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DAVID CHALMERS' ERROR: WHY IS PROPERTY DUALISM WRONG?

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Ricardo Serrado
Doutor em filosofia e doutor em história. Vinculado ao Instituto de Filosofia da Faculdade de Letras da Universidade do Porto
ricardoserrado@gmail.com
orcid.org/0000-0002-4123-540X

ABSTRACT:
This article aims to present David Chalmers' theory of property dualism and to identify a set of conceptual problems that, in our view, undermine this philosophy of consciousness. We begin by outlining the core aspects of Chalmers' proposal, focusing on his three central principles: structural coherence, organizational invariance, and the dual aspect of information. Subsequently, we analyze and discuss three major objections to property dualism: (1) the problem of non-physicality, which questions whether non-physical properties can exist and interact in a universe governed entirely by physical laws;(2) the problem of the philosophical zombie, which we argue is conceptually naive, logically inconsistent, and empirically implausible, as it underestimates the functional role of phenomenological consciousness in learning, perception, and decision-making; and(3) the problem of Mary's room, which we interpret not as an ontological challenge to physicalism, but as an epistemological limitation in accessing first-person experience through third-person descriptions.

KEYWORDS:
Chalmers. Property-dualism. Physicalism. Philosophical zombie. Mary's room. Consciousness. Hard-problem.

O ERRO DE DAVID CHALMERS: POR QUE O DUALISMO DE PROPRIEDADES ESTÁ ERRADO?

RESUMO:
Este artigo tem como objetivo apresentar a teoria do dualismo de propriedades de David Chalmers e identificar um conjunto de problemas conceituais que, em nossa visão, enfraquecem essa filosofia da consciência. Começamos delineando os aspectos centrais da proposta de Chalmers, com foco em seus três princípios fundamentais: coerência estrutural, invariância organizacional e o duplo aspecto da informação. Em seguida, analisamos e discutimos três grandes objeções ao dualismo de propriedades: (1) o problema da não-fisicalidade, que questiona se propriedades não físicas podem existir e interagir em um universo inteiramente governado por leis físicas; (2) o problema do zumbi filosófico, que argumentamos ser conceitualmente ingênuo, logicamente inconsistente e empiricamente implausível, pois subestima o papel funcional da consciência fenomenológica na aprendizagem, na percepção e na tomada de decisão; e (3) o problema do quarto de Mary, que interpretamos não como um desafio ontológico ao fisicalismo, mas como uma limitação epistemológica no acesso à experiência de primeira pessoa por meio de descrições de terceira pessoa.

PALAVRAS-CHAVE:
Chalmers. Dualismo de propriedades. Fisicalismo. Zumbi filosófico. Quarto de Mary. Consciência. Problema difícil.

Introduction

In light of the profound advances in neuroscience and the steady ascendancy of physicalist philosophy since the nineteenth century, the once-central question of whether consciousness relies on an immaterial substance has largely faded into obsolescence.As a result, substance dualism (DESCARTES, 1641/1985), although still defended by some authors (FOSTER, 1989; SWINBURNE, 1986), has been, to a great extent, excluded from the contemporary philosophical and scientific discourse on the metaphysics of consciousness (METZINGER, 2009; DAMÁSIO, 2010; CRICK, 1995; CHALMERS, 1995; DENNETT, 1991, 1995; CHURCHLAND, 1981; HUMPHREY, 2023; DEHAENE, 2014; TONONI, 2016; TONONI& KOCH, 2015; GAZZANIGA, 2011).

Nevertheless, some authors, while adopting a broadly physicalist view of the universe, have asked whether consciousness might originate not from a distinct substance, as substance dualists claim, but from a distinct set of non-physical properties instantiated by physical systems (CHALMERS, 1996; O'CONNOR, 2000; CHISHOLM, 2003). This position, known as property dualism, holds that although the universe is composed entirely of physical substances, phenomenological states correspond to non-

physical properties – irreducible aspects of consciousness that emerge in certain physical configurations, but which cannot be explained solely by physical processes.

The philosopher David Chalmers is, most likely, the most renowned author of property dualism (1995, 1996, 2018), although other influential names have contributed to this topic (O`CONNOR, 2000; CHISHOLM, 2003; HASKER, 1999; NAGEL, 1974).In Chalmers view, consciousness presents two types of problems: the easy problems and the hard problem. The easy problems concern the understanding of functional mental states such as attention, reaction to environmental stimuli, learning, salience, sleep, wakefulness, language, among others (1995). According to the philosopher, all functional features of the mind can be explained scientifically in a physicalist way, as neuroscience has been doing successfully. This type of consciousness could be designated, as philosopher Ned Block does (1995), as access consciousness, since it refers to the information that is available for reasoning, reporting, and guiding behavior, regardless of whether it is accompanied by phenomenological experience.

The other type of consciousness – subjective experience, or what we call phenomenological – is, according to Chalmers, much more difficult to study and explain. Precisely for this reason, qualia are, in contrast to access consciousness, deemed inexplicable, as they are conceived as intrinsic and irreducible properties of experience that resist any functional or physical explanation, giving rise to what Chalmers famously termed the "hard problem" of consciousness. In his words: "What makes the hard problem hard and almost unique is that it goes beyond problems about the performance of functions" (1995, p. 203).

Moreover, Chalmers argues that it would be possible for a person to perform all the functions associated with the easy problems without being in the slightest conscious of what they are doing, like a philosophical zombie (1996; 2018). The philosopher Frank Jackson shares this view, suggesting that there could be individuals who behave exactly like conscious human beings while lacking any awareness of their experiences (Jackson, 1982). For both Chalmers and Jackson, a person could possess access consciousness – being able to read, write, speak, learn, react – without having phenomenological consciousness, which is precisely what the zombie thought experiment illustrates. Therefore, being conscious means, in Nagel's well-known phrase, that "there is something it is like to be that organism" (1974, p. 436).It is to exist and act through the *experience* of existing and acting. According to these philosophers, neuroscience may explain action, even existence, but not the *experience* of action or the *experience* of existence.

This raises a fundamental question: how can we objectively study subjectivity – phenomenology? It seems, in fact, impossible. The self does not merely see red; it feels red in a qualitative, integrated, and subjective manner. For this reason, we will never know what it is like to be a bat, a dog, or our aunt Alice.

Furthermore, neuroscience will likely never be able to account for subjective experience beyond observation, modelling, and neural mapping, all of which inevitably fall short of the lived reality of the subject (CHALMERS, 1995, 201; JACKSON, 1982, 1986). According to Chalmers, this reveals an explanatory gap between the objective (the physical brain) and the subjective (phenomenological experience).This explanatory gap, illustrated by the famous thought experiment of Mary's Room (which we will analyze later), has been one of the strongest arguments against physicalism (LEVINE, 1983; JACKSON, 1982; NAGEL, 1974), as it shows that complete physical knowledge of the world does not entail understanding of subjective experience. Thus, the central problem posed by property dualism is: why are some functional mental states accompanied by subjectivity, or qualia?

Since science does not appear capable of explaining subjective experience in purely functional terms, Chalmers proposes a radical hypothesis: that consciousness might be one of these fundamental properties of the Universe, akin to space-time or mass. In such a psychophysical framework, consciousness would not violate the laws of physics, but would rather be integrated with physical information itself. This would help explain why all human actions are accompanied by phenomenological experience (CHALMERS, 1995).According to this view, human beings experience the world because consciousness is not a by-product of physical systems, but a fundamental feature that coexists with physical reality. Consequently, not only humans would possess subjective experience: qualia could be embedded in all matter, an idea partially reflected in Thomas Nagel's panpsychism (1979) and William Hasker's emergentism (1999), both of which can be considered dualist positions.

To develop his theory, Chalmers establishes three principles: structural coherence, organizational invariance, and the dual aspect of information. The first principle argues that there is a relationship between physical properties and sentience, so it would be possible to find some level of phenomenology in any structure that contains information. In other words, we can relate sentience to any type of information processing– a view that is, at least in part, shared by some physicalist theories of consciousness (TONONI& KOCH, 2015).

The second principle states that "any two systems, with the same degree of functional refinement, will obtain qualitatively identical experiences" (1996, p. 51). For Chalmers, it doesn't matter if one being has a brain and another has a silicon system as an exact copy of the brain. Both would develop the same type of experience. In other words, according to the philosopher, what matters in terms of subjectivity is not neurobiology nor the physicality of the system, but rather the patterns that can give rise to qualia. In this sense, if we replaced a brain with a system made of silicon, with exactly the same interactions, the experience would be the same.

The third principle, the *dual aspect of information*, is the most central element in Chalmers' theory and warrants special attention. According to him, all information has two complementary aspects: a physical aspect and a phenomenological aspect. He explains this duality by proposing that any structure with sufficient physical organization may instantiate a corresponding phenomenological experience. That is, physical informational states might have an intrinsic, subjective side, a primitive form of consciousness. In this framework, wherever there is physical information, there may also be a phenomenological correlate. In essence, Chalmers proposes an isomorphism between informational structures and experiential structures. Subjectivity, in this view, would be a non-physical, or phenomenological, property instantiated by physical systems (CHALMERS, 1995, p. 217).

Chalmers' theory of consciousness thus rejects a strictly physicalist ontology, opting instead for a dualist framework in which conscious experience is taken as fundamental and irreducible to physical processes. Since physics already describes reality in terms of information, Chalmers argues that this is the most promising domain in which to seek the "extra ingredient" required to account for subjectivity. This ingredient would be an intrinsic, non-physical aspect of information – a phenomenological property that is not captured by the extrinsic, structural descriptions of physics. Accordingly, each unit of physical information might be accompanied by a corresponding experiential quality, a basic form of phenomenal content. If this is true, then consciousness in its most elementary form would permeate the physical universe (CHALMERS, 1995, 1996).

In short, since physicalist approaches have failed to fully explain the subjective character of experience, Chalmers proposes a non-reductionist theory that treats consciousness as a fundamental feature of reality, not derivable from, nor reducible to, purely physical properties. The universe, conceived as fundamentally informational, would thus contain both physical properties (described by physics) and phenomenological properties (intrinsic, non-physical aspects). From this standpoint, some form of sentience could be present wherever there is organized physical information

1 The problem of non-physicality

As we saw, Chalmers postulates that consciousness is a non-physical property of information. However, before we can assess the plausibility of such a claim, it is necessary to clarify the ontological nature of the universe itself.

The Physical Ontology of the Universe

There is broad consensus, both scientific (´t HOOFT, 2016; KRAUSS, 2013; LLOYD, 2007; ROVELLI, 2018; SMOLIN, 2019)and philosophical (CHURCHLAND, 1981, 1988; CHURCHLAND,

2013; CHALMERS, 1995, 1996; DENNETT, 1991, 1995, 2015), that the universe is not merely composed of physical matter and energy, but is also structured and governed by naturalistic laws[1]. These laws, such as those of gravitation, electromagnetism, thermodynamics, and quantum mechanics, describe not only how physical systems behave, but also how they must behave. As Hawking and Mlodinow (2012), Rovelli (2018) and Krauss (2013) have argued, the Big Bang did not merely generate matter and energy; it instantiated the very laws by which all matter and energy would thereafter evolve. From a scientific perspective, the regularity of natural phenomena, their predictability, and the success of the natural sciences in describing and anticipating physical events strongly suggest that the universe is not chaotic, but law-governed.

Beyond empirical observation, there is also a philosophical necessity for the universe to be governed by real, physical laws. This can be articulated through the following propositional argument:

1) All events in the universe occur with regularity and stability, according to patterns;

2) Science expresses these patterns through universal physical laws;

3) These laws are not merely human descriptions; they structure reality and produce effects.

4) Therefore, the Universe behaves, and *is*, a system governed by objective physical laws.

This conclusion reflects what we may call ontological causality: everything that exists in Nature must be caused in accordance with the laws of Nature. We thus defend a strong causal principle that is not only empirically validated, but ontological and logically coherent (SERRADO, 2024).

There is, however, a further and crucial point: the very existence of emergent phenomena, such as atomic stability, chemical complexity, biological life, and conscious systems, presupposes a universe that is not only physical but ontologically structured. Emergence does not occur in an *acausal* universe – one without laws. For complex systems to arise, evolve and remain stable over time, the underlying substrate must offer stability, regularity, and physical continuity. Emergent properties, from crystallization to metabolism (ROVELLI, 2018, 2022; SMOLIN, 2019), from neural networks to conscious experience (DAMÁSIO, 2010; TONONI, *et al.*, 2016; TONONI&KOCH, 2015; DEHAENE, 2014; SETH, 2021), are only possible in a universe where physical interactions follow ontological deterministic rules (even under epistemological indeterminism, where our knowledge of systems is incomplete or probabilistic), consistently and universally. Without such an infrastructure, emergence itself would be impossible, as no structure could persist, replicate, or evolve. This leads us to a second, complementary propositional argument:

[1] What we call physical laws are, in fact, our formal descriptions of the underlying regularities of Nature — the real, causal principles that govern the behavior of all physical systems.

1)Emergent phenomena require stable, regular, and law-governed substrates.

2)The universe contains stable emergent phenomena: from atoms to life to consciousness.

3)Therefore, the universe must provide a stable and law-governed substrate for emergence.

4) Hence, the universe must be – and not merely contain – a structured physical system.

This second argument reinforces the first. Together, they support the view that the universe not only contains physical structures governed by laws but *is* itself a law-governed system, and it is precisely this nature that makes emergence, complexity, and consciousness possible.

The Problem of Non-Physicality

Against this background, the postulate that consciousness is a non-physical property, as defended by Chalmers, becomes increasingly problematic. The problem of non-physicality can be formulated through three fundamental questions: 1) If we live in a universe governed by physical laws, and if those laws are what constitute the Universe (KRAUSS, 2013; 't HOOFT, 2016; HAWKING& MLODINOW, 2012), is it possible for something non-physical to exist within it? 2) If we live in a physical universe, how can non-physical properties (such as phenomenology) interact with physical properties (such as the brain)? 3) If we accept that phenomenology occurs in a physical Universe, why is it necessary to dualize it from the physical realm, especially when phenomenology may very well be a physical process (SERRADO, 2024, 2025)?

These questions do not merely reflect a disagreement with property dualism; they highlight a fundamental incompatibility between the idea of non-physical properties and the nature of a universe that is, both scientifically and philosophically, irreducibly physical. So, we ostensibly disagree with the idea that phenomenological information is a non-physical property. We claim that in a physical universe, the existence of non-physical properties would be impossible (and illogical).

It is also important to note that while Chalmers claims consciousness to be fundamental, and thus ontological, he simultaneously refers to it as an "aspect" of information. This creates a tension in his framework: if consciousness is merely an aspect, it risks being interpreted as derivative or relational, rather than ontologically primary. In this context, Chalmers appears to focus more on the phenomenological appearance of experience – how it is subjectively felt – than on offering a clear ontological account of its status.

Moreover, we contend that the supposed non-physicality of phenomenology is an unnecessary and problematic assumption. The dual-aspect theory of information does not, in itself, require the rejection of physicalism. The phenomenal *aspect* of information can, in principle, be entirely physical, but more importantly, the notion of an *aspect* should be understood as an epistemological or semantic distinction,

not an ontological one. In a physical universe, it is neither necessary nor coherent to classify the dual aspects of information as physical versus non-physical. We therefore argue, both ontologically and logically, that non-physical properties cannot exist within a physical universe (SERRADO, 2024, 2025; 't HOOFT, 2016; SMOLIN, 2019).

There is broad consensus that, as we mentioned already, our universe not only *has* physical laws, but *is* itself those laws, which were created in the Big Bang (HAWKING& MLODINOW, 2012; KRAUSS, 2013). Considering that the Universe has non-physical laws would be to postulate the hypothesis that the Universe is a non-physical system, and the scientific evidence against this idea is overwhelming (HAWKING& MLODINOW, 2012; 't HOOFT, 2016; KRAUSS, 2013; ROVELLI, 2018, 2022; SMOLIN, 2019; STOLJAR, 2010). In fact, David Chalmers himself, and other property dualists mentioned above, do not reject that our Universe is physical. What they argue, implausibly in our view, is that it is possible for non-physical properties to exist in a physical universe without, however, being able to explain how physical events relate to non-physical events in a physical universe (SERRADO, 2024, 2025). This stance coheres with Dennett's denial of any extra ontological ingredient beyond functional organization: once the physical–functional profile is fixed, there is nothing left to add (1991, 1995).

This therefore leads us to the second problem: how, in a physical universe, do physical events relate to non-physical events? If we live in a physical universe, governed by physical laws, how can two distinct properties – one physical and the other non-physical – interact? This is exactly the same problem that Descartes (1649/1991) never managed to overcome, and which worried Princess Elisabeth of Bohemia when she asked him how an entity of an immaterial nature, such as the soul, could create some type of action in an entity of a material nature, such as the body (DAMÁSIO, 1993; SKYTT, 2014). While Chalmers avoids Descartes' problem by confining causal efficacy to the physical domain, this does not resolve the deeper ontological issue. The question is not whether phenomenological experience produces physical effects – Chalmers concedes that it does not – but how a non-physical property could exist or systematically correspond to physical processes in a causally closed universe. This difficulty remains central to his property dualism and parallels, in structural terms, the same explanatory gap that troubled Princess Elisabeth in her correspondence with Descartes. In fact, if the brain is a physical entity and consciousness is a non-physical property, how can these two properties interact? In a universe in which everything is subordinated to the laws of physics, in which the Universe is itself physical (SERRADO, 2024), how can a non-physical property exist or even function in that Universe? These are questions that property dualists have no satisfactory answer to.

3) The third problem follows from the previous two: why is there any need to dualize the physics of phenomenology within a physical universe? Why should phenomenological information be considered non-physical when it can, in fact, be entirely accounted for in physical terms? To separate physical information from phenomenological information is to create a distinction without a difference, since both describe manifestations of the same underlying informational-ontological substrate. The tendency to reify this distinction arises not from empirical necessity but from cognitive bias. As Bloom (2005) notes, human beings are naturally predisposed to dualize mental from physical aspects of reality. This predisposition, even when unintentional, even among physicalists, often leads to the mistaken differentiation between two kinds of physical processes, the physical-phenomenal and the physical-material, as if the former required an ontological supplement beyond the physical laws that already explain it.

It is well known that the universe is composed not only of matter in the classical sense of the term, but also of energy fields, without these phenomena being in any way devoid of physicality (ROVELLI, 2018, 2022; SMOLIN, 2019). Sound, for instance, appears to have no matter, as do light, radiation, or even the vacuum. Yet all of these are physical phenomena. The purpose of this analogy is not to equate phenomenology with acoustics or radiation, but rather to illustrate that the apparent absence of material substance does not entail non-physicality. What seems immaterial can still be entirely physical, as in the case of light, radiation, or inner experiences. In a physical universe, all processes and interactions must themselves be physical, regardless of how abstract or immaterial they may appear from a functional or epistemological perspective. In other words, the information generated by a cell phone (or by a radio, a television, or a computer), as well as any other comparable form of communication, not only depends on physical structures to exist but is itself physical (DENNETT, 2015). The same applies to the vacuum, which is never truly empty. Within it, there are quantum fluctuations containing measurable amounts of energy, that is, physical processes taking place at every moment (KRAUSS, 2013; HAWKING& MLODINOW, 2012; ’t HOOFT, 2016). In this sense, consciousness may be seen as an emergent phenomenon that seems non-physical, like sound, radiation, or the vacuum, but whose being is entirely physical, rooted in the substrate (the brain) that gives rise to it.

Therefore, we argue that the universe does, in fact, have different *aspects* of information. Some appear to us as *physical* objects, others as *physical* force fields, and others as (*physical*) phenomenology, but all are physical events. The difference lies not in their ontological nature but in how we perceive and conceptualize them. Human perception tends to dualize reality, classifying certain processes as “non-physical” simply because they lack tangible substance or direct material extension. Yet the absence of

materiality does not entail non-physicality. Light, sound, radiation, and even the vacuum are all physical, despite appearing to us as immaterial. The same goes for consciousness. What changes is not the physical nature of reality but our perceptual and conceptual framework, which distinguishes between what seems physical and what seems non-physical.

Causality, Energy, and the Collapse of Dualism

The traditional conception of energy leads us to think of it as something that physical systems possess, an attribute or property that can be transferred between entities. However, a more fundamental perspective, in line with contemporary physicssuggests that energy is not merely something things have, but something they are made of. This view is entirely consistent with contemporary physics (ROVELLI, 2018; SMOLIN, 2019), especially with the mass-energy equivalence established by Einstein ($E = mc^2$), which shows that matter is simply a condensed form of energy (EINSTEIN, 1905).

This perspective aligns entirely with ontological physicalism: energy is not something added to the universe – it is the universe. What we call "matter," "particles," or "fields" are, in this view, configurations of energy governed by physical laws, not distinct entities but dynamic expressions of the same underlying substance. Therefore, to speak of anything that exists is, ultimately, to speak of energy in motion, transformation, and relation. If we accept that everything that exists is ultimately a manifestation of energy, and that causality always involves the transfer of energy, then every causal interaction must necessarily involve the transfer of part of the causal agent's constitutive substance. In other words, when one physical system transfers energy to another, it is not merely altering an external state but modifying itself — it is giving part of itself to another system.

This principle has profound implications for any hypothetical interaction in the universe between physical and non-physical entities. As argued by Kim (1998), Papineau (2002), Yablo (1992) and Churchland (1988), the physical domain is causally closed: every physical event has a sufficient physical cause, and the conservation of energy guarantees that no causal influence can occur without an exchange of physical energy. Hence, any entity capable of producing effects in the physical world must itself be physically constituted, that is, capable of transferring energy. If a non-physical substance were to interact with a physical one, that interaction would necessarily require the transfer of energy; yet in doing so, the non-physical entity would be entering a physical process, thereby losing its status as non-physical. Conversely, if it could transfer energy without itself having physical properties, this would constitute a violation of the laws of energy conservation and of physical causality (KIM, 1998; PAPINEAU, 2002; YABLO, 1992; CHURCHLAND, 1988).

Some authors, such as Pessoa & Melo (2015), have argued that interactionist dualism does not necessarily violate conservation laws, since these apply only to closed physical systems. However, such reasoning holds only if one assumes that the universe itself is not causally closed. From a physicalist standpoint, this assumption is untenable: the universe must be a closed system for its laws to function coherently. If a non-physical cause could intervene in physical processes, the causal closure of the universe would be broken, and the very concept of a physical law would lose meaning. In either case, the notion of a wholly non-physical substance interacting causally with the physical world is logically unsustainable. This argument effectively challenges all forms of dualism, both of substance and of properties, which in different ways claim that non-physical entities or aspects can interact with physical ones. If dualism were true, then a non-physical mind would have to transfer energy to the brain to influence it, but in doing so, it would become physical, violating the very principle of separation that dualism posits.

Furthermore, even if one argued that such an interaction could occur without energy, the problem remains: how could a non-physical substance store, process or transmit information? All known forms of information require a physical substrate for storage, transmission and computation. If the mind were entirely immaterial, there would be no medium through which information could be instantiated – no structure for encoding or sustaining it. Hence, information without physical grounding is incoherent.

Property dualism, as defended by Chalmers (1995, 1996) and others (CHISHOLM, 1996, 2003; O'CONNOR, 2000; NAGEL, 1979), suggests that the mind emerges as a non-physical property of the brain. Yet this view faces the same dilemma. If the mind does not causally interact, it becomes merely epiphenomenal – a passive by-product whose existence still requires explanation, since the correlation between physical processes and subjective experience would remain causally mysterious. If it does interact, it must possess a mechanism of action, which in turn presupposes a physical interface and thus collapses into contradiction. This line of reasoning strongly supports a monist physicalist framework, in which everything that exists is part of the physical structure of reality, and nothing outside it is needed to explain consciousness. Once we accept that causality requires energy transfer (Kim, 1998; Yablo, 1992; Churchland, 1988; Papineau, 2002), we see that every causal interaction is embedded within the physical structure of the universe and follows the principles that govern the transmission of energy and information. Therefore, any viable theory of mind or consciousness must respect this principle, framing itself within a physicalist ontology and rejecting all forms of interactionist dualism that violate this causal logic.

Dualism as an Intuitive but Fallacious Framework

We thus postulate that, if we live in a physical universe, phenomenology may well be a physical process. We are not necessarily arguing that consciousness is identical with the anatomical brain, as some eliminative authors claim (CHURCHLAND, 1981; CHURCHLAND, 2013). Rather, phenomenology can be understood as a physical process that emerges from the dynamic activity of the brain itself (DAMÁSIO, 2010; GAZZANIGA, 2011; METZINGER, 2009).

In fact, taking into account the physical ontology of our universe, it is only possible for phenomenology to be physical. In the same way that the sound that emerges from a radio is as physical as the radio itself; in the same way that the radiation waves that emerge from a cell phone are as physical as the cell phone itself; likewise, the consciousness that emerges from a brain is as physical as the brain itself. What changes is the *aspect* of physicality, not the ontology of the physicality. In fact, as already mentioned, Chalmers himself refers to his theory as an *aspect dualism*, which means that this aspect tells us nothing about the ontology of consciousness. In our view, property dualism is a dualism of aspect, not an ontological dualism. In other words, property dualism is aspectual and therefore epistemological or perceptual, rather than ontological.

Finally, we consider that one of the central problems of property dualism is the difficulty of its authors in perceiving reality in a non-dualistic way. Some authors argue that dualism is the natural and innate way of human beings perceiving reality (Bloom, 2005). Aware that their thoughts and phenomenological experiences cannot be materialized, and convinced that their subjectivity possesses a special nature – such as a soul (DESCARTES, 1641/1985) or an immaterial consciousness (CHALMERS, 1996; O'CONNOR, 2000; CHISHOLM, 2003; HASKER, 1999; NAGEL, 1974) – human beings easily construct narratives to justify this perception (GAZZANIGA, 2011; METZINGER, 2009).In fact, dualistic thinking is very common when we are children, at a time when we create explanations for the difference between our bodies or material objects and our thoughts. Therefore, dualistic thinking was much more common throughout the history of philosophy, precisely due to the tendency of human beings to think dualistically. This is also why Spinoza, and his monist philosophy, was misunderstood and even ostracized for centuries. The idea that the mind and body can be just one substance is difficult to understand (SPINOZA, 1677/2005; DAMÁSIO, 2003) and, even more, difficult to accept, as it undermines our most basic beliefs and perceptions, which are born with us and perhaps should not even be questioned, given their role in survival. We argue that dualists (of substance and properties) develop a dualistic perspective because they cannot think without the innate dualistic perception – so intuitive, yet, probably false.

Therefore, we claim that property dualism is a modern manifestation of Cartesian dualism (SKYTT, 2014). In a time when substance dualism lost its validity in the scientific-philosophical field (DAMÁSIO, 1993, 2003; SPINOZA, 1677/2005; DENNETT, 1991; METZINGER, 2009; SETH, 2021), the dualist perspective was forced to adapt to new demands that Cartesian philosophy could no longer satisfy. The solution was to develop a theory that does not dualize the body and soul, but rather dualizes the body from phenomenology, which is, in our understanding, a modernization of substance dualism. In the same way that Descartes (1641/1985) did not conceive that the mind could be physical, Chalmers also seem to have difficulty accepting that phenomenology can be understood as a manifestation (and not a distinct property) of physics (STOLJAR, 2010).

In short, not only does it not seem possible for non-physical properties to exist in a physical universe; we also do not know how non-physical properties would relate to physical properties in such a Universe; and it does not seem necessary to dualize physical and non-physical aspects within a physical Universe.

2 Why Zombies Can't Learn: Phenomenological Consciousness as a Condition for Cognition

As we have already mentioned, David Chalmers defends the philosophical zombie hypothesis (2018) as an argument against physicalism. A zombie is, according to the philosopher, a being exactly the same as a conscious being ("a being that is atom-for-atom identical to a conscious being such as you and me" (CHALMERS, 2018, p. 1), capable of doing everything a conscious person does, without, however, being conscious. A zombie is completely identical to a sentient being but, internally, "is all dark", so "there is nothing it is like to be a zombie" (2018, p.1). Since the zombie would behave exactly like a conscious being, neither a person nor the zombie itself would be able to say that it was not conscious. We could ask the zombie if it was conscious, and it would respond clearly: "yes, of course", just like a conscious person.

Chalmers' argument for the possible existence of zombies is that, if we can coherently conceive of such a being without logical contradiction, then such a being could exist in a possible world, though not necessarily in our own. This would suggest that it is possible for a physical world to contain both conscious beings and zombies. Therefore, if that physical world could exist, this implies that "consciousness is something over and above the physical, and materialism is false" (2018, p. 1). In other words, the possibility of zombies and conscious beings coexisting in a physical world shows us that consciousness is not physical. Therefore, the zombie serves as an argument against physicalism, since if it

is possible for a zombie to behave exactly like a conscious person without being conscious, then something more than the laws of physics is required to explain phenomenology.

However, the zombie theory faces several problems, such as: (1) The initial premise of the argument is that zombies could exist in a possible physical world identical to ours, based solely on the criterion of conceptual coherence.; and (2) the notion that behaviour and perception could occur entirely without phenomenology, as if consciousness had no functional role. The zombie theory is extremely limited, even naive – it tells us nothing about the relationship between physicalism and consciousness. It remains a purely speculative construct, lacking both philosophical coherence and scientific foundation.

We can, in fact, conceive of the abstract idea that a zombie might manifest all human cognitive functions, behaving like a fully functional person without experiencing any phenomenology. Chalmers is right in saying that we can think logically of a zombie. Where he is wrong is in: (A) assuming that it is sufficient to imagine a zombie without logical contradiction for the hypothesis that zombies are metaphysically or physically possible to be considered true; and (B) assuming that a zombie could perform exactly the same actions as a conscious being.

To begin with, the initial premise (A) – that coherently imagining a zombie is sufficient to affirm its possibility – is extremely weak. Logical conceivability does not entail metaphysical or physical possibility: we can coherently imagine many scenarios that are free of contradiction yet incompatible with the actual laws of nature. We can think about countless things in a seemingly logical way, and that does not mean they are metaphysically or physically possible. We can imagine dragons, mermaids, fairies, and even Santa Claus, all of which have internal coherence, but the act of coherent imagination tells us nothing about whether such beings could exist in any physically possible world governed by the same laws of nature as ours (DENNETT, 1995). We can also imagine a plane flying backwards, but the laws of aerodynamics do not allow such a thing. A philosophical zombie is a purely speculative construct grounded in human perception and rationality, both of which have severe limitations when it comes to understanding reality, limitations that Chalmers ought not to overlook.

Regarding the second premise (B) – that a zombie could do exactly the same things as a conscious being – this is another speculative assumption that contradicts various scientific findings, as we will explore below. Before addressing this, however, let us briefly question another implausible idea: that it could be logically conceivable to duplicate a human being, atom-for-atom identical to a conscious being, without the duplicate being conscious (CHALMERS, 1996, p. 94; 2018, p. 1). If it were possible to create a physical copy of a conscious being, then, within a physicalist framework, the copy would also be conscious. Genetics supports this view: it is entirely possible to reproduce one conscious being from

another through physical processes, even though the two individuals may differ in personality and identity due to environmental factors (MORALES, 2009). If we live in a physical universe, there is no reason to doubt that consciousness is a physical process that would also emerge from a physical copy of a conscious being.

But let us return to problem B – the claim that a zombie could behave exactly like a conscious human being. This implies that complex behaviors such as learning, deciding, perceiving, or adapting could emerge without any subjective experience. However, a being that has never felt anything could not plausibly learn, interpret, or assign value to actions. This is because it lacks the behavioral encoding mechanisms that allow learning through reward and punishment; it lacks working and long-term memory, as well as internal models, which make it possible to generate a cohesive identity and a narrative framework upon which decisions and anticipatory behaviors depend; and it lacks the motivational "punch" of feelings that animate inner experience and drive purposeful action. This becomes even clearer when we consider an analogy often drawn in favor of the zombie hypothesis: that of the sleepwalker. A sleepwalker may walk, drive, or speak as if awake, like a zombie, apparently contradicting the need for consciousness. In fact, studies by Popat, Winslade and James (2015) show that during sleepwalking there is no phenomenology and no conscious awareness, since the condition represents a state of dissociation in which motor and sensory systems are partially reactivated while the executive and prefrontal networks responsible for conscious monitoring remain inhibited. In this sense, a sleepwalker resembles a philosophical zombie, as they can perform complex behaviours while remaining phenomenologically dark inside. However, when properly examined, this analogy actually undermines the zombie argument, for two fundamental reasons.

First, would the sleepwalker be able to perform those actions had they never experienced consciousness? Could they walk, drive, or speak if they had not first learned these behaviors while conscious? The answer is clearly no. These actions are only possible because they were previously acquired through sentient, learning-dependent processes. In other words, the sleepwalker's apparent autonomy is parasitic on prior conscious learning; they replay what consciousness once encoded. Second, would the sleepwalker function as effectively as when conscious? Could they make decisions, evaluate outcomes, or adapt flexibly to unexpected changes? Again, no. Sleepwalking behaviors are stereotyped, limited, and disconnected from intentionality. They lack self-monitoring, emotional evaluation, and moral deliberation, all of which are made possible by phenomenological consciousness. The sleepwalker does not simulate consciousness; they merely reproduce behavioral routines that were consciously acquired and affectively integrated.

Thus, in the same way that a sleepwalker, a real-world analogue of the philosophical zombie, can perform certain actions without phenomenological awareness, those actions are limited to routines previously acquired through conscious learning. A truly unconscious being, like a zombie, therefore, would exhibit only minimal cognitive functioning, severely reduced in flexibility and adaptability – as we can see in many reptiles and fishes (HUMPHREY, 2023) – precisely in the domains where consciousness plays its most essential role. In Dennett's terms, the capacities constitutive of consciousness, such as monitoring, integration and control, are precisely those that underwrite flexible, value-guided behaviour; if these are absent, the purported duplicate is not a true duplicate (1995). In fact, there is overwhelming evidence that phenomenological consciousness underlies multiple cognitive domains (BOYD& WINSTEIN, 2004; CLEEREMANS& TALLON-BAUDRY, 2022; EARL, 2014; KRAKAUER& SHADMEHR, 2006; RAMACHANDRAN& HIRSTEIN, 1997; DAMÁSIO, 1993, 2010, 2023), not as an accessory but as a functional layer necessary for meaningful interaction with the world. As we shall see in greater depth below, phenomenology is critical for the acquisition and development of a range of complex behavioral competencies.

The Cognitive Function of Phenomenology: Learning, Value, and Behavior

There is no reason to believe that a human being can manifest cognitive functions independently of phenomenological experience. Unlike certain computational models that separate processing from experience, the human cognitive system appears to be organically and functionally intertwined with consciousness. In fact, several authors suggest that phenomenological consciousness is not an epiphenomenon but an active component, or even a condition, of cognition.

Some authors, such as Joseph LeDoux (2019), argue that phenomenological experience is itself a form of cognitive interpretation. In this view, conscious experience does not merely accompany neural processing, but constitutes a higher-order evaluative framework through which the brain interprets bodily states and environmental stimuli. Rather than being a passive mirror of internal activity, phenomenology would be a cognitive metalevel: an integrated representational process that adds semantic coherence and context to otherwise automatic reactions. LeDoux proposes that this interpretative function of consciousness plays a critical role in how the brain assigns meaning and valence to information, particularly in the case of emotions.

Similarly, Cleeremans and Tallon-Baudry (2022) explore how phenomenological states are dynamically embedded in the cognitive architecture, modulating processes like attention, valuation and memory. In this framework, phenomenological consciousness acts not as a by-product but as a causally efficacious layer, enabling reflection, self-monitoring, and the temporal extension of intentionality. By

contrast, behavior that arises in the absence of consciousness, as in sleepwalking, automatism, or severe brain injury, tends to be rigid, unadaptive, and disconnected from learning (BAARS, 1997; LAUREYSet al. 2004).

Other theorists contend that access to perception is only made possible through phenomenological consciousness. Nicholas Humphrey (2013, 2023), for instance, defends the view that consciousness evolved not merely to report internal states, but to actively construct a subjective world-model. For Humphrey, perceptual access is always embodied and affectively colored, and the self-model that emerges from phenomenological consciousness is essential for transforming raw sensory input into meaningful experience. This view echoes the transcendental tradition in philosophy, particularly in Kant (1781/2008), where perception is not merely a passive intake of data but a synthesis conditioned by the structures of experience. Similarly, Ramachandran and Hirstein (1997) argue that the integration of multisensory information and self-awareness in the brain necessarily involves phenomenological experience, especially in functions such as body image, mirror neurons and emotional resonance.

Still others maintain that the complex behavior of human beings depends on a phenomenological consciousness that enables emotional feeling, which not only drives behavior but also sculpts cognitive processes over time. Antonio Damásio (1993, 2023) insists that feelings, not merely physiological emotions, play a central role in the construction of the conscious self and in adaptive decision-making. His somatic marker hypothesis posits that it is the felt quality of emotions – their phenomenological signature – that guides reasoning, valuation and action. This thesis is vividly illustrated by the case of Phineas Gage, whose frontal brain injury did not eliminate his capacity for logical reasoning, but profoundly altered his emotional experience of the world. According to Damásio (1993), it was precisely this disruption in Gage's phenomenology, in how he felt his decisions and their consequences, that led to his dramatic behavioral changes, including impulsivity, irresponsibility and emotional disconnection. Far from being a mere consequence of cognitive impairment, Gage's transformation highlights the causal role of phenomenological consciousness in enabling socially and morally coherent behavior.

In this framework, when Chalmers claims that we can imagine a zombie doing everything a human being does without having any phenomenological experience, this mental exercise is only possible if we leave feelings out of the equation. Otherwise, if we imagine a zombie behaving exactly like a human being, we would necessarily be imagining a zombie that feels, that has phenomenological experience. And if it feels, if it has subjective experience, it is because it knows that it exists (DAMÁSIO, 2010, 2023). Therefore, phenomenological consciousness may serve a function related to the capacity to

know one's own internal states, knowledge that is only possible through feeling (DAMÁSIO, 1993), sensation (HUMPHREY, 2012, 2023), or phenomenology (KANT, 1781/2008).

Together, these perspectives converge on a shared insight: human cognition is inseparable from inner experience, not merely in its expression, but in its very formation. Thus, phenomenological consciousness is not an optional accessory to cognitive function; it is a constitutive layer of cognition itself, without which perception, interpretation, and behavioral intentionality would lose their coherence.In this sense, the distinction that Chalmers and other property dualists make between phenomenological consciousness and access consciousness seems meaningless, if we consider that phenomenological experience (what we feel) is necessary for access consciousness (what we perceive) to emerge.

In a way, Chalmers also dualizes consciousness, suggesting that a being could be perceptually conscious without being phenomenologically conscious. However, scientific evidence points in the opposite direction: perceptual consciousness does not exist without phenomenology. It is precisely because of this that phenomenological experience can serve the function of shaping behavior through the acquisition of knowledge about the external and internal environment (DAMÁSIO, 2010; LEDOUX, 2019; HUMPHREY, 2023;RAMACHANDRAN& HIRSTEIN, 1997). Moreover, it may be impossible to perceive, learn, acquire knowledge, see and, above all, behave like a conscious being without, in fact, having phenomenological consciousness.The zombie, conceived as a logical exercise to test the limits of physicalism, loses its own internal coherence once we realize that it is logically impossible to conceive of a being devoid of feelings and, consequently, of phenomenology, behaving in the same way as a being endowed with them.

It is therefore difficult to conceive how someone could simulate conscious behavior without actually being conscious, as Chalmers suggests. Consciousness qualifies experiences by assigning them a value (positive or negative) influencing everything we want to repeat and what we want to avoid (CLEEREMANS& TALLON-BAUDRY, 2022). Phenomenology, thus, allows us to evaluate past experiences in order to prepare for the future. When a dog feels fear because someone threatened him with a stick, he uses that phenomenological experience (what he felt during that experience) to avoid similar situations in the future. Likewise, when a person enjoys eating an apple, that experience serves to guide future behavior in seeking similar experiences. Phenomenological experience qualifies situations through pleasant feelings (in the case of positive experiences) and unpleasant feelings (in the case of negative ones) (DAMÁSIO, 1993).

A zombie (like a robot), devoid of any phenomenological feeling, might display behaviour that appears superficially similar to that of humans, yet it would remain rigid and inflexible, lacking the capacity to learn, refine, and adapt its actions to highly unpredictable environments. Without the evaluative dimension afforded by phenomenological experience, its responses would lack genuine adaptability, learning capacity, and the ability to plan in the face of unpredictable environments.Without feeling, we would not know what we like or dislike, what is beneficial or harmful, or what is right or wrong. Therefore, when we ask whether a zombie could act like a human being, the answer must be no, simply because the zombie doesn't feel. It has no sentience or phenomenology and, by not feeling, it fails to know both that it exists and that the world exists: knowledge that is crucial for flexible behavior, learning, and decision-making. In other words, deprived of phenomenological texture, the zombie would not merely lack inner life; it would lack the very capacities that make intelligent behavior possible. As Nicholas Humphrey puts it: "There have to be things that a psychological zombie would do differently precisely because everything is dark inside" (2012, p. 3).

The zombie hypothesis collapses on empirical grounds, at least in our physical universe or in any physically possible one, because logical representations do not entail physical or ontological possibilities; that is, neither logical nor imaginative conceivability confer ontological reality. This happens because, first, Chalmers conflates imaginative conceivability with logical conceivability, a confusion that renders the zombie argument far less coherent than it appears; and second, he conflates logical conceivability with ontological conceivability, as if what can be conceived logically must also be metaphysically or physically possible. Put differently, purely logical hypotheses, when detached from the laws of physics, tell us nothing about the real possibility of their existence. For instance, one can imagine a plane flying backwards without contradiction, yet the laws of aerodynamics make such a thing physically impossible. By the same token, logical conceivability alone is insufficient to account for what can exist in reality.

Moreover, Chalmers's exercise is not merely logical but imaginative, which makes it even less reliable as a guide to reality, since imagination allows us to conceive coherently of entities that could never exist in any physical world, such as Santa Claus, mermaids, or zombies. Once this distinction is made clear, the zombie hypothesis loses its coherence: it is not logically possible to conceive of a being performing all the actions a human performs while excluding its phenomenology. If we followed the kind of imaginative conceivability invoked in Chalmers's zombie scenario, we could indeed imagine such a being coherently, but, as we have seen, logical coherence alone does not imply real possibility. If mere coherence were sufficient to make something real, it would be equivalent to claiming that it is logically possible for a crocodile to behave like a human being. One can certainly imagine such a scenario without

contradiction – an instance of imaginative rather than logical conceivability – yet the moment we recognize that a crocodile lacks the inner cognitive architecture required to reproduce even minimal human behaviour, the hypothesis collapses under its own logical impossibility, just as the zombie hypothesis does. This directly parallels Dennett's contention that the zombie scenario rests on a confusion between imaginability and genuine modal possibility, functioning as a misleading intuition pump: a thought experiment designed to elicit seductive but unreliable intuitions (1995, p. 323).

In conclusion, a being that does not feel may still be capable of rudimentary forms of learning through pattern acquisition or conditioning, but without phenomenological consciousness, the learning of complex, flexible, and sophisticated behaviours becomes severely limited. Consequently, its behaviour would in no way resemble that of a human being. Without phenomenology, there is no genuine access to one's internal states, no experience of temporal continuity, and no capacity to evaluate risk, reward, or meaning. As a result, a society of zombies would not resemble a society of sentient beings: it would be behaviourally rigid, affectively void, and cognitively flat, lacking the capacity to develop complex or adaptive forms of behaviour. Indeed, several studies have shown that phenomenological consciousness is not an optional add-on to cognition; it is its very medium of formation, evaluation, and transformation. What Chalmers regards as an evolutionary by-product, the qualia, existing solely to accompany cognitive functions, may instead be the natural expression of a function fundamental to human behaviour, particularly in domains such as reasoning, planning, and behavioural flexibility. In this sense, subjective experience may well be what enables humans to broaden the range of their decisions, given that its role in perception, cognition, and decision-making appears not incidental but structurally essential. Taken together, Chalmers's property dualism leads him to dualize consciousness as a process separate from the functions of the brain, as if it were possible to preserve the same cognitive capacities without consciousness, as in the case of the zombie. However, as we have seen, not only do logical and imaginative conceivability tell us nothing about the relationship between consciousness and the brain, but also the dualization of consciousness, reducing it to a mere presence devoid of any function, runs entirely counter to the extensive empirical evidence on the role of consciousness in human cognitive and emotional functions.

Why the Zombie Argument Fails: A Scientific Defense of Physicalist Consciousness

Chalmers is hasty in claiming that the zombie hypothesis refutes physicalism. In our view, there is nothing in his theory that genuinely undermines it. His argument seeks to show that if a logically conceivable world physically identical to ours could exist without consciousness, then consciousness cannot be reduced to physical properties. However, this reasoning rests on two flawed assumptions: first,

the mistaken idea that zombies could exist, even if only in a logically possible world; and second, the equally mistaken idea that a zombie could do everything a human does without phenomenology, which is itself logically incoherent. Thus, logical possibility is not equivalent to ontological or physical possibility. As we have said, imaginative conceivability is not the same as logical conceivability. Something can be conceivable in imagination, like Santa Claus or mermaids, and yet ontologically impossible in a universe governed by physical laws. The zombie hypothesis, therefore, holds only at the level of conceptual imagination; it collapses when confronted not only with the constraints of a physically coherent world, but also with the inherent logic of human behaviour.

In our view, there is nothing that invalidates the idea that consciousness, although an emergent phenomenon like many others, arises from physical processes in a physical universe. To say that we can never fully know the inner subjective experience of another person (CHALMERS, 1995, 1996; JACKSON, 1986) is not the same as claiming that such subjectivity cannot be explained by physical and biological laws (SKYTT, 2014). Of course, the so-called explanatory gap may remain unresolved, but this is likely a logical or epistemological limitation, associated with the impossibility of accessing the interiority of other minds (MCGINN, 1997). However, this does not constitute an ontological problem. Just as we do not need to have a disease in order to understand what causes it, we do not need to be directly conscious of another person's subjectivity to investigate and explain its causal basis.

In summary, the zombie hypothesis faces three major problems: 1) It is a naive idea that tells us nothing about the actual possibility of such beings existing. 2) It rests on the unfounded assumption that zombies could act exactly like conscious beings, contradicting scientific evidence about the role of phenomenology in behavior, learning, and decision-making. 3)It does not offer any valid argument against physicalism, since it fails to disprove the possibility that physical processes may indeed give rise to consciousness, a hypothesis increasingly supported by neuroscientific research. To claim that phenomenological consciousness is an accessory property without function in human behavior, or that neuroscience has not advanced in understanding the relationship between the brain and consciousness, is not consistent with scientific reality.

3 Mary's room problem

Another argument against physicalism used by property dualists is the famous Mary's Room thought experiment, originally proposed by philosopher Frank Jackson (1982) and later also discussed by Chalmers (1996). The central premise of this experiment is as follows: imagine a person named Mary who has lived her entire life in a black-and-white room, with only a black-and-white television through

which she learns about the world. Mary knows everything there is to know about the physical processes involved in color vision. That is, Mary has never seen the color red, but she knows everything about red and about the physiology and physics of seeing red.

Now imagine that one day Mary leaves the room and sees the color red for the first time. The argument claims that Mary would thereby learn something new–something that was only accessible through subjective experience and that could not be explained by physicalism. Therefore, the conclusion drawn is that physicalism must be false. In other words, if Mary was able to describe all the physical events involved in color vision (as she did while living in the room), but this physical description was not sufficient to produce the experience of color, then physicalism fails to account for all aspects of consciousness.

However, we argue that this conclusion is fallacious. Mary's Room is a thought experiment about the epistemology of color vision, because it concerns the limits of what can be *known* about experience from a third-person perspective, not the *nature* of what is. It tells us nothing about the ontology of color vision. In other words, it says nothing about whether the experience of color is or is not caused by physical processes. Mary's Room is clearly a test about knowledge – about what can be known – not about what causes that knowledge. Thus, the fact that Mary knows all the physical facts about color vision tells neither her nor us anything definitive about the underlying ontological causes of conscious color experience.

If Mary had never experienced color, regardless of her theoretical knowledge, it is obvious that she could not have complete knowledge of color vision. But this does not mean that her eventual experience of color was not caused by physical processes. Knowing the theory of color vision is not the same as having the physical brain states that produce the experience. In other words,one thing is to understand the mechanisms involved in vision, another is for those mechanisms to be physically activated by perceptual input. Mary could not see colors simply because her brain had never been exposed to color stimuli, and thus never had the opportunity to generate the experience of color. Once she saw red, her brain was finally placed in the necessary physical context to produce that experience. In this sense, Mary was in a condition similar to that of someone who is temporarily color-blind, not because of a neurological defect, but because of environmental deprivation. Furthermore, living in a black-and-white environment, Mary's perceptual system lacked the necessary input to trigger the experience of color. This fully explains that the absence of a phenomenological experience does not imply that such an experience is non-physical, but only that the appropriate physical conditions for it had not yet occurred (RAMACHANDRAN& HIRSTEIN, 1997).

It seems to us, therefore, that the explanatory gap, like other central notions in property dualism, is primarily an epistemological problem rather than an ontological one. It is no coincidence that Jackson originally classified this as a *knowledge argument* (1986). What cannot be reduced to third-person physical descriptions is our *knowledge* of what it feels like to be something, not necessarily the phenomenon of consciousness itself. It should be noted, however, that Chalmers treats this gap as ontological, taking the epistemic limitation to imply that qualia are non-physical properties. Our interpretation differs: we understand the so-called explanatory gap as an epistemological limitation rather than as evidence of a dual ontology. In this sense, we propose that property dualism can be reinterpreted as an epistemological theory, one that concerns the way we come to know mental states, not what causes them. In other words, the explanatory gap should be seen as a limitation of our ability to translate first-person experience into third-person conceptual language, rather than as a legitimate metaphysical argument against physicalism, since it reveals nothing about the actual causes of the experience of seeing. Thus, while Chalmers presents property dualism as an ontological thesis, we suggest that the explanatory gap underlying it is better understood as an epistemological constraint. Chalmers himself refers to his theory as the *dual aspect of information*, distinguishing between its phenomenal and physical sides, which in fact reinforces the epistemological character of his own theory. Our reinterpretation does not reject Chalmers' ontological claim but rather reframes its necessity and scope, indicating that the apparent ontological divide may instead arise from the way informational reality presents itself under these two aspects.

In conclusion, the fact that something cannot yet be explained through our epistemic apparatus, such as the third-person experience or even the so-called hard problem of consciousness, does not imply that it lies outside the physical realm. In fact, if we live in a universe that is physical, then everything must be, in its ontology and fundamentality, physical. The so-called explanatory gap should therefore be regarded as an epistemological problem about Mary's knowledge of color, not about the causes of color vision. Physicalism, by contrast, is ontological; it concerns what causes color perception, and for that reason, Mary's room cannot undermine physicalism.

Conclusion

In this article, after analyzing David Chalmers' property dualism, we identified three central problems with this theory: 1) the problem of non-physicality; 2) the problem of the philosophical zombie; 3) the problem of Mary's Room.

First, we argued that if we live in a physical universe: 1) non-physical properties cannot exist within that universe; 2) physical properties cannot interact with non-physical ones; and 3) there is no need to dualize physical matter from physical phenomenology. Although Chalmers presents his theory as ontological, property dualism, in our view, is an epistemological theory, not an ontological one. The aspect of propriety dualism is precisely that: an appearance – a cognitive illusion arising from the structure of human perception and thought.

Second, we showed that the philosophical zombie hypothesis presents numerous conceptual and empirical problems. The idea itself is naive: we can imagine many impossible things with internal coherence, and that alone does not validate their ontological plausibility. Moreover, the logic of the thought experiment collapses into self-contradiction the moment we realize that it is logically incoherent to conceive of a being performing all the actions of a human while having entirely "dark" internal processes. More importantly, as various studies have shown, it does not seem possible for unconscious beings, such as sleepwalkers, to manifest the same behaviors, decisions, and actions as sentient beings. We also demonstrated that perception, learning, behavior, and decision-making appear to depend fundamentally on phenomenology. Not only does a change in phenomenological experience alter perception, but the absence of phenomenology may eliminate perception altogether. Thus, we argue that experience is the function of consciousness, a function that is critical for enabling the flexible and sophisticated behavior characteristic of human beings.

Finally, we examined the Mary's Room thought experiment, one of the most frequently cited arguments against physicalism. We concluded that it is an epistemological scenario that tells us nothing about the ontology of consciousness. Mary did not have complete knowledge of color before experiencing it, but this does not undermine the fact that, when she finally did experience color, it was her physical brain that caused the experience. As we have stated, Mary's Room is a reflection on knowledge, not on what causes consciousness. In other words, it is fundamentally about the *knowledge* of color perception, not about what *causes* color perception.

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