, I would surely disagree on his opinion that such an object is “his material body” – an object surely is, but not his body. Consciousness must abide by the rules of the physical world – no ontological allowances are permitted. Like any other physical entity, from muons to raspberries, consciousness must be spatiotemporally located and causally relevant. In this spirit, the neural processes proposed by traditional identity theories are suitable candidates. Unfortunately, so far, the properties of neural processes do not match the properties of consciousness.⁵

I suggest to take into consideration another physical entity, namely the *external object*. In short, the hypothesis is that, *when I perceive a yellow banana, the thing that is one and the same with my consciousness of the yellow banana is the very yellow banana one can grab and eat*, rather than the neural processes triggered by the yellow banana – experience is physical but not necessarily neural. The bottom line is that *one's experience of an object is the object one experiences*.

Neural activity is not dismissed though. Its suggested role is causal rather than constitutive. One's body – sensorimotor apparatus and nervous system together – plays a con-

tingent causal role as, say, a dam plays a contingent causal role in the existence of a lake. The dam, though, is not the lake. The dam is made of concrete and bricks while the lake is made of water. Of course, I adopt a naïve ontological stance as to the identity of the lake – the issue at stake is not to pinpoint the nature of the lake (as opposed to, say, the water), but to stress the difference between lake and dam, whatever they are. Lake and dam occupy a different spatial location. They are different in all respects. Yet, in practice, if the dam were destroyed, the lake would disappear. *Ceteris paribus*, the dam brings the lake into existence.

In this paper, first, I will emphasize the key explanatory function of identity theories. Second, I will outline the main hypothesis and the relation between mind, body, and object. Third I will address, albeit in a sketchy way, a solution to a series of obstacles to such a view – ontological assumptions, hallucinations, and illusions. Finally, I will tackle commonsensical notions that might hamper the understanding of the proposal.

Identity theories and consciousness

Many successful scientific theories are identity theories. In fact, such theories are key to understand nature. For instance, evolution is an identity theory – it maintains that the process underlying species creation is a mixture of variation, transmission, and selection. Thermodynamics is an identity theory too – temperature is average molecule speed. Newton's gravitation theory is an identity theory – heavenly and earthly objects are inertial masses. And so forth.

In the natural sciences, identity theories are popular because they provide an explanation of the phenomenon A in terms of the phenomenon B. Usually, the explanation consists in providing good reasons as to why A is identical with B. Normally, adopting a naïve realist stance – like most scientists do – is sufficient to show that A's properties and B's properties are the same.

Thus, by Ockham's razor and Leibniz's principle of indiscernibles, A is B, and viceversa.⁶ In science, whenever possible, an identity theory is the right thing.

As regards consciousness, identity theories have occasionally suffered from an undeserved poor reputation. Traditional identity theories have suggested that consciousness is identical with neural processes or to the properties of such processes. Unfortunately, neural activity and consciousness do not fit well. Brains are gray and gooey, while experience is colorful, full of sounds and smells. It is filled with all manner of objects. Experience is akin to one's world. Because of such a mismatch, many authors either rejected the identity between consciousness and physical processes⁷ or developed some stripe of representationalism.⁸

Both options, though, step outside of physicalism. On the one hand, dualism (of any stripe) resorts to additional non-physical entities or properties. On the other hand, representationalism, too, alludes to properties that do not belong to the physical world – e.g. *having a content* or *being about something*.⁹ In fact, so far, we do not have a naturalistic theory of representations.

More scientifically-oriented scholars have endorsed updated versions of traditional mind-brain identity theories,¹⁰ although they are not keen of calling them so. Most of such proposals are centered around the common premise that the physical processes *producing*¹¹ experience are located *inside* the body, the nervous system, the brain.

Ned Block reckons that such a view is the current orthodoxy – i.e., «the brain is the minimal constitutive supervenience base for experience»¹² – a view labeled BRAINBOUND. Jessy Prinz, too, admits that «a central plank of modern materialism [is] the supposition that consciousness supervenes on the brain».¹³ Such a view is held by many – if not all – neuroscientists too.¹⁴ Anil Seth states that «Any scientific study of consciousness is based on the premise that phenomenal experience is entailed by neuronal

activity in the brain».¹⁵ Christof Koch echoes that «If there is one thing that scientists are reasonably sure of, it is that brain activity is both necessary and *sufficient* for biological sentence»¹⁶ and «the entire brain is sufficient for consciousness – it determines conscious sensations day in and day out [...] likely a subset of brainmatter will do».¹⁷

Yet, BRAINBOUND, although extremely popular, has never been backed up by any conclusive evidence. Block himself admits that he has never heard anyone stating «that if a fusiform face area were kept alive in a bottle, the activation of it would determine face-experience – or any experience at all».¹⁸

In other words, there is no definitive proof that a chunk of neurons carrying on certain chemical processes could, by itself, produce consciousness – not to mention be identical with consciousness. Neurons do not look like conscious experience at all. Does this mean that we have to give up the hope for a physicalist identity theory of consciousness (as many philosophers and scientists did)?¹⁹

I do not think so. In fact, neither is BRAINBOUND essential for physicalism nor is it for identity theories. Mind-body identity theories are based on two key claims (of which only one is BRAINBOUND):

1. consciousness is identical with a physical phenomenon (PHYSICAL)
2. such a phenomenon is inside the body or the brain (BRAINBOUND)

The good news is that the two claims are utterly independent. It is easy to concoct possible scenarios in which one of them is true and the other is false. Crucially, only the denial of PHYSICAL is incompatible with physicalism because it entails that there is something – namely consciousness – that is not physical. The two issues have been confused to such an extent that the philosopher Jaegwon Kim feels plausible to state that «if you are a physicalist of any stripe, [...] qualia

are supervenient on the internal physical/biological states of the subject».²⁰ This is not a valid inference. To me, it looks like a *non sequitur*. Pace Kim, only PHYSICAL is mandatory for physicalism. BRAINBOUND can be either true or false. No analytical, metaphysical, or nomological laws binds BRAINBOUND to PHYSICAL. Furthermore, BRAINBOUND has never been empirically confirmed.

Mind-Body identity theories have not failed because PHYSICAL proved to be false. Mind-body theories have failed because BRAINBOUND proved to be empirically false since no physical phenomenon has ever shown any of the properties of consciousness inside the body.²¹ As a result, traditional mind-body identity theories have failed since they required both claims to be true (PHYSICAL and BRAINBOUND).

Luckily, since BRAINBOUND is not essential to physicalism, an unscathed identity theory is still available – namely, a *mind-object identity* theory. I propose to consider another hypothesis – namely, that the experience is the external object itself (OBJECTBOUND). We can thus reject BRAINBOUND and keep PHYSICAL.

■ A mind-object identity theory

Without any further ado, I outline a tentative mind-object identity theory. The key hypothesis is that *consciousness is identical with the object one experiences*. Thus, physicalism is safe. PHYSICAL holds while BRAINBOUND does not. In this section, for the sake of explanation, I consider only cases of standard perception in which what one perceives is actually there – one perceives a yellow banana and there is a yellow banana.

Suppose you perceive a yellow banana. Your body B and the yellow banana O on the table are all we need.

O B

Thus far, no extra entity is needed to

model what goes on. Your body is numerically different from the yellow banana. Two physical entities with different properties – the banana and your body – face each other. The problem arises when your experience E of the yellow banana is added to such a picture. *What* and *where* is E? What and where is the thing that your experience of the yellow banana is? Either we assume that E is somewhere inside your body, as brainbound scholars do, or we look elsewhere. Where? In the object itself.

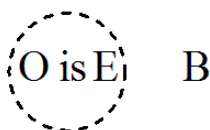
If we assumed that E is B – or some property of B or inside B –, we would face an explanatory failure. Such an E would be utterly and hopelessly different from one's actual experience; E would be utterly different from the object too. Yet, we can still play an unscathed alternative, namely the external object itself. In the above example, the yellow banana. If neural activity is a suitable physical entity, the yellow banana, too, is suitable. Both entities are physical. Only parochial anthropocentric prejudices would attribute special properties to the former and deny them to the latter.

Henceforth, the alternative hypothesis, OBJECTBOUND, is that E is O itself – *your experience of the object is the external object*. In this way, E is O, B is B and O is O. If E were identical with O, it would no longer be a mystery that E had O's properties. In fact, if the identity between object and experience held, one's experience E and the object O *would be one and the same*. Given Ockham's razor and Leibniz's law of indiscernibles, the object and one's experience would be one and the same.

After all, your experience of the object is yellow and bananish. The banana in front of you is yellow and bananish too. Your experience has the same properties of the object you perceive. Isn't it a promising start? In fact, many have observed that our experience is not different from the surrounding world²² – it is made of objects, people, cars, buildings, trees, clouds, the sun, and stars. The physical properties of the body and those of the objects are known. They match! The brain is

pinkish-grey, gooey, and bloody. The banana is yellow, elongated, and bananish. Your experience is yellow, elongated and bananish. What is the thing that is yellow, elongated, and bananish? The brain or the yellow banana? The answer is obvious – the banana! What more do we need to reckon such an obvious identity?

Whenever you perceive – and thus experience – a yellow banana, something has exactly the properties you experience – namely, the yellow banana. E is identical with O. The difference between neural activity and experience is no longer a reason to reject physicalism since consciousness is no longer inside the brain. The object triggers neural processes in one's body, but both the object and one's experience are numerically different from the body. E is O. B is neither O nor E. However, B allows $O=E$ to exist like the dam allows the lake to exist – the relation between the body and the object will be outlined in detail in the next section.



At this stage, a very likely objection is whether the object – the banana on the table – is really like my experience when I look at the banana. Do the banana and my experience have all and the same properties? I am well aware that, as of Galileo's time, the standard reply is negative. However, I believe a positive answer can be defended. I split the reply in two halves. On the one side, I will address the properties of the object. On the other side, I will address the properties of the experience.

As regards the object, one should distinguish the ideal object from the actual object one experiences. The ideal object is an abstraction that is tremendously useful in science and accounting but something nobody ever gets acquainted with. Such an object is like the notion of center of mass, useful but

immaterial. Conversely, the actual object is the object one grasps, sees, smells, and eats. It is something that always begins and ends inside an actual causal interaction. There is not enough space here to probe deeper into the connection between existence and causation, but it ought to be enough to note that the objects one sees are made of those properties that are causally coupled with one's body. For instance, the banana on the table is undoubtedly emitting infrared. Yet, I am blissfully unaware of such an additional radiation and as regards the banana I see, infrareds are immaterial. In other words, the object I summon is the object made of those very physical properties my body picks out. We do not need anything else. Other physical properties (infrared, neutrinos, hidden features) are simply not part of the (actual) object I experience.

Actual objects are all the objects we need. In fact, whenever we interact with an object, it is an actual object. It is the object that is singled out by the particular causal interaction our body allows. Therefore, the traditional objection that the banana and the experience of a banana surely share many properties – such as being yellow and bananish –, but the banana has at least some properties that the experience of a banana lacks – such as being edible, being of a certain mass, coming into existence at a certain time – is not effective since such an alleged banana is an ideal banana. It is neither the actual object nor our experience of it. It is not the actual banana we deal with.

It is a fact that, for practical reasons, it is useful to lump together several actual objects in an ideal big bundle of properties. Yet, such a bundling is neither necessary nor always possible. For instance, consider Monna Lisa. Monna Lisa has, of course, a certain mass and thus a weight. Yet, no one – but Leonardo and some very restricted historians – has ever experienced Monna Lisa's mass which is, as regards the object everyone sees at Louvre, utterly immaterial. Or, consider a cartoon character like Mickey Mouse – what is its weight?

On the other hand, even the most complete account of an object is surely missing some outlandish physical property that only some esoteric causal circumstance might bring to life. However, nobody feels the need to go to such lengths to describe the object. Truth is that the alleged object is a standard list of physical properties as human environments usually allow. Such a list is never complete. The actual object, just sketched, is not a temporal part of an object, it is a physical object in its own right. It is not a subset of the ideal object. Rather, the notion of ideal object is akin to that of a center of mass or a meridian.

A useful analogy is offered by the fridge light. Whenever we open the fridge door, the electricity flows and the light is switched on. As a result, whenever we check whether the light is on, the light is on. Of course, thanks to our understanding of the fridge structure, we know the light is not always on. Yet, we never see the light off. In the case of the actual objects that compose our everyday world, the equivalent of the open door is our own body.

Whenever our body is in one location, the physical world takes place in a certain way and thus a given actual object is singled out. The actual object, though, is neither a *mental entity* nor *something inside our body*.

The actual object is a real physical object, located in the external world. It triggers a process that happens to end in our brain and requires our body to complete. When the fridge door is open, the current flows and the light is switched on. Likewise, when our body is in a certain place, a certain causal process flows, and its cause pops out into existence as a distinguishable whole – the cause being the actual object. Since the object exists whenever our body is in the right place, the object – which is our experience – for us is always there, as the fridge light.

The notion of actual object does not endorse any form of idealism. On the contrary, it does not require any appeal to mentalistic notions. The claim is that one's experience is identical to the object that is the external physical cause of one's neural activity. This

does not mean that the banana comes to exist (or ceases to exist) together with the experience of a banana, apart from the trivial fact that they are identical and thus they cannot exist separately. The banana is not brought into existence by the experience. The banana, as any other object, is brought into existence by a causal process.

As it happens, the causal process takes place thanks to one's body among other factors. Thus, the actual object, which is at once the external object and the thing usually called "experience", takes place whenever my body is next to certain physical conditions. Coherently, the actual object does not exist unless the body is at the right place too – the lake does not exist without the dam, the light is not switched on unless the door is open.

A visual banana is, of course, a different object than a tactile banana or a gustatory banana. Such objects are different causal objects. They are different causes singled out from the physical continuum by different processes. Molecules that are key causes for the somatosensory cortex are completely immaterial for the visual cortex. The neutrinos inside the banana are utterly immaterial for any human bodily structure, and so forth. We lump together the visual banana, the tactile banana, and the gustatory banana for economical but parochial reasons – i.e., the banana can be eaten only once.

As regards the properties of one's experience, the widespread belief that the experience of the banana is different from the actual object can be challenged too. Consider again the banana. What properties has my experience that the banana has not?

It might be argued that the experience of a banana has at least some properties that the banana lacks – such as being private (and not sharable), coming into existence at a certain time t_1 , ceasing to exist at a certain time t_2 etc. Yet, the notion of actual object overcomes such issues.

First, the actual object is both private and physical. It is private in the same sense in which every rainbow is private because it is

defined by the location from which it is seen.²³ It is physical too, since it is not inside the mind, but it is there, in the cloud, made of only those raindrops that the sun's and the beholder's position single out.

Second, the actual object is the cause of one's neural activity. Thus the actual object – as the fridge light analogy should make clear – is part of what my experience is at the right moment in time. The same actual object, though, might exist because of other causal circumstances of identical effect. The human body is not special in any respect. The human body is just a structure that embodies the causal conditions that allows the world as we know it to take place. Of course, from our parochial perspective, our human bodies are paramount. Human bodies are the conditions that allows the objects, our experience is identical with, to exist. Thus, in practice, we cannot exist without our bodies.

Third, one might continue to rebuke that the experience of the banana has perspectivalness, phenomenal character, intentionality, qualitative properties, and so forth. Yet, and forgive me if I am preposterously brief on such a key topic, all these properties have not been experienced, they have been conceived to back up the alleged gap between consciousness and the physical world. Once such a gap is set aside, don't they disappear?

For instance, Nagel's notion of phenomenal character is mostly a reaction to the mind-body problem in terms of identity between mental states and brain states. His claim that «an organism has conscious mental states if and only if there is something that it is like to be that organism [...] We may call this the subjective character of experience»²⁴ is an offshoot of the idea that experience must be *inside* the body, or a property of what takes place *inside* the body. Once this assumption is set aside, the mind-object identity reboots the whole discussion.

The identity between experience and external objects, if workable, does not need an ineffable subjective character. Subjective phenomenal character was required to overcome

the limitation of the traditional mind-brain identity hypothesis. In contrast, if experience and objects are one and the same – exactly the same –, no subjective character is required.

In fact, the mind-object identity puts forward a solution to the issue of aboutness (aka intentionality). Aboutness becomes unnecessary. Experience is no longer *about* or *of* the banana – experience *is* the banana. Experience does no longer access the external world, experience *is* the external world. In fact, the appeal to aboutness has always been a case of *obscurum per obscurius*. Brentano had the latitude to appeal to intentionality since he was a sort of dualist. In the physical world, aboutness among objects has never been spotted. Semantics has never been part of the list of physical properties. Objects are just what they are. Bananas are bananas. Human bodies are human bodies. Neurons are neurons.

A caveat. OBJECTBOUND is not a stripe of panpsychism. I do not claim that the external object has phenomenal properties smeared over it. After all, panpsychism is a form of prodigal dualism. I stress that we have no reasons to posit any additional phenomenal properties in addition to the properties the physical world has. Physical properties are *both* the familiar properties of the world we experience *and* the properties of our experience that is our experience – the two being the same. There is no need for an additional and unfathomable phenomenal layer – no matter to what extent phenomenal qualities are distributed prodigally.

To recap, I do not balk at the question as to whether the properties of the object and the properties of the experience are the same. Once the object under scrutiny is the actual object – the two sets of properties are exactly the same. Or so I will argue. There is nothing in one's experience of an object that does not partake the object and, viceversa, there is no need to conceive the object as anything but what one experiences.

Philosophical intuitions might have been different if people had compared experience with external objects rather than with neural

activity. If, due to various preconceptions, one looks for experience in the wrong place, one will likely yet erroneously conclude that nothing physical is like one's experience. In fact, neural activity is not. Yet, the external object might be. BRAINBOUND does not hold. OBJECTBOUND might do.

■ Mind, body and world

Three traditional notions – “mind” (aka experience), “body” and “object” – can thus be revisited. The body is an observable part of the physical world. It has causal properties. It is spatiotemporally located. It is a physical entity. Its properties are quantifiable and measurable. The external object is amenable to observation and measurement. It is physical. It has causal properties. Its properties are quantifiable and measurable. Up to here, neither of them is ontologically problematic. Everything is physical observable and causally efficacious. Then the mind (aka experience) jumps onto the stage. Where and what is the mind then? The proposal is that the mind is physical but not inside the body. At any given time, the mind is the object, or the collection of objects one experiences.

What is the role of the body? The body allows the external object to exist and to interact with other objects. The body is a sort of causal enabler. It enables the world we experience to have the very causal properties we experience. The body brings into existence the objects our world is made of. The world we live in and our experience of the world are, in such a model, one and the same.

A good metaphor is offered by the aforementioned dam and lake. A dam is among the necessary conditions for the lake formation. However, the lake is not the dam. The lake is made of water while the dam is made of concrete, brick, and steel girders. Furthermore, if a draught occurred, the dam would not create a lake. The lake takes place – and thus it exists – thanks to many conditions (a suitable terrain, a certain amount of rain, the dam). From a builder's perspective,

the dam is key for the existence of the lake. Yet, the lake is neither *identical with* nor *constituted by* the dam. The dam plays a contingent causal role. A dam-lake identity theory would fail. Likewise, the body plays a contingent causal role insofar the object one experiences takes place. The body singles out a certain object among the many possible ones.

Back to the object, you see a banana from a certain angle and with certain properties – color, smell, texture – among the infinite possible ones. Such a banana, which is outside your body, is a subset of the physical world, it acquires causal relevance thanks to the interaction with your body that has certain sensori-motor and cognitive skills. The body allows such a banana to exist. The banana you perceive, though, is not God's banana, so to speak – it lacks many physical features that an ideal object would have. It is not the ideal banana. For instance, you do not perceive the inside of the object, nor the hidden side, nor many chemicals, nor infra-reds. And so forth. It is the actual banana.

The banana is a subset of the physical continuum in front of your body. The object you perceive is the one your body selected among many available ones. The banana remains outside the body and it is not a property of the body, as the lake remains outside of the dam. Experiences are not inside bodies, but bodies are necessary for the physical things one's experience is made of to exist. We are such things.

In this case, language is misleading. The traditional sentence “we have an experience of an object” is confusing since it suggests that there is a multitude of entities – i.e., we, the experiencing of something, and the external object. The hypothesis I put forward is much simpler: there is only one thing – i.e., the object – which is our own experience. We are our experiences, too. We are physical then.

Not only the external object has the same properties of experience, but it is also there when we experience something. Thus – leaving momentarily aside memory, dreams, misperception, illusions and hallucinations –,

the external object is an obvious physical candidate for consciousness.

The body, or some part of it, is clearly necessary, but it is neither *sufficient* to nor *identical with* conscious experience. The body has a contingent necessary causal dependence that is coherent with the wealth of data from neuroscience. In fact, all evidence gathered by neuroscientists has never provided a single case in which neural experience is *absolutely sufficient*²⁵ for consciousness. Neuroscience has proved only that neural activity is *contingently necessary* for consciousness. By contingently necessary I mean something weaker than being necessary. For instance, so far, no scientists have been able to rule out machine consciousness. No scientist has ever been able to suggest any kind of necessary link between the carbon-based molecules featured by living organisms and consciousness.²⁶ Actually, many believes machine consciousness is a real possibility.²⁷ If machine consciousness was possible, neural activity would not even be necessary. The bottom line is that, at best, neuroscientists have provided evidence only for very weak forms of necessity.

To recap, without the body, conscious experience cannot occur because the object does not take place. Yet, consciousness is not a property of the body. Neither is it something additional to the object.

One's experience is the object and the object is one's experience. The body allows a collection of objects to act together. In other words, the body allows a subset of the world – i.e. a collection of objects – to take place as a composite spatiotemporally super-object, which is an object nonetheless. At any given time, such a super-object is what we call one's mind (or one's consciousness) – which is nothing but a collection of objects.

Can the solution to the mind-body problem be so simple? Can changing the physical candidate for experience from the body to the external object be enough? I suspect it is. I am also aware that such a hypothesis will face formidable skepticism.

At first sight, one might be puzzled – ex-

perience and objects? Aren't they supposed to be different? Doesn't a whole legion of classical philosophical arguments place a chasm between experience and physical objects? Isn't there a general consensus that consciousness and objects are different and even incommensurable? Yes, but most of traditional fences between mind and world have been an offshoot of BRAINBOUND. In other words, many scholars have held that experience and world are different *because* they assumed BRAINBOUND to be true.²⁸

Commonly, the widespread consensus that experience does not fit with reality has thrived on two alleged gaps.²⁹ On the one hand, it has meant that *our experience does not fit with reality*. I perceive a yellow banana and there is a yellow banana, yet the physical banana is not really yellow like the mental banana I experience. For instance, neuroscientists are keen to point out that colors are in the head and objects are not really colored.³⁰ On the other hand, it has meant that *what we experience does not fit with reality*.

I see a yellow banana and there is no yellow banana – e.g., I hallucinate a yellow banana.³¹ Historically, such gaps have been further articulated in four recurrent issues.

- 1) Experience is different from physical processes (*hard problem*)
- 2) Experience is different from what experience is about (aboutness, and the vehicle/content distinction)
- 3) What experience is about is different from what there is (hallucination)
- 4) What the is about is different from what the experience is supposed to be about (illusions)

Let's address such issues one by one.

■ Hard problem

The notion that a gap keeps mental and

physical properties apart is a sort of dogma at least since Galileo³² and it has recently been rebranded as the *Hard Problem*.³³ The main point has not changed much though, namely the mental properties we experience are different from the physical properties of the world. And yet, has such a dogma ever been observed rather than stated?

In fact, how could anyone check whether phenomenal properties are different from physical ones if physical properties are taken to be, by definition, impossible to experience? How do we know that physical properties are not like the properties we experience day and night? We can assume it, of course. But it is a self-defeating assumption. In fact, if physical properties were really hidden by phenomenal properties, nobody could check what they are like. Conversely, if we experienced physical properties directly, we could not check whether they are akin to phenomenal properties. However, if this were the case, the premise would be false.

The *Hard Problem's* might not be as undisputable as it has often appeared to be. We could not compare experience to the world, if experience and world were different. On the one side, if experience was ontologically different from the world, how could we compare experience with physical entities to verify to what extent they match? On the other side, if experience were not physical, we would not be able to confront it with the physical world, because, as mentioned above, it would be completely incommensurable. Yet, we compare experience and world routinely.

When we look at our experience, we see the world – we see chairs, colors, people. In contrast, if we look inside our bodies, nothing matches our experience – we see neurons, bones, and blood vessels. It is a fact that the properties of our experience are different from the properties of our brains. The difference between brain and experience does not mean that no physical entity has the properties of our experience. It means only that our brains are not the right entity. External objects might be the things our brains are not.

The hard problem stems from considerations of the sort – “I see green peas but nothing in my cortex is like green peas” or “I smell a rose but nothing in my entorhinal cortex smells like a rose”. They are correct claims, of course. Yet, they do not rule out the possibility that something else might be like green peas or roses. What about green peas, and bananas?

In fact, since we experience roses, peas, and bananas, there must be something in the physical world that is identical with our experiences. Roses, peas, and bananas are a nice option that is fully compatible with physicalism. To recap, the hard problem is an offshoot of the demise of mind-body identity theories.

Aboutness

Another traditional conceptual crutch that has kept experience and world apart without having to pay a too high ontological price is the representational stance – namely the notion that representations have the luxury of being physically different from what they represent. Such a notion is correct in the case of conventional representations that benefit from the agreement of a community of users arbitrarily stipulating whatever association they like between symbols and their meanings.³⁴

Yet, it does not work in the case of mental representations insofar as they lack aboutness or intentionality. Such a power would be very handy, if only were real. Unfortunately, apart from the mind, there is no evidence that anything else had any intentionality. Pebbles and stars are just pebbles and stars. Physical entities are not about something; they are what they are.

Likewise, it would be unreasonable to request or to hope or to demand that neural processes are anything but neural processes. Why should they let emerge exotic properties – e.g., aboutness – that physical laws neither allow or foresee? The elusive notion of *intrinsic* intentionality has never popped out from any physi-

cal system. Postulating the mental and hoping to find such a property in the physical world – as many scholars have done since Brentano³⁵ tumbles down into dualism.

As regards conscious experience, we can step back and avoid the whole *aboutness* circus. Aboutness, semantics, and intentionality can be left to more epistemological levels of explanation. The issue at stake here is whether our experience of the yellow banana is a biological activity that, by virtue of being about the banana, gives us the experience of a yellow banana or whether our experience is yellow and bananish.

The latter option, the one I defend here, has never been taken too much seriously into consideration because of an obvious setback – the purported physical phenomenon, which is neural activity, has never had any serious possibility of being yellow and bananish. A different option – the external object – extinguishes the need for aboutness.

It's not obvious what should the traditional distinction between vehicle and content amount to, in the physical world. Of course, conceptually, the distinction is crystal clear. Yet, physically, what does it amount to? I understand the difference between the length and the mass of an object. But who has ever observed the content of a physical entity as opposed to that physical entity as such? Nobody, of course.

If we observe a memory cell, we do not see its content, we see the electronic circuit. We can see the content only if that electronic circuit pilots a graphic card or a printer. In fact, such devices are designed to build physical replica of objects either by means of colors on a screen or ink pigments on a sheet of paper. Colored screens and stained sheets are further physical objects – they are not content. In the brain there are neither screens nor pigments. Thus, from a physical perspective, the distinction between vehicle and content is once more a costly addition to the physical world.

To recap, the presented hypothesis suggests that experience, too, is like everything

else in nature – i.e., something that is only what it is. However, since *experiences are objects*, both the vehicle/content distinction and aboutness are no longer needed. The notion of intentionality and the vehicle/content distinction arose because it was held that E is physically realized by B. Since everybody saw that B was not O, B had to somewhat reach out for O. OBJECTBOUND sets the matter differently. If E is O, the intentionality arrow is no longer needed. E is already where it should be. E is O. If E is O, E need not to reach O. E is already there. Identity is much stronger than intentionality. Moreover, identity is compatible with a physical world.

■ Hallucination and dreams

At this point, I suspect, many readers are eager to advance a crucial objection, namely misperception. The obvious empirical reason why many scholars have gone to such lengths to keep experience and world apart has been that, allegedly, experience can take place without any object – e.g., in cases of hallucination or dreams, Macbeth sees a dagger and there is no dagger. Alternatively, one experiences the object differently from what the object is – e.g., in cases of illusions, Emily sees a reddish patch but the patch is gray. Does OBJECTBOUND survive such cases? First, I will address hallucinations.

Hallucinations have been so influential on mind scholars that they have become the standard reference for any model of experience – everyday perception included. Fair point. Both in science and in philosophy, it has become customary to explain perception in terms of hallucinations rather than the reverse, which is puzzling.

In my opinion, it would seem a lot more reasonable to start from perception and then to proceed towards abnormal cases. After all, from an evolutionary perspective, perception is surely more fundamental than hallucinations. Moreover, the hallucinatory oriented explanation of experience does not provide per se any solution as to why experience

should take place and be what it is.

Postulating that experience is a form of environment-driven hallucination does not provide any clarification about the nature, the cause, and the role of experience. If anything, it adds mystery to an already obscure matter.

The dreaming brain is often presented as the paradigmatic case of an isolated physical system allegedly capable of producing consciousness. According to Atti Revonsuo the

dreaming brain shows us that sensory input and motor output are not *necessary* [...] The dreaming brain creates the phenomenal level and [...] provides us with insights into the processes that are *sufficient* for producing the phenomenal level.³⁶

Revonsuo is unambiguous. If the dreaming brain were sufficient to create a fully blown phenomenal world regardless of the world, sensory-motor input-output would no longer be necessary. Yet, is the dreaming brain truly disconnected from the environment?

Many neuroscientists and philosophers believe so. Giulio Tononi and Christof Koch take that it is a platitude that

when we dream, we are virtually disconnected from the environment. We acknowledge almost nothing of what happens around us, and our muscles are largely paralyzed. Nevertheless, we are conscious, sometimes vividly and grippingly so.³⁷

Yet, neuroscientists often underestimate two key facts: (1) the brain is always the outcome of previous interactions with the world – no matter how far in the past; (2) there is no evidence one could dream anything whose constituents are not part of one's world.

When we hallucinate a yellow banana and no yellow bananas are available in the proximal surroundings, we conclude that we experience something that does not exist. It's easy to see the logical steps that lead from such an alleged empirical fact – experiencing something that does not exist – to the experi-

ence/world apartheid. In fact, if one experienced a banana that does not exist, it would be tempting to hold that experience is indeed independent from the world.

Moreover, since neural processes do not resemble bananas, the widespread but troublesome view that there are three items – a vehicle (the neural process), content (the banana one experiences), and the object (the banana one grabs and eats) – seems very convincing. Still, such a view is based on the assumption that we know what our experience is and, crucially, what our experience is about. Only if we assumed we know both terms, we could conclude that they are different. In fact, the whole chain of inferences is based on two premises, namely (1) S experiences O, and (2) O does not exist.³⁸

While there has been a lot of debate about the first premise – e.g. disjunctivism is based on its refutation³⁹ –, almost none challenged the second premise. I take the first premise to be true, but I challenge the second one. While I do not pretend to provide a complete refutation of it, I believe it is possible to highlight some cues as to why the alleged absence of the physical object might have been overestimated.⁴⁰ To be clear, I will argue that whenever one hallucinates a banana, the banana exists. O does exist. The rebuttal of the second premise – O does not exist – comes in two steps.

First, I note that, to the best of our knowledge, everything we dream or hallucinate is made of elements we have met before. Dreams and hallucinations can provide new combinations, but they do not concoct new elements. Dreams are made of objects and properties their dreamers have met during their lives. For instance, congenitally blind subjects neither dream nor hallucinate colors.⁴¹ Charles Bonnett patients hallucinate replicas of their previous lives, albeit reshuffled.⁴² Penfield's subjects hallucinate previous life episodes.⁴³ And so forth.

In short, it appears that dreams and hallucinations are literally made of pieces of the physical world one lives and has lived in. Hallucinations and dreams do not create new

mental components, rather they recombine the properties and the things their world has been made of. Hallucinations are chimeric.

The traditional philosophical notion of hallucination fleshes out a phenomenon that has no necessary connection with the actual physical world one lives in – after all, that’s the point of having a hallucination, isn’t it? No, it is not. Actual hallucinations are different. If the actual evidence and hallucinators’ reports are scrutinized, a completely different picture emerges. Hallucinations are not arbitrary concoctions. They are constrained by the world subjects live in. Hallucinations are more similar to a chimeric reshuffling of the physical world one lives in, than the outcome of an unconstrained mental generator.

Yet, a doubt is on its way – often such previous objects, events, and their properties are no more. They were part of one’s life but they no longer exist at the time of one’s dream or hallucination. For instance, you dream of a banana today, but you ate the banana yesterday. Thus the banana cannot exist at the time of your dream. To solve this obstacle, the second step, perhaps the most critical one, kicks in. In short, the idea is that, due to nomological speed limits, everything we perceive is – to some extent – in the past. Thus the present is not what takes place at a given time, but rather it is the set of events that causes neural activity at any given time.

In the case of standard perception, we assume that the object we perceive is there at the time and the place where we are. This picture is, clearly, a gross approximation. As a matter of fact, the object we perceive is never in the same place where we are. It might be a few inches or thousands of miles farther away. I can look at a banana on my desk or I can look at the sun. There are no ontological gaps between such cases – they are points on a continuum. Thus, from a spatial perspective, the notion that the object is “there” can be stretched at will. “There” can mean something as far away as billions of miles.

Once the notion of “there” has been stretched spatially, one might venture to

stretch it temporally too. In fact, due to the mentioned nomological speed limits, every phenomenon extended in space is also extended in time.⁴⁴ Thus, although most everyday phenomena are so close that the time delay is negligible, they are not synchronous either. In many cases, the time delay can be huge. For instance, a familiar object like the moon is one second away from the corresponding neural activity; the sun is eight minutes away; stars can be years away. In short, a temporal continuum can be envisioned, too. Thus, we can consider a spread now. In fact, a proximal notion of the now does not make any sense.

In short, my rebuttal of the second premise is straightforward – whenever S experiences O, O is there, provided that the notion of “there” and “now” have been revised and stretched. Whenever we experience something – be it a standard perception, a dream, or a hallucination – to the extent that what we perceive has occurred at some place and time, the object is still the cause of one’s neural activity. Thus the object may well be the thing that is identical with one’s experience, no matter when or where it occurred.

On the other hand, the standard view – albeit apparently more reassuring – is not without problems. In fact, the notion that one perceives only nearby objects is parochial and vague. How near should an object be to be near enough? Neither in time nor in space, valid thresholds are available. All objects and events occur at an earlier time than one’s neural activity.

By nomological necessity, the external cause of everything that takes place in our brain is in the past. Such past can be relatively near or very remote as is the case for astronomical objects. Either way, though, perception is never instantaneous. And thus any object is always at the beginning of a process spread over a time span and across a spatial extension. If stars and long gone events – as those that are the causes of one’s memory, dreams, and hallucination – were rejected, by the same token, all everyday objects ought to be rejected too.

In essence, the traditional view comes to limit one's world to the very proximal shell that surrounds one's skin and receptors, which is absurd. We do not perceive the world by means of a thin layer of events enveloping our bodies. We perceive external objects wherever and whenever they are. Crucially, between perception and other forms of experience – such as memory, dreams and hallucination – there is only a quantitative difference.

To recap. Traditionally, the argument from hallucination is based on two premises, namely (1) S experiences O, and (2) O does not exist. Here I argue that the former is true while the latter is false. Whenever S experiences O, O does exist! However, O does exist where and when it likes, so to speak. For instance, John suffers from Charles Bonnet syndrome and thus he hallucinates multiple copies of men of abnormal size in his fields of view. The traditional explanation is that his brain concocts such images. The alternative explanation is that past human beings are still the object of John's experience and thus are still experienced.

■ Illusions

Sometimes the object is there, yet it does not appear as we expect it should. You look at the two lines in the Muller-Lyer illusion and they appear of different lengths but we know they are of equal length. While illusions are not as dramatic as hallucinations, they seem to provide another formidable empirical case for a separation between what one experiences and the properties of external objects.

Yet, once more, the above traditional account is based on the assumption that we know what we perceive. Consider again the Müller-Lyer illusion. You assume there is a property – length – and that such a property is the very property you perceive. In everyday life, the property one perceives and length match against each other quite well. Yet, in the case of the Müller-Lyer illusion, they do not. Since they mismatch, you assume experience is to be blamed. Such an epistemic habit

is so common that many scholars promptly draw the conclusion that one perceives a wrong length. A popular model of illusion is that one perceives a mental length that does not match against the physical length.⁴⁵

Such an explanation is surely popular. Yet, it is based on two critical assumptions:

- 1) one experiences a mental property that should mysteriously match against the physical property;
- 2) one knows exactly what is the physical property one perceives.

I argue that both assumptions are flawed and that once we set them aside, a much simpler explanation becomes available. The former assumption is question-begging since the existence of mental properties is what should be proved rather than assumed. The latter assumption is flawed since, as I will argue right below, we do not know exactly what we perceive. The reasons why one perceives a property and one believes to perceive another one are economic rather than conceptual. It is often difficult to directly measure a physical property and it is much easier to perceive some other more easily accessible property.

Consider again the Müller-Lyer illusion. Due to the structure of their sensory apparatus, human beings lack a mean to directly perceive the lengths of object. Human eyes are not equipped with lasers. Human beings must cope with a rather deficient visual system.⁴⁶

However, thanks to natural selection, they have acquired the estimate indirectly length by means of perceiving other, more easily accessible geometrical projections that, give or take, reliably correlate with length. The skill is very useful and thus humans use such an approximate property to estimate length. Crucially, such a skill does not pick up length, but another property which is a complex cluster of geometrical properties. Call such approximate but optically available property, the *proxy property*. Call the absolute physical length, the *alleged property*. In ex-

traordinary cases, though, such as the Müller-Lyer illusion, the *proxy* length is different from the *alleged* length.

As a result, one perceives the two lines as having different lengths. Yet, the two lines do not have different *alleged* lengths, they have different *proxy* lengths. Yet, both proxy and alleged lengths are external physical properties. There is no need to resort to any mental length. Neither is there any misperception or misexperience, only misbeliefs. The experience is correct. It is the belief about what one perceives that it is mistaken. We believed we knew what we perceive when we perceive length.

We were mistaken. One of the Müller-Lyer lines has a greater proxy length than the other one. Thus one perceives a different proxy length. No perceptual error occurs, the mistake is a matter of misbelief. One believes to perceive the absolute length of objects, while one perceives something else that usually matches with the absolute length. This time, though, it does not. This shift in perspectives allows us to reconceive all cases of illusion as cases of misbeliefs about what one perceives.

For instance, consider the traditional illusion of mirages, one sees water where there is no water, as in the desert. Yet, by means of vision we have no way to know whether a substance is made of water. Thus what do we do? We perceive another proxy property – in this case, mirror-like light reflectance. Such a property, in a natural environment, is often instantiated by pools of water. Thus, we get used to believing that mirror-like light reflectance is being watery. Being made of water is the property we are interested in, because we need water to survive, but mirror-like reflectance is good enough. However, sometimes, unusual circumstances occur and thus we are puzzled. Being made of water is the *alleged* property, mirror-like reflectance is the *proxy* property.

As a last example, consider weight and mass. Human beings estimate mass by means of weight. On the earth, people grab something and perceive the strength that such an object exerts on their arm. However, an as-

tronaut on the moon feels a much weaker force. The lunar gravity pull is much weaker than the earth's and thus the weight of each object is greatly diminished on the surface of our satellite (roughly one sixth of the weight on the earth). However, the mass of objects is, of course, always the same. Thus, an astronaut feels as though objects weighted less. If one applied the same logic used in cases of illusions, one ought to conclude that the astronaut has the illusion that objects have less mass on the moon than on the earth.

In fact, nobody has ever explained what happens to astronauts in terms of illusory perception – it would be pointless to claim that the astronaut has the illusion that object masses are diminished. In fact, human beings are interested to the mass of objects.

For instance, one may weigh a bag to know how many bananas are inside, a child to feel the passage of time, a flask to know how much water is still inside, or a medallion to know how much gold is in it. Since we know the property which is perceived to estimate mass – i.e., weight –, it is obvious that, on the moon, such a property is smaller than on the earth. However, weight is neither an illusory mass nor a mental mass. Weight is just the physical property that earthlings use to conveniently to estimate mass. Using the suggested terminology, weight is the *proxy* property, while mass is the *alleged* property.

The conceptual shift allows us to avoid any mental or illusory additional properties – it allows us to deal only with physical properties. Everything we perceive is a physical property in the external world. Illusions are not misperception but erroneous beliefs about the nature of the physical properties one perceives. Illusions are not a case against OBJECTBOUND.⁴⁷

■ It cannot be so – commonsense and skepticism

I suspect that the main negative reactions against then proposed hypothesis are not of conceptual nature, but rather a matter of hab-

it. In other words, the possibility that the thing we are – insofar as we are our experience – is the external object is just perceived as too bizarre to be true. Yet, the point is not whether a hypothesis seems unlikely, but whether such a hypothesis conflicts with available evidence and whether it is logically acceptable.

In the past, umpteenth notions were taken to be completely convincing – e.g., the stillness of the earth, the fixity of the continents, the immutability of species, the existence of absolute space, the role of luminiferous ether, and so forth. Notwithstanding the fact that such notions used to lead to all kind of issues, they were rarely questioned. I suspect that the notion that BRAINBOUND belong to the same group of notions – they are beliefs we hold true in the utter lack of evidence. What's worse, assuming that BRAINBOUND is true has encouraged many scholars to introduce all kinds of mysterious conceptual crutches – e.g., aboutness, vehicle/content distinction, intentionality, qualia, phenomenal character, and the like.

Consider the analogy with the notion of absolute vs relative velocity. Until a certain stage of scientific development, velocity was taken to be an absolute property. Either you were moving or you were not. In such a conception, if one had claimed that the Rockefeller Center moves, one would have been taken to be nuts. The Rockefeller Center is not moving, it is as still as anything can be, can't you see it? Yet, once the notion of relative velocity is accepted, there is no contradiction in claiming that the complex is *both* safely motionless in the center of Manhattan *and* insanely hurtling around the sun.

Likewise, at first, one might be bemused by the notion that one's experience is outside one's body. Yet, the point is not the extent to which a hypothesis matches our familiar prejudices about the world, but whether such a hypothesis is compatible with existing empirical evidence. Does the hypothesis not contradict any evidence? In addition, does it provide a more parsimonious explanation of facts? If these two conditions are met, I be-

lieve any hypothesis – no matter how much bizarre it might appear at first – deserves to be taken seriously into consideration.

The existence of apparently contradictory facts – such as the fact the earth is *both* hurtling *and* still – requires a conceptual revision of the notion of velocity, from absolute to relative. Once revised, the notion of relative velocity does not contradict any empirical evidence and it is more parsimonious than other – more commonsensical-conceptual alternatives. Likewise, OBJECTBOUND might be as much decisive.

As a matter of fact, there are no a priori reason to locate experience inside the body. Neither do we have any contradiction with empirical evidence if we do so. Experience tells us where our body is rather than where experience itself is. It tells us where the center of our perceptual apparatus is, but it does not tell us anything about what and where the thing we are is. If experience is real and thus physical, the nature of experience will tell us something about the nature of the physical world. More specifically, our experience tells us something about what our experience is and thus, indirectly, about where such an experience is.

Thus, whenever one perceives something, say a yellow banana, one's perception is simply the yellow banana lying in front of the perceiver. A series of commonsensical counterexamples arises almost automatically.

- Isn't the yellow banana there before and after one experiences it?
- Isn't the yellow banana outside one's body and thus outside one's mind?
- Isn't the yellow banana different from one's experience?
- Isn't the yellow banana a physical object while one's experience is a mental thing?

Isn't the yellow banana there before and after one experiences it? This answer has two replies. On the one hand, even if the yellow banana existed before and after the time span during which one's experience occurs, it

would not be a fatal blow because the yellow banana can belong to the bundle which is one's experience only for a limited portion of time. Likewise, the same molecule of H_2O can be part of my body for a limited amount of time. Before and afterwards, the same molecule exists. It is not contradictory that the same object is part of my body only for a limited time span. The same rationale holds for one's experience. If one's experience is made of objects, such objects belong to such a bundle only for a limited time span.

On the other hand, we need to take into account the causal nature of objects. Object have a causal nature.⁴⁸ In other words, an object exists when what it is made of has the right conditions to take place. In the case of most of the objects of our lives, such causal conditions are realized by our bodies. The objects we perceive do not happen to be there when our bodies are not around. Many objects reveal openly their causal nature – e.g., rainbows, locks, and constellations.⁴⁹

Other objects depend in less obvious ways to their causal conditions, but I argue elsewhere that the connection between objects and causal relevance is a general principle.

Isn't the banana outside my body? Yes, of course. So what? But, from the fact that the banana is outside my body does not follow that the banana is outside my experience. Why must our experience be located inside our body?

Phenomenologically, I do not perceive my experiences as being inside my body, unless I experience something taking place inside my body, as a stone in the gall bladder. There are no reasons to believe a priori either that I am my body or that my experience is my body. I know that, whatever I am, I am physical since I assume I am real. But I do not know a priori to be either my body or a part of it. Thus, I have no reason to postulate that I am my body.

Of course, people can argue that they have *the feeling of being inside their bodies*. But such a feeling is completely inconsequential insofar as they have no feeling as to where their experience is, they have feelings

about where their bodies are, and their bodies are, of course, located where they bodies are. Thus, one should not expect to have any mismatch between where one feels to be and where one's body is, because one's feelings are not about where one's experience is, but about where one's body is. This is nothing new, Daniel Dennett argued at length about the difference between feeling where the mind is and feeling where the body is.⁵⁰

Of course, if my body – or a part of it – had the same properties of my experience, I could draw the conclusion that I am my body. This is not the case though. Despite the Sysifean efforts of neuroscience, so far neural processes – the most promising part of my body – have none of the properties of my experience.

Thus I feel entitled to look elsewhere. I look for something physical akin to my experience of the yellow banana and the yellow banana lies on the table. Thus, the yellow banana is outside my body but, crucially, not outside the physical thing which is my experience.

Isn't the yellow banana different from one's experience? We are back to Descartes's square one. We have no a priori knowledge or beliefs about what one's experience is. We need to find it. Traditionally, philosophers have contrasted notions about experience against notions about bananas. Since the notions didn't match, they concluded that experience must be different from the banana. Consider a different angle. Rather than contrasting the concept of experience against the concept of objects, it is more fruitful to contrast *experience and objects*. We do not know a priori whether experiences are different from bananas.

As a matter of fact, they look the same to me. They look so much the same to me that – I dare to say – I have never experienced a yellow banana without, unsurprisingly, an experience of a yellow banana. Thus, why should they be different?

Only because philosophers amused themselves attributing aboutness, subjectivity, privateness, first-person perspective to the former and quantity, matter, causal powers to the latter? Such metaphysical apartheid was a by-

product of a wrong assumption rather than an empirical fact. In my life, there has always been only one banana, which was both my experience and the banana I could grab and eat.

Isn't the yellow banana a physical object while one's experience is a mental thing? Once again. Such a gap is not something we know a priori. The Galilean divide (aka the *Hard Problem*) has been introduced to justify our prejudices about bananas and our experience. Once such prejudices are set aside, the whole distinction between physical objects and mental entities collapses. There are just objects. Some of such objects are part of what we are. When an object is part of one's experience, is not different from the object it was before. It exists, if it does, without being part of anyone's experience. There are no objects *and* experiences. There are only objects. Sometimes, an object is part of a bundle and that bundle is the thing that is someone's experience. Sometimes, it is not.

Conclusion

The mismatch is not between experience and reality, the mismatch is between what we believe experience and reality are. Or, to put it differently, between our alleged knowledge of what experience is and our alleged knowledge of what reality is. The mismatch, in short, is not between experience and reality, but between beliefs about them.

If you are a physicalist of any stripe, you ought to assume that whenever you have an experience E, a physical phenomenon X should exist such that E is X. Of course, we do not know a priori what X is. Neuroscientists have based their work on the assumption that, whatever X was, X must be inside the brain. In contrast, here, the hypothesis is that X is O, rather than B as it has often been assumed. A radically different yet physicalist hypothesis is thus put forward: OBJECT-BOUND. I suggest that one's experience is identical with an object outside the body.

If the hypothesis that one's experience of a yellow banana is the neural activity inside

the cortex, why should we resist to the hypothesis that one's experience of the yellow banana is the banana itself? Why neural processes are taken to be a more respectable choice than external objects? The banana has a long list of advantages. It is yellow, elongated, and bananish. Neural processes have none of such properties. The banana has.

In this paper, I outlined a mind-object identity theory. Scientists have devoted humongous resources and time to look for the right process inside the body with no satisfactory result. I believe it is just fair we spend some time to check the object side of the equation. There is no metaphysical reason to prefer the physical phenomena on the inner side of the skin rather than the physical phenomena on the outer side. As David Armstrong once wrote, «man is nothing but a material object having none but physical properties».⁵¹ I couldn't agree more. Yet, I take into consideration the external object rather than the brain or the body.

Notes

¹ I use the terms *consciousness*, *phenomenal experience*, *experience*, *conscious experience*, *conscious mind* as synonyms.

² See J.J.C. SMART, *Sensations and Brain Processes*, in: «The Philosophical Review», vol. LXVIII, n. 2, 1959, pp.141-156; U.T. PLACE, *Is Consciousness a Brain Process?*, in: «The British Journal of Psychology», vol. XLVII, 1956, pp.44-50; D. ARMSTRONG, *A Materialist Theory of Mind*, Routledge, London 1968

³ $e=mc^2$. After all, energy can always be converted into matter and viceversa. They appear to be two manifestations of the same underlying principle. Furthermore, they are both spatiotemporally located and they both have an actual causal role. This is not to say that I dare to provide a definition of the nature of the physical. As a physicalist, I start from the assumption that, whatever it is, experience must be physical as matter and energy are.

⁴ D. ARMSTRONG, *A Materialist Theory of Mind*, cit., p.1

⁵ See T. NAGEL, *What is it like to be a Bat?*, in: «The Philosophical Review», vol. IV, n. 4, 1974, pp.435-450; D.J. CHALMERS, *The Conscious Mind: In Search of a Fundamental Theory*, Oxford Uni-

versity Press, New York 1996; C. KOCH, *The Quest for Consciousness: A Neurobiological Approach*, Roberts, Company Publishers, Englewood (COL) 2004.

⁶ I skip here all the connected issues of reduction and emergence.

⁷ See D.J. CHALMERS, *The Conscious Mind*, cit.

⁸ See M. TYE, *Representationalism and the Transparency of Experience*, in: «Noûs», vol. XXXVI, n. 1, 2002, pp.137-151.

⁹ More about this later.

¹⁰ See G. TONONI, *An Information Integration Theory of Consciousness*, in: «BMC Neuroscience», vol. V, n. 42, 2004, pp.1-22; G. REES, G. KREIMAN, C. KOCH, *Neural Correlates of Consciousness in Humans*, in: «Nature Reviews Neuroscience», vol. III, n. 4, 2002, pp. 261-270; S. DEHAENE, *Consciousness and the Brain: Deciphering How the Brain Codes Our Thoughts*, Penguin Books, London 2014; A. REVONSUO, *Consciousness. The Science of Subjectivity*, Psychology Press, Hove 2010; G. TONONI, C. KOCH, *The Neural Correlates of Consciousness: An Update*, in: «Annals of the New York Academy of Sciences», MCXXIV, 2008, pp. 239-261.

¹¹ Choose your favorite notion here – e.g., is identical with, supervenes, let emerge, causes, etc.

¹² N. BLOCK, *Review of Alva Noë's "Action in Perception"*, in: «The Journal of Philosophy», vol. CII, n. 5, 2005, pp. 259-272, here p. 264.

¹³ J.J. PRINZ, *Is Consciousness Embodied?*, in: P. ROBBINS, M. AYDEDE (eds.), *Cambridge Handbook of Situated Cognition*, Cambridge University Press, Cambridge 2005, pp. 419-437, here p. 425.

¹⁴ See F. CRICK, C. KOCH, *Consciousness and Neuroscience*, in: «Cerebral Cortex», vol. VIII, n. 2, 1998, pp. 92-107; R. LLINÀS, *I of the Vortex: From Neurons to Self*, MIT Press, Cambridge (MA) 2001; V.A.F. LAMME, *Why Visual Attention and Awareness are Different*, in: «Trends in Cognitive Sciences», vol. VII, n. 1, 2003, pp.12-19; S. ZEKI, *The Disunity of Consciousness*, in: «Trends in Cognitive Sciences», vol. VII, n. 5, 2003, pp. 214-218; C. KOCH, *The Quest for Consciousness: A Neurobiological Approach*, cit.; G. TONONI, *An Information Integration Theory of Consciousness*, cit.; J.-P., CHANGEUX, *Clarifying Consciousness*, in: «Nature», vol. CDXXVIII, 2004, pp. 603-604; V.A.F. LAMME, *Towards a True Neural Stance on Consciousness*, in: «Trends in Cognitive Sciences», vol. X, n. 11, 2006, pp. 494-501.

¹⁵ A.K. SETH, E. IZHIKEVICH, G.N. REEKE, G.M. EDELMAN, *Theories and Measures of Consciousness: An Extended Framework*, in: «Proceedings of the

National Academy of Sciences of the United States of America», vol. CIII, n. 28, 2006, pp.10799-10804, here p. 10799.

¹⁶ C. KOCH, *The Quest for Consciousness: A Neurobiological Approach*, cit, p. 9 – italics added.

¹⁷ *Ivi*, p. 87.

¹⁸ N. BLOCK, *Consciousness, Accessibility, and the Mesh between Psychology and Neuroscience*, in: «Behavioral and Brain Sciences», vol. XXX, n. 5-6, 2007, pp. 481-499, here p. 482.

¹⁹ See T. NAGEL, *What is it like to be a Bat?*, cit.

²⁰ J. KIM, *Dretske's Qualia Externalism*, in: «Philosophical Issues», vol. VII, 1995, pp. 159-165, here p. 160.

²¹ Here, I refer to physical properties like those I have in mind when I compare the yellow of the banana with the gray-bluish of neurons. I do not assume a priori the traditional alleged ontological gap between objective and subjective, mental and physical, primary and secondary, and so forth. Such a gap should be proved rather than assumed.

²² See G. HARMAN, *The Intrinsic Quality of Experience*, in: «Philosophical Perspectives», vol. IV, 1990, pp. 31-52; B. BREWER, *Perception and its Objects*, Oxford University Press, Oxford 2011.

²³ See R. MANZOTTI, *A Process Oriented View of Conscious Perception*, in: «Journal of Consciousness Studies», vol. XIII, n. 6, 2006, pp. 7-41.

²⁴ T. NAGEL, *What is it like to be a Bat?*, cit., p. 436.

²⁵ Here, the notion of absolute sufficiency is akin to local supervenience. For instance, being materially identical with a certain painting at the Louvre is not enough for that painting to be *Monna Lisa*. Material identity is not absolutely sufficient to be an original artwork. Historical whereabouts matter too.

²⁶ For instance, at a meeting sponsored in 2001 at the *Cold Spring Harbour Laboratories* addressing the question “*Could Machines Be Conscious?*”, the participants agreed on the fact that no known law of nature forbids the existence of subjective feelings in artifacts designed or evolved by humans.

²⁷ See A. CHELLA, R. MANZOTTI, *AGI and Machine Consciousness*, in: «Theoretical Foundations of Artificial General Intelligence», vol. IV, 2012, pp. 263-282.

²⁸ In this section, I do not even try to address all possible prejudices about a gap between experience and world, yet I sketch an outline of the main reasons why experience and object have been kept apart. My hope is that, by revealing such reasons, the strength of such prejudices will be reduced and the reader will be tempted to con-

sider the new approach.

²⁹ Here, I leave aside issues related to the war among scientific disciplines such as the attempt of neuroscience to become a “mindscience” (R. MANZOTTI, P. MODERATO, *Is Neuroscience the Forthcoming “Mindscience”?*, in: «Behaviour and Philosophy», vol. XXXVIII, n. 1, 2010, pp. 1-28; W.R. UTTAL, *The New Phrenology: The Limits of Localizing Cognitive Processes in the Brain*, MIT Press, Boston 2001).

³⁰ See S. ZEKI, S. AGLIOTI, D. MCKEEFRY, G. BERLUCCHI, *The Neurological Basis of Conscious Color Perception in a Blind Patient*, in: «Proceedings of the National Academy of Sciences of the United States of America», XCVI, n. 24, 1999, pp. 14124-14129; S.E. PALMER, *Vision Science. Photons to Phenomenology*, MIT AI-Lab, Cambridge (MA) 1999; B.E. GOLDSTEIN, *Sensation and Perception*, Cengage, Wadsworth (AUS) 2010.

³¹ See F. MACPHERSON, *The Philosophy and Psychology of Hallucination: An Introduction*, in: F. MACPHERSON, D. PLATCHIAS (eds.), *Hallucination. Philosophy and Psychology*, MIT Press, Cambridge (MA) 2014, pp. 1-38.

³² See G. GALILEI, *Il Saggiatore*, 1623 (En. trans. *The Assayer*, in: S. DRAKE (ed.), *Discoveries and Opinions of Galileo*, Doubleday & Co., New York 1957, pp. 231-280).

³³ See D.J. CHALMERS, *The Conscious Mind*, cit.

³⁴ See J.R. SEARLE, *Minds, Brains, and Science*, Harvard University Press, Cambridge (MA) 1984.

³⁵ See F. BRENTANO, *Psychologie vom empirischen Standpunkt*, Hahn, Leipzig 1874.

³⁶ A. REVONSUO, *Prospects for a Scientific Research Programme on Consciousness*, in: T. METZINGER (ed.), *Neural Correlates of Consciousness*, MIT Press, Cambridge (MA) 2000, pp. 56-75, here p. 58.

³⁷ G. TONONI, C. KOCH, *The Neural Correlates of Consciousness: An Update*, cit., p. 50.

³⁸ F. MACPHERSON, *The Philosophy and Psychology of Hallucination: An Introduction*, cit.

³⁹ See A. BYRNE, H. LOGUE, *Disjunctivism. Contemporary Readings*, MIT Press, Cambridge (MA) 2009.

⁴⁰ To avoid misunderstandings, my claim – that whenever we perceive or hallucinate something, there is an object – is a claim about the existence of a physical object and not about Meinongian or intentional objects.

⁴¹ See E. SCHWITZGEBEL, C. HUANG, Y. ZHOU, *Do we Dream in Color? Cultural Variations and Skepticism*, in: «Dreaming», vol. XVI, n. 1, 2006, pp. 36-42; A. REVONSUO, C. SALMIVALLI, *A Content Analysis of*

Bizarre Elements in Dreams, in: «Dreaming», vol. V, n. 3, 1995, pp. 169-187; N.H. KERR, W.G. DOMHOFF, *Do the Blind Literally “See” in Their Dreams? A Critique of a Recent Claim That They Do*, in: «Dreaming», vol. XIV, n. 4, 2004, pp. 230-233; C.S. HUROVITZ, S. DUNN, G.W. DOMHOFF, H. FISS, *The Dreams of Blind Men and Women: A Replication and Extension of Previous Findings*, in: «Dreaming», vol. IX, n. 2-3, 1999, pp. 183-193.

⁴² See D.H. FFYTCH, *Visual Hallucinations: Charles Bonnet Syndrome*, in: «Current Psychiatry Reports», vol. VII, n. 3, 2005, pp. 168-179; T.R. HEDGES, *Charles Bonnet, his Life, and his Syndrome*, in: «Survey of Ophthalmology», LII, n. 1, 2007, pp. 111-114; R.J. TEUNISSE, J.R. CRUYSSBERG, W.H. HOEFNAGELS, A.L. VERBEEK, F.G. ZITMAN, *Visual Hallucinations in Psychologically Normal Charles Bonnet’s Syndrome People*, in: «The Lancet», vol. CCCXLVII, 1996, pp. 794-797.

⁴³ See W. PENFIELD, *The Electrode, the Brain and the Mind*, in: «Zeitschrift für Neurologie», vol. CCI, n. 4, 1972, pp. 297-309; W. PENFIELD, T. RASMUSSEN, *The Cerebral Cortex of Man. A Clinical Study of Localization of Function*, MacMillan Company, New York 1950.

⁴⁴ Of course, here I set pseudo-processes aside (H. REICHENBACH, *The Direction of Time*, University of California Press, Berkeley 1971).

⁴⁵ To me, the notion of mental length (or mental size, or mental weight, or mental color) has always seemed mysterious.

⁴⁶ See D.H. HUBEL, T.N. WIESEL, *Brain and Visual Perception: The Story of a 25-Year Collaboration*, Oxford University Press, New York 2004; K. O’REGAN, *Solving the Real Mysteries of Visual Perception: The World as an Outside Memory*, in: «Canadian Journal of Psychology», vol. XLVI, n. 3, 1992, pp. 461-488.

⁴⁷ Of course, due to space limitations, I cannot even begin to address all cases of illusions such as complementary afterimages, Benham Disks, Lilac, Evian, Ponzo, Ebbinghaus, and so forth. However, I hope the readers will consider to apply the proxy/alleged distinction to their favorite illusion.

⁴⁸ See H. HUDSON, *Alexander’s Dicta and Merricks’ Dictum*, in: «Topoi», vol. XXII, n. 2, 2003, pp. 173-182; T. MERRICKS, *Objects and Persons*, Oxford Clarendon Press, Oxford 2001; J. KIM, *Mind in a Physical World*, MIT Press, Cambridge (MA) 1998; R. MANZOTTI, *No Time, No Wholes: A Temporal and Causal-Oriented Approach to the Ontology of Wholes*, in: «Axiomathes», vol. XIX, n. 2, 2009, pp. 193-214; R. MANZOTTI, S. JESCH-

KE, *A Causal Foundation for Consciousness in Biological and Artificial Agents*, in: «Cognitive Systems Research», 2016 (forthcoming).

⁴⁹ See R. MANZOTTI, *A Process Oriented View of Conscious Perception*, cit.

⁵⁰ See D.C. DENNETT, *Brainstorms: Philosophical Essays on Mind and Psychology*, Bradford Books, Montgomery 1978.

⁵¹ D. ARMSTRONG, *A Materialist Theory of Mind*, cit., p. 1.