

## The Source of Anti-Physicalist Arguments: The Unbridgeable Gap between the Phenomenal and the Physical <sup>†</sup>

### [Anti-Fizikalist Argümanların Kaynağı: Fenomenal Olanla Fiziksel Olan Arasındaki Kapanmaz Gedik]

Murat ARICI \*

Selçuk University

Received: 11.12.2020 / Accepted: 30.12.2020

DOI: 10.51404/metazihin.847626

Research Article

**Abstract:** There is a long-term ongoing discussion on the nature of the relation between the mental and the physical. One of the chief reasons why the nature of this relation resists to a tenable solution for centuries is a compelling gap that philosophers of mind think is inevitable to face when they try to bridge between the mental and the physical. This paper raises three questions regarding the gap, which we call “the phenomenal-physical gap:” what results does this gap have against the materialist-physicalist conception of the world, why do we have this gap or why does it emerge in the first place, and can it be explained away in favor of physicalism? In attempting to answer the first question, the paper analyzes commonly known anti-physicalist arguments to point out the recalcitrant nature of mind (and phenomenality) against the materialist-physicalist conception of the world. To answer the second question, the paper makes three diagnoses and put forward three corresponding constraints that are unavoidable in any (failing) attempt to establish a metaphysical connection between the mental and the physical. Finally, in answering the third question, the paper addresses one attempt made by David Papineau, and implies that his and other similar attempts to explain away the gap in question are not likely to succeed. The ultimate assertion of the paper is that any attempt to bridge the gap between the mental and the physical is destined to fail given the constraints put forward on the phenomenal nature of mind; and thus, the best action is to pursue a more satisfactory

<sup>†</sup> This paper is an extended and revised version of a chapter of the unpublished dissertation titled “Physicalism and the Phenomenal-Physical Gap: Can a Posteriori Necessary Physicalism adequately respond to the Problem of Phenomenal Subjecthood?” which I submitted to Middle East Technical University, Department of Philosophy in Ankara in 2011.

\* **Author Info:** Assoc. Prof. - Selçuk University, Faculty of Literature, Department of Philosophy, Alaeddin Kaykubat Yerleşkesi, Selçuklu-Konya, TURKEY.

E-mail: [pd.muratatici@gmail.com](mailto:pd.muratatici@gmail.com) / Orcid Id: <https://orcid.org/0000-0002-8697-8186>

**To Cite This Paper:** Arıcı, M. (2020). “The Source of Anti-Physicalist Arguments: The Unbridgeable Gap between the Phenomenal and the Physical.” *MetaZihin*, 3(2): 99-119.

level of understanding of the phenomenal first, by postulating new concepts, correctly categorizing those, discovering new dimensions of the phenomenality and so on.

**Keywords:** phenomenal-physical gap, epistemic gap, explanatory gap, physicalism, anti-physicalist arguments, mental, phenomenal.

**Öz:** Zihinsel ve fiziksel olan arasında ne tür bir metafiziksel ilişkinin olduğuna dair süregelen tartışma oldukça eskidir. Bu ilişkinin doğasının yüzyıllardır ikna edici bir çözüme direnmesinin temel sebeplerinden birisi, zihinsel ile fiziksel olanın arasını ayıran bir tür zorlayıcı gediktir. Zihinsel ile fiziksel olanın arasını kapatmak isteyen neredeyse bütün zihin felsefecileri, “fenomenal-fiziksel gedik” adını verdiğimiz söz konusu gedikle yüzleşmekten kaçınmanın imkânsız olduğunu düşünür. Bu makale söz konusu gedikle ilgili üç temel soruyu gündeme getirmektedir: Bu gediğin evrenin materyalist-fizikalist tasavvuruna karşı ortaya çıkardığı olumsuz sonuçlar nelerdir? Niçin bu tür bir gedikle karşı karşıyayız veya bu gedik neden ortaya çıkmaktadır? Söz konusu gedik fizikalist projeye zarar vermeyecek şekilde açıklanabilir mi? Makale ilk soruyu cevaplamak için, yaygın olarak bilinen anti-fizikalist argümanları analiz ederek zihnin (ve dolayısıyla onun fenomenal yapısının) materyalist-fizikalist dünya tasarımına direnen doğasına işaret etmektedir. İkinci soruyu cevaplamak için makale; üç teşhis yapmakta ve zihinsel ile fiziksel olanın arasında metafiziksel bir ilişki kurma teşebbüslerinde kaçınılmaz olarak ortaya çıkan ve tüm teşebbüsleri başarısızlığa uğratan üç sınırlama öne sürmektedir. Son olarak, üçüncü soruyu cevaplamak için makale; David Papineau’nun söz konusu gediği fizikalizme zarar vermeyecek şekilde açıklama teşebbüsünü irdelemekte; fakat bu ve benzeri teşebbüslerin başarılı olma şanslarının olmadığını ima etmektedir. Makalenin nihai iddiası ise şu şekildedir: Zihnin fenomenal doğasına dair öne sürülen üç sınırlama sebebiyle, zihinsel ile fiziksel olanın arasındaki gediği kapatma girişimlerinin tamamı başarısızlığa mahkumdur. Bu yüzden önümüzdeki en iyi yaklaşım; öncelikle zihnin söz konusu fenomenal doğasını daha yeterli seviyede anlamaya çalışmak, bu amaçla yeni kavram ve kategoriler ortaya koymak, zihnin fenomenal doğasının henüz bilmediğimiz yönlerini ortaya çıkarmak vb. stratejileri benimsemek şeklinde olmalıdır.

**Anahtar Kelimeler:** fenomenal-fiziksel gedik, epistemik gedik, açıklama gediği, fizikalizm, anti-fizikalist argümanlar, zihinsel, fenomenal.

### 11. Introduction: Three Kinds of Relations for the Core Thesis of Physicalism

Let us begin with a definition of physicalism. The core thesis of physicalism is that everything that exist is physical. The term “everything” here includes mental entities as well. In order to formulate this core thesis, three types of relation have been commonly employed by defenders of physicalism: identity, supervenience, and realization. Since the scope of this paper does not allow for going into full details of these three relations, we should confine ourselves to basic ideas behind these relations. Identity physicalism puts forward the idea that mental entities are (numerically) identical to physical entities. Supervenience physicalism defends the idea that mental properties supervene

on physical properties.<sup>1</sup> And realization physicalism<sup>2</sup> maintains that mental properties are instantiated by being realized by the instantiation of non-mental properties. Evidently, employing the identity relation is a reductive approach while employing the supervenience and realization relations is a non-reductive one. You do reduce mental entities to physical ones when you identify the mental and the physical, but you only associate them when you employ the supervenience and realization relations.

There are several issues surrounding these three relations in expressing the core idea of physicalism. One issue concerns what to identify when the identity relation is used in reduction. Candidates are states, events, and properties. Let us say most defenders of identity physicalism maintains the identification of all these. Another issue concerns the distinction between types and tokens. Let us say identification of tokens is the minimal requirement for a thesis to be a physicalist one employing the identity relation.<sup>3</sup> Another issue bears upon the distinction between a priori and a posteriori knowability. Let us say a posteriori physicalism is more minimal than the a priori one.<sup>4</sup> Nonetheless, a posteriori physicalism employing the identity relation seems to have a serious problem concerning the modal status of identity statements hosting two rigid designators that flank the identity sign. This leads us to a final but a more significant

<sup>1</sup> Let us have in mind these two different, but logically equivalent definitions for supervenience physicalism: Definition (1) (using the notion of identity): Mental properties supervene on physical properties: if any two persons have identical physical properties, i.e., share all their physical properties, then they also have identical mental properties, i.e., share all their mental properties. Definition (2) (using the notion of difference): Mental properties supervene on physical properties: if any two persons differ in their mental properties, they also differ in their physical properties. (Any two persons cannot differ in their mental properties without also differing in their physical properties.) See Arici, 2011.

<sup>2</sup> We can have in mind these three different definitions for realization physicalism: (1) Joseph Levine's definition: "Only non-mental properties are instantiated in a basic way; all mental properties are instantiated by being realized by the instantiation of other, non-mental properties." (Levine, 2001: 21). (2) Andrew Melnyk's definition: "Every property instance is *either* an instance of a physical property or a physically realized instance of some functional property, every object is *either* an object of some physical object kind *or* a physically realized object of some functional object kind; every event is *either* an event of some physical event kind *or* a physically realized event of some functional event kind." (Melnyk, 2003: 26; italics in original). (3) Sydney Shoemaker's definition: "In general, *X* realizes *Y* just in case the existence of *X* is constitutively sufficient for the existence of *Y*—just in case *Y*'s existence is "nothing over and above" *X*'s existence." (Shoemaker, 2007: 4).

<sup>3</sup> Let us have in mind the following definitions for type and token physicalisms: *Type physicalism*: For each mental type *M*, there is a physical type *P* such that *M* is identical to *P* (i.e., for each person *x*, *x* has/undergoes *M* if and only if *x* has/undergoes *P*). *Token physicalism*: For each mental particular *m*, there is a physical particular *p* such that *m* is identical to *p* (i.e., for each person *x*, *x* undergoes *m* if and only if *x* undergoes *p*).

<sup>4</sup> Let *N* be the conjunction of all truths of the world, and let *P* be the conjunction of all physical truths. The physicalist claim is simply that *P* is equivalent to *N*. Let *Q* be the conjunction of all mental truths. Since *Q* is a *subset* of the conjuncts of *N*, physicalism also claims that *P* entails *Q*. Now, the core difference between a priori and a posteriori physicalism amounts to this: For a priori physicalism, the statement *P* entails *Q* is known a priori—by reason alone—while for a posteriori physicalism, *P* entails *Q* is known a posteriori—by also appealing to empirical data.

issue surrounding all the three relations (identity, supervenience, and realization) in question: Do these relations have to be necessary relations to express the real metaphysical connection between the mental and the physical? Based on several considerations in the literature (Levine and Trogdon, 2009; Chalmers, 1996; 2002; and 2009), this paper will assume that any version of *contingent* physicalism is not tenable, that the only tenable position within physicalism is to defend a *metaphysically necessary* relation between the mental and the physical.

Now, the primary purpose of this paper is to show that none of these three relations could escape a gap, which we will call later “the phenomenal-physical gap,” between the mental and the physical. The gap in question prevents all these three versions of physicalism from establishing a non-mysterious connection between the mental and the physical. Before fulfilling the objective of showing this physicalist failure, it is almost a requisite to go over widely discussed anti-physicalist arguments in the literature, which have been put forward against the core thesis of physicalism. By examining the anti-physicalist arguments first, we will have the advantage of getting a much better grip on the recalcitrant nature of mind (and phenomenality) against the physicalist conception of the world and this will enable us to see the unfavorable results of the gap in question more closely.

## 2. Arguments against Physicalism

Historically speaking, arguments against materialism<sup>5</sup> even go back to ancient times, but more modern ones constitute the real concern for physicalism. Hence, we will only examine modern arguments against physicalism, particularly the contemporary ones. It is worth mentioning first the Cartesian arguments against materialism.

Descartes’ arguments for the mind-body duality get their force from Leibniz’s law of indiscernibility of identicals, namely that if two things are identical, then they share (instantiate) all the same properties. The logical—contrapositive— structure of these anti-materialist arguments is quite simple: *X* and *Y* do not instantiate all the same properties; therefore, by Leibniz’s law, they are not the same thing. Because Descartes examines a good deal of distinct features that mind and body have, several anti-materialist arguments can be constructed out of his works, particularly from *Meditations* (1641). To give some examples, consider the following arguments. *The doubt argument*— I can doubt that my body exists. I cannot doubt that I, a thinking substance, exist; therefore, I am not identical with my body. *The divisibility argument*—my body is

---

<sup>5</sup> As most philosophers of mind do, we prefer to use the terms “materialism” and “physicalism” interchangeably in this paper. But for the exact differences in meaning regarding these terms, see Arici, 2018: 14-15.

divisible, I am indivisible; therefore, I am not my body. *The argument from extension*—having a spatial location is essential for my body, having a spatial location is not essential for my mind; therefore, my mind is not my body. *The argument from introspection*—I can come to know about my mind (mental states) by introspection, I cannot come to know about my brain (or any physical states) by introspection; therefore, my mind and my physical parts are distinct.

What we are primarily interested in are the contemporary arguments against physicalism, rather than Descartes' arguments for the mind-body duality. The reason is a minor one actually, but plausible enough to determine the strategy. It can be said that Descartes' anti-materialist arguments do not specifically target the entire materialist thesis; rather, those are primarily aimed to show the real metaphysical nature of mind. Contemporary arguments against physicalism, on the other hand, specifically aim to undermine the entire physicalist thesis. Besides, contemporary arguments have multiple aspects. And if a physicalist defeats the contemporary ones, she can easily defeat those given by Descartes as well. Let us briefly look at some of those influential contemporary anti-physicalist arguments now, which have been debated in the literature.

### 3. Contemporary Arguments against Physicalism

It will be useful to present the arguments first, and then evaluate them together by indicating both the common and separate points they each make. This will enable us to see the background intuitions these arguments rest on.

*The Knowledge Argument:* Several versions of this argument can be found in the literature, but the most famous form was introduced by Jackson in his paper "Epiphenomenal Qualia" (1982) and in his later paper "What Mary Didn't Know" (1986). The argument simply claims that one cannot deduce a simple phenomenal fact—what it is like to see red, for example—from the entire (even hypothetically complete) physical knowledge. Imagine a neuroscientist, named Mary, who has been kept in a black and white room since her birth. The room contains no colorful objects; even the outer surface of her body is made black and white and shades of those. She has, again, a black and white screen in her room to communicate with the outside world. Now, suppose Mary knows every bit of physical/neuroscientific information there is to know about the world, and she has an unrestricted power of reasoning. Accordingly, she knows every detail concerning the processes of color vision. She even sometimes counsels other scientists while she monitors surgical operations on people's brains through her black and white screen. The question is this: Does she know what it is like to see red? While she is in the room, she can perfectly use color terms in sentences like

“The rose is red,” and “The sky is blue,” but when she is released and see the sky and a real rose, would she learn a new fact or not be surprised at all? Jackson claims she would obviously learn a new fact about the world and our color vision. But this would imply the falsity of the physicalist thesis through the following reasoning:

While Mary is still in the room:

- (1) Mary knows all the *physical* facts.
- (2) But she does not know *some* facts (phenomenal facts).
- (3) Therefore, there are facts that are not physical.
- (4) Therefore, physicalism is false.

If it is sound, the argument is convincing enough. If such a hypothetical Mary whose physical knowledge is complete misses some phenomenal facts, this means she is ignorant of some phenomenal entities, which cannot belong to the physical domain. Hence, Mary faces two ontologically different entities, phenomenal and physical. And she can acquire concepts of phenomenal entities only if she is exposed to the phenomenal.<sup>6</sup>

**The Conceivability/Modal Argument:** Several versions of this argument have been put forward. Those include Descartes’s conceivability argument (1941: sec. 6), Kripke’s modal argument (1980: 144-55), Bealer’s argument from semantic stability (1994), Chalmers’ argument from two-dimensional semantics (1996: ch. 2, sec. 4; ch. 4, sec. 1-2; and 2009) and Nida-Rümelin’s argument from cognitive transparency (2007). Versions of this argument employ modal notions such as conceivability, possibility, and necessity; and they operate on a common line of thinking. They first attract attention to an epistemic gap between our knowledge of phenomenal facts and that of physical facts and claim that one can go from this epistemic gap to a metaphysical gap. And if the phenomenal and the physical are metaphysically distinct as such an ontological gap indicates, one can conclude that physicalism is false. Consider the general form of the argument below. Here, *P* stands for the following statement:

---

<sup>6</sup> As the title of his paper (“Epiphenomenal Qualia”) also implies, Jackson additionally claims, in his paper, that the phenomenal properties of mental states are causally inefficacious. Nevertheless, problems arise as to whether the epiphenomenal character of experiences is consistent with what the knowledge argument puts forward, since the causal theory of knowledge implies that in order for Mary to know the phenomenal qualities of her experiences, the relevant phenomenal states must be causally potent. For a meticulous discussion of the issue at hand, see Arıkan Sandıkçıoğlu, 2020. For another relevant and interesting objection and its analysis—the objection of subjective physicalism—to the knowledge argument, see Kıymaz, 2019.

*P*: A physical duplicate of our world exists without any phenomenal ingredient (zombies exist).

- (1) It is conceivable that *P*.
- (2) If it is conceivable that *P*, then it is possible that *P*.
- (3) If it is possible that *P*, then physicalism is false.
- (4) Therefore, physicalism is false.

Each of the three premises above has been argued to be false in several ways in the literature. What we need here are not the details of the objections to the premises, but rather the sort of justification behind the whole argument. Here the notion of conceivability in premise (1) is aimed to reflect the epistemic gap we are exposed to when we think about the connection between the phenomenal and the physical. If one assumes that this epistemic gap results from an ontological gap between the entities involved, one may legitimately think that the phenomenal and the physical are distinct entities. And this possibility is expressed in premise (2). But the possibility that the phenomenal and the physical are metaphysically distinct falsifies the physicalist thesis (as what premise (3) says) if the metaphysical connection between the phenomenal and the physical has to be a necessary connection, regardless of whether it is identity, supervenience or realization. Granted, there are physicalists who defend contingent (and a posteriori) physicalism like earlier physicalists such as Feigl (1958) and Smart (1959) and the more contemporary ones such as Melnyk (2003). Nevertheless, maintaining contingent physicalism does not seem to be a tenable position. There are several reasons not to advocate contingent physicalism. Though we cannot go into details, Kripkean considerations concerning the modal status of identity statements and the worries of falling into property dualism can be readily cited here.

**The Explanatory Gap Argument:** The background problem this argument rests on can be illustrated in several ways. Indeed, one may think that other anti-physicalist arguments wholly or partially root in the same problem. Nevertheless, Levine's construction of the problem (1983, 1999, and 2007) is more striking than other presentations. He attracts attentions to a simple contrast between theoretical reductions in science like that of water to H<sub>2</sub>O and the ones occurring between phenomenal and physical states like the reduction of pain to c-fiber firing. For Levine, when scientists identify water with H<sub>2</sub>O, the identity statement seems explanatory. The connection between water and H<sub>2</sub>O seems totally clear. After the details of the connection are explained fully, no one would ask "But how come water is identical to H<sub>2</sub>O?" The question would be unintelligible. The case is not the same in the reduction of phenomenal states to physical ones. Anyone could ask quite intelligibly "But how come pain is identical to c-fiber firing?" since the purported connection between pain and c-

fiber firing does not seem fully explained. Something is left unexplained, and this makes the connection look arbitrary. What is worse is that the explanatory gap in question does not seem to be closable because we have no idea how to bridge the gap. We can put this line of thinking in the form of an argument as follows:

- (1) While theoretical identities in science are explanatory (leaving nothing unexplained), identities between phenomenal and physical states present a permanent arbitrariness (leaving things unexplained).
- (2) This means there is an unbridgeable explanatory gap between phenomenal and physical states.
- (3) There is an unbridgeable explanatory gap between phenomenal and physical states only if phenomenal states are not physical.
- (4) Therefore, phenomenal states are not physical.
- (5) Therefore, physicalism is false.

The crucial question here should be “If we do have such a gap, why is that so?” Is it because there is an ontological gap between phenomenal and physical states, or is it because of some other reasons that do not threaten the core thesis of physicalism? If the answer is “yes” to the former, physicalism is endangered. If it is “yes” to the latter, physicalism is still saved.

As an alternative way of illustrating the explanatory gap problem, Levine cites another anti-physicalist argument that he calls “the open question argument” (2007), which is worth mentioning here.<sup>7</sup> He basically applies the notion of open question to the case of the explanatory gap problem within the issue of phenomenal-physical identities. To see the conceptual relation between the notions of “explanatory gap” and “open question,” consider the following two questions:

- (Q1): Are substances that are micro-structurally different from water (say, XYZ), but macro-structurally (regarding their surface properties) the same as water water?
- (Q2): Are creatures that are physically different from humans (say, an alien species), but functionally the same as humans, conscious? And if so, is to be conscious for them the same as what it is to be conscious for humans?

---

<sup>7</sup> The term “open question argument” has been used within a different context in ethics. It has been originally introduced by Moore to show that ethical properties cannot be identified with non-moral properties (1903: 13).



These two questions are different for Levine. (Q1) is a totally semantic question. There is no further *non-semantic* chemical or physical fact to be discovered in order to answer the question satisfactorily. The answer will only be based on our semantic decision whether we want to call XYZ water or something else. On the other hand, (Q2) is an open question implying the possibility that there are two fundamentally different sets of properties, namely, phenomenal and physical. This is to say that there may be a deep conceptual gap between our phenomenal and physical concepts.

**The Property Dualism Argument:** This argument is originally presented as the third objection in Smart's paper (1959), which he ascribes to Max Black. Smart considers the objection the most challenging one that he is least confident to have met satisfactorily. When explaining the objection Smart says "...a sensation can be identified with a brain process only if it has some phenomenal property, not possessed by brain processes, whereby one-half of the identification may be, so to speak, pinned down" (p. 149). Here, in order to "pin down" a phenomenal state, he thinks, we need a property (or properties) of that state, or a mode of presentation in modern terms, by which the corresponding phenomenal term can pick out the phenomenal state itself. Otherwise, how can the referent of the phenomenal term be fixed, and equally importantly, how can the relevant identity statement (the statement that the phenomenal state *f* is identical to the physical state *p*) be informative and non-trivial? Consider the classic example of "Evening Star/Morning Star." These two terms refer to the same object, but the reason why we have two different terms and why the identity statement "The Evening Star is identical to the Morning Star" is informative and non-trivial is that they are associated with two different properties (appearing in the evening and in the morning) possessed by the same object. The case, the objection goes, is the same with phenomenal and physical states.

One might think that the argument only runs against the identification of states, events, processes, etc., but not against the identification of properties. This would be wrong (as Block (2006) and others point out) because identification of properties with other ones also requires that the relevant referring terms be associated with some properties of those properties. In other words, the problem arises even for a mind-body "property" identity theory, which basically says "mental properties are identical to physical properties," because the phenomenal property that is claimed to be identical to a physical property can be "pinned down" again only by a property of that phenomenal property—by a mode of presentation of that phenomenal property. What we have said so far can be presented as follows:

- (1) Mental-physical identity statements are informative and non-trivial.

- (2) Mental-physical identity statements are non-trivial, only if the terms involved are associated with distinct properties (in their modes of presentation).
- (3) If the associated properties are distinct, the ones associated with mental terms are not physical.
- (4) If the properties associated with mental terms are not physical, physicalism is false.
- (5) Therefore, physicalism is false.

Now, recall that we have pointed out three metaphysical relations at the outset: identity, supervenience and realization relations postulated by physicalists. It seems that the anti-physicalist arguments run even against each version of physicalism employing these three distinct relations. Consider the knowledge argument. The anti-physicalist claims that while still being in the black and white room, Mary fails to know the phenomenal character of perceptual experiences, and this intuition is not explained away even if perceptual processes are identical to physical processes, or they supervene on physical processes, or they are realized by physical processes.

The conceivability/modal argument too runs against each of these three relations since these metaphysical relations must have a necessary character as we pointed out and reasonably assumed at the beginning. Granted, there are philosophers who think of physicalism as a contingent thesis. And the debates regarding the modal status of physicalism are not likely to be completed soon. But it is still reasonable to believe—and as we also referred in section 1, there are thinkers who strictly defend the same view, (Levine and Trogon, 2009; Chalmers, 1996; 2002; and 2009)—that the only tenable position within physicalism is to defend the thesis that the metaphysical connection between the mental and the physical is a necessary relation. So, if zombies are possible, then these three relations all fail to be the real metaphysical glue holding the mental and the physical together.

The explanatory gap argument as well poses a threat against each of these three relations, since the unbridgeable gap between mental and physical entities will still remain untouched even if mental entities are identical to, or supervene on, or realized by physical entities. None of these relations are actually aimed to close or narrow the gap. The purpose of all is to specify the nature of the connection between the mental and the physical. Even after that specification, the gap still remains. But the gap threatens the identity relation more than it does the other two. If two things are numerically identical to each other, obviously this identity suffers from any unexplained (supposedly metaphysical) gap. On the other hand, if a distinct entity

supervenes on, or is realized by another entity, an unexplained gap perhaps is tolerable to some extent.

The property dualism argument, nevertheless, specifically targets the identity theory. It is possible to think that supervenience and realization relations are protected from the threat of this argument on the grounds that there are two distinct entities involved in the postulation of these relations. Clearly if there are two distinct entities, the terms referring to these entities will likely to be associated with distinct properties. Supervenience and realization relations seem fine with distinct properties, as long as those properties conform to the purported nature of the mental-physical relation.

It should also be noted that while what is employed against physicalism by these arguments involves both the phenomenal and the non-phenomenal character of the mind, when employed in the arguments, the phenomenal character strikes us more. Mary is surprised, as the knowledge argument claims, more about the phenomenal quality <sensation red.> The most distinguishing character, among other non-phenomenal mental features, that zombies lack, according to the conceivability/modal argument, is the phenomenal features of the mind. The explanatory gap makes itself more explicit when we attempt to understand the relation between the phenomenal character of the mind and its physical basis. And finally, in the relevant identity statements, the properties associated with the relevant terms seem more distinct if one side of the identity statement expresses a phenomenal property. It is this reason why phenomenal consciousness is considered to be more problematic than non-phenomenal character of mind in the effort to correctly place it in our understanding of nature. This being the case, we can from now on turn our attention to the phenomenal-physical relation instead of the more general mental-physical relation.

Now it is time to look at the grounds these arguments rest on and consider why we have intuitions that lead to a phenomenal-physical duality. This exercise is likely to reveal some features of the way we think about mental entities, in particular phenomenal entities.

#### **4. The Epistemic/Explanatory Gap**

As one can easily notice, the anti-physicalist arguments given above employ a sort of gap between the phenomenal and the physical. They employ the non-derivability of phenomenal truths from the complete physical truth *P*. Mary cannot deduce a phenomenal truth from her complete physical knowledge while still being in the black and white room. Zombies are conceivable because *P* does not seem to entail phenomenal truths. We feel a sort of explanatory uneasiness with phenomenal-physical

identity statements because they do not seem to be tied to each other derivationally. Even though the two sides of the identity sign are supposed to pick out one and the same referent, those identity statements are informative and non-trivial because there is a derivational distance between what is expressed by phenomenal terms and what is expressed by physical terms. This non-deducibility turns out to be an epistemic gap between the phenomenal and the physical. The anti-physicalist arguments appeal to this epistemic gap and conclude that we are exposed to such sort of a gap because there is an underlying ontological gap, meaning that the phenomenal and the physical are ontologically distinct.

Here, the terms “epistemic gap” and “explanatory gap,” are different in meaning, though they are used for the same purpose. The former attracts attention to the distinct epistemological positions of epistemic agents, while the latter, introduced by Levine, runs on the explanatory level aiming the same. As the explanatory gap argument presents, we do not suffer from any explicit unintelligibility in comprehending standard scientific identity statements such as “Water is H<sub>2</sub>O;” “Lightening is a sudden discharge of electricity in the atmosphere;” “Temperature is average molecular kinetic energy;” “Light is electromagnetic wave;” and so on. On the other hand, we have serious difficulties in understanding phenomenal-physical identity statements such as “a red quale is such and such a neurophysiological property in the brain;” “itching is such and such a neurophysiological state;” “fear is such and such a neurophysiological state;” “imagining is such and such a neurophysiological process;” “successions of thoughts are such and such neurophysiological events,” and so on.

One may rightly think that the anti-physicalist arguments may exploit similar gaps on different levels. On the cognitive level, for example, a subject takes distinct cognitive positions towards phenomenal and physical entities. The way we know about the phenomenal is cognitively distinct from the way we know about the physical. I can know about my visual experience of red by introspecting the content of my relevant visual mental states, whereas I can know about the corresponding physical processes occurring in my brain only by third-person physical examination. This cognitive difference can be said to present a cognitive gap between the phenomenal and the physical. Or think about it on an intuitive level. One may rightly say “I do not know if there really is an ontological gap, but one thing is clear to me: The phenomenal and the physical seem more distinct to me than other pairs involved in scientifically true identity statements,” and call this “intuitive gap.” It then seems that we can call the epistemic/explanatory gap the “phenomenal-physical gap,” regardless of whether or not it is an ontological one. Henceforth take “PP-gap” as standing for “phenomenal-physical gap” implying both the epistemic and explanatory gaps, and other possible ones that might be intelligibly phrased on different levels.

One may also think that the gaps in question are different conceptualizations of the one and the same distinctness between the phenomenal and physical domains. If we consider these two as distinct domains, however, we might be presupposing that members of the each are distinct entities. We do not want to do that because what we are trying to find out is whether a given member of the phenomenal domain is the one and the same corresponding member of the physical domain. Nevertheless, we have good reasons to think that the phenomenal and the physical constitute at least distinct perspectival domains in the sense that we can only look into these domains from two different perspectives. We can investigate the phenomenal only from the first-person perspective while we can examine the physical from the third-person perspective.<sup>8</sup> Hence, a dualist may think of these two as metaphysically distinct domains, whereas a physicalist may think of these two as two different domains only in an indirect metaphoric sense: The phenomenal and the physical can be scrutinized from different perspectives.

Note that none of the three metaphysical relations proposed by physicalists can escape Levine's core contrast between the phenomenal-physical reductions and the theoretical ones in science. Consider the following three statements:

- (I) The feeling of anger is identical to the brain state B.
- (S) The feeling of anger supervenes on the brain state B.<sup>9</sup>
- (R) The feeling of anger is realized by the brain state B.<sup>10</sup>

All these three statements suffer from a phenomenal-physical gap if the anti-physicalist is right about the PP-gap. The PP-gap is more apparent in (I) because the identity relation in (I) is a numerical one; it relates an entity exactly to itself. The other two, nonetheless, might be thought to be compatible with two ontologically distinct entities. But still, the supervenience relation in (S) and the realization relation in (R) have to be necessary relations as well. Necessary character here means the two distinct entities are so strictly tied to each other that if the base or realizing properties are instantiated in

---

<sup>8</sup> Here, what I mean by the "first-person perspective" is a subject's unique ability to examine (the unique way a subject can examine) consciously the contents of her own mental life—the ability that cannot be possessed by any other subject. What I mean by the "third-person perspective," on the other hand, is the public ability (public way) to examine something, which can be possessed by anyone.

<sup>9</sup> Let us understand necessary supervenience as follows: *A*-properties supervene on *B*-properties with metaphysical necessity if and only if there can be no possible world in which *B*-properties of an *x* are the same as the original ones while *A*-properties of the same *x* are different from the original ones, or *B*-properties are instantiated by *x* while *A*-properties are not.

<sup>10</sup> Let us understand necessary realization as follows: A property *A* is realized by another property *B* with metaphysical necessity if and only if there can be no world in which *B* is instantiated by an *x* while *A* is not.

any possible world, the supervenient and realized properties have to be instantiated in the same world as well. How can such a strong modal connection be expected in the presence of the PP-gap? Mental properties are so tightly connected to physical properties, and yet truths involving mental properties cannot be deduced from truths involving physical properties, or statements expressing the supervenience or realization relation between the phenomenal and the physical seem more mysterious than the statements expressing the same relations between other types of properties, say aesthetic and physical properties, or economic and physical properties.

### 5. Is the Phenomenal-physical Gap Bridgeable?

Now, we are ready to answer the central question of this paper: Why do we have this PP-gap or why does it emerge in the first place? More importantly, is it bridgeable in principle or not? If it is not, why is it not? Besides, does this PP-gap emerge because we do not know *enough* yet about the phenomenal and the physical? In other words, is it true that the more we know about these two, as our philosophical and scientific understanding improves, the smaller the PP-gap will be? If the answer is “yes,” it seems the anti-physicalist arguments will gradually lose their power against physicalism as some philosophers thought (Nagel, 1974 and Churchland, 1996). This is also what Chalmers calls type-C materialism (2003), which claims that there is a deep epistemic gap between the phenomenal and the physical, but it is closable in principle and is very likely to be closed in the future given current developments. Nevertheless, that is not the case at all. It is because the phenomenal and the physical are at least *epistemologically distinct domains in nature*. Phenomenal entities are non-public. They cannot be observed publicly as non-phenomenal entities can. This simple fact constitutes the following two epistemological constraints that make hard—and sometimes impossible—any complete examinations on the nature of the PP-gap:

(NC) *The Nomological-Physical Constraint: It is nomologically impossible to observe a phenomenal token from the third-person perspective.*

Even a phenomenal subject herself cannot observe a phenomenal token of her own from the third-person perspective. Think of a situation in which a person’s skull is opened up during a surgical operation while the person is still awake and conscious. If the person under the surgery attempts to see her own phenomenal state from the third-person perspective, say, by a mechanism of mirrors, what she can observe is nothing but physical states in the brain. It is not likely that any scientific improvement can make it possible to observe a phenomenal token from a perspective other than the person’s own first-person perspective. Hence, no phenomenal token can be observed from a

third-person perspective as a matter of nomological impossibility. There is another epistemological constraint on the examination of the phenomenal:

*(LC) The Logical-Phenomenal Constraint: It is logically impossible for a phenomenal token to be experienced by more than one phenomenal subject.*<sup>11</sup>

A first-person perspective is a person's own perspective. The person uses this perspective when she looks at her internal mental happenings, i.e., when she introspects. And there is an intimate connection between the experience and the experiencing subject. Perhaps this intimate connection is a constitutive one, i.e., one is a component of the other. Here what (LC) suggests is something more to (NC): For every phenomenal token, logically there can only be *one* phenomenal subject. A phenomenal subject cannot observe, even from her own first-person perspective, someone else's phenomenal tokens. Although there will always be room for the possibility that the phenomenal and the physical are numerically identical, as long as we face these two constraints, the PP-gap will always remain. No matter how much we know and learn about the natures of the phenomenal and the physical, the PP-gap will always present itself. This is a point that provides the anti-physicalist arguments with an extra power.

Here what crucially matters for the physicalist is whether the PP-gap is *potentially* bridgeable. Do the above two constraint also suggest that the PP-gap is not bridgeable in principle? In other words, is there any possible way to convincingly show that the phenomenal and the physical are identical? There are many reasons for believing in one or another version of the physicalist thesis. There are also reasons for being sympathetic to an anti-physicalist approach, especially on an intuitive ground that we will mention in the following section. Nevertheless, the anti-physicalist has one strategic advantage. The physicalist has at least the burden of showing that the implications of the physicalist thesis can *potentially* be proved to be true. Potential provability in this sense is a burden that the physicalist, but not the anti-physicalist, is supposed to shoulder. Consider the following constraint:

*(PC) The Provability Constraint for Referential Terms: It is not provable that any two referential terms refer to one and the same entity (are co-referential), unless there is a potential way to verify that there is not two but one entity to which these terms refer.*

To understand what (PC) says, consider the classic "Morning Star/Evening Star" example. Once people realized that these two terms refer to the same planet, they did not have an actual way of proving this, but there was a potential way to show that. An

<sup>11</sup> What I mean by "phenomenal subject" is exactly the subject that entertains phenomenal tokens in a given phenomenal domain whatever her ontological status is.

imaginary astronaut could have travelled to the orbit of Earth and determined that what people called Morning star and Evening star are the one and the same planet. There was a potential way of proving or disproving the co-referentiality of the two terms. Or imagine a case where someone claims that a planet called X in a distant galaxy is nothing but a mere reflection of a near planet called Y in the same galaxy, and that they look different because X is, for some reason, the reflection of Y's unseen side. This fancy claim may be true or false, but it is a fact that the claim can potentially be proved or disproved. It is both logically and nomologically possible that someone or some creatures prove or disprove the claim in question. Nonetheless, we do not have this chance in the phenomenal-physical case as (NC) and (LC) dictate. The phenomenal-physical identities cannot satisfy the antecedent of (PC)—the “unless clause.” Hence, the consequent: However much we know about the phenomenal and the physical, we will not be able to make sure that these two are nothing but the one and the same entity in the metaphysical sense. So, unfortunately, for the physicalist, the gap will always remain. There is no potential way, both in the logical and nomological sense, to bridge the gap. This and other facts are the reasons why philosophers such as McGinn (1989) have written quite pessimistically about our ability to fully comprehend the relation between the phenomenal and the physical.<sup>12</sup>

If the PP-gap is unbridgeable, the philosophical consequence of this is a serious one: A priori physicalism is not tenable since there is no way to deduce mental-to-mental truths (e.g., sorrow is similar to sadness) and mental-to-physical (or physical-to-mental) truths<sup>13</sup> (e.g., pain is identical to c-fiber firing) from the complete physical truth *P*, since we face an unbridgeable PP-gap. If a priori physicalism is not tenable, does this mean a physicalist should give up reduction as well? This is not certain yet. For being unbridgeable does not necessarily entail ontological distinctness; it only entails improbability of a physicalist thesis. The phenomenal can still be identical to the physical in the metaphysical sense. So, it depends on how a physicalist approaches to the PP-gap. If she can, for example, show that even if the PP-gap is not bridgeable, there are still good reasons to believe that a phenomenal-to-physical reduction holds, or the PP-gap itself can be explained in physical terms, there will still be rooms for reductive physicalism.

---

<sup>12</sup> There is another interesting approach to this pessimism in the literature, which focuses on the bizarre nature of the metaphysics of mind. See Schwitzgebel, 2014.

<sup>13</sup> We can call expressions of this type of truths as “bridge statements.”



## 6. The Phenomenal-physical Gap and the Intuition of Distinctness

So far, we have basically asked two questions regarding the PP-gap: What results does this PP-gap have against the materialist-physicalist conception of the world, and why do we have it or why does it emerge in the first place? Based on the above considerations, if we are persuaded that the PP-gap is not bridgeable in principle, we should now ask a third question: Can it be explained away in favor of physicalism? At this point, what immediately strikes us is the fact that we cannot help but straight away think that the phenomenal and the physical are quite distinct. Why so? Two reactions are possible here: (1) It is because of their ontologically distinct natures – which would ultimately falsify physicalism. (2) It is not because of their ontologically distinct natures, but because of something else that explains why our immediate thinking presents an ontological distinctness between the phenomenal and the physical. David Papineau (2002: 94; 2007; and 2008) is one of those philosophers who sustain (2). He thinks that we have an intuition telling us stubbornly that the phenomenal and the physical are ontologically distinct entities: they cannot be the one and the same entity. This is an intuition even a hard-core materialist cannot help but suffer from. Nevertheless, we have to learn to live with it, because it results from the nature of our way of thinking about phenomenal entities. And the good news is that it is not a problem for physicalism at all.

Papineau admits that the PP-gap, which the intuition of distinctness stimulates, is not bridgeable. But we can explain in physical terms why it is unbridgeable. And if we can do that, physicalism will be saved from anti-physicalist arguments. The intuition of distinctness is just an intuition. It should not lead one to disregard other good reasons for believing that phenomenal entities are physical/functional entities. For we have other misleading intuitions both in our ordinary lives and in our scientific thinking, such as the intuition that however fast one travels, one does not remain younger than one's twin sister: he gets aged in normal ways. But despite this intuition, we believe in the theory of general relativity. If so, we can disregard the intuition of distinctness as well in favor of other good reasons for believing the physicalist thesis.

As to the source of the intuition of distinctness, Papineau maintains that the intuition results from a gap between our concepts of the phenomenal and the physical. He even offers a theory of phenomenal concepts that he claims explains away the intuition. What he claims is basically that we employ phenomenal and physical concepts in our thinking through quite different cognitive processes. These different processes make them look fundamentally different. There is not two but only one entity, but different conceptualizations yield different concepts which in fact refer to one and the same entity. Although there is no ontological duality, there is, thus, a *conceptual duality*, which

ultimately yields a *conceptual (but not ontological) gap* between the phenomenal and the physical. The intuition of distinctness is merely an extrapolation of this conceptual gap.

Given this conceptual gap, one might claim that physical terms refer to physical entities and phenomenal terms refer to phenomenal entities, but not vice versa. There is no way for physical terms to refer to something phenomenal. To reject this way of thinking, Papineau postulates what he calls “antipathetic fallacy,” a type of use-mention confusion, which expresses that “the fact that we do not have certain experiences when we think third-person thoughts [entertain physical concepts] does not mean that we are not referring to them.” (1993: 177). Even if Papineau is right about this diagnosis, the provability constraint for referential terms (*PC*) still holds. It is because (*PC*) is not about whether a given type of term has the ability to refer to two entities at the same time, but rather is about whether it is provable that two different types of terms refer to one and the same entity.

All in all, it seems that the proper strategy here, should not be what Papineau and other defenders of phenomenal concept strategy choose to do. Rather, it should be to show first, to a satisfactory degree, that why reaction (1)—that the intuition results from the ontologically distinct natures of phenomenal items—is an unfavorable option. This requires understanding both sides (phenomenality and physicality) to a reasonable degree. We have a good understanding of the physical, but do we have a satisfactory understanding of the phenomenal? If we do not—and Papineau talks as if we do—how can we be sure that the intuition of distinctness does not result from the very nature of the phenomenal?

## 7. Summary and Conclusion

In section 1, we introduced several types of physicalism and pointed out the primary purpose of this paper. In section 2 and 3, we have dwelled on the traditional and contemporary arguments put forward against materialism and physicalism. In section 4, we have addressed the epistemic/explanatory gap and applied to a more comprehensive notion “the phenomenal-physical gap.” In section 5, we plainly claimed that the phenomenal-physical gap is not bridgeable even in principle because of the three constraints regarding the nature of phenomenality and the provability of co-reference for referential terms. In section 6, we touched upon one attempt for explaining away the unbridgeable gap in question in favor of physicalism. The attempt, made by Papineau, applies to an intuition of distinctness, the objective of which is just to show that the gap between the phenomenal and the physical is not an ontological one, but merely a conceptual one.

For any physicalist who acknowledges that there is really a gap between the phenomenal and the physical, there are basically three options to follow in accounting for the PP-gap: the PP-gap results from the nature of the phenomenal, or from the nature of “us” (whatever this *us* is), or from the nature of the way *we* know about the phenomenal—through the concepts mediating between us and the phenomenal. Given the fact that we do not have a satisfactory level of understanding of the first two, the phenomenal and the *us*, looking for the root of the PP-gap on the conceptual level is not much likely to yield the right conclusions. We have not asked sufficiently many questions about the phenomenal yet. We have not completed even our basic understanding of different dimensions of phenomenality. We have not yet fully conceptualized the phenomenality. Our notions of phenomenal entities are still primitive. Postulations of new concepts, their correct categorization, discovering new dimensions, and so on are required before any attempt to scrutinize the relation between the phenomenal entities and their concepts can be fruitfully conducted. Unless we have a much better understanding of the phenomenal character of our minds, it does not seem to be wise to expect a convincing theory that explains the real metaphysical relation between the mental and the physical.

## 8. References

- Arkan Sandıkcioglu, P. (2020). “Epiphenomenalism and the Causal Theory of Knowing.” *Beytulhikme*, 10(4): 1219-1234.
- Arici, M. (2011). *Physicalism and the Phenomenal-Physical Gap: Can A Posteriori Necessary Physicalism Adequately Respond to The Problem of Phenomenal Subjecthood?* Unpublished doctoral dissertation. Middle East Technical University, Social Sciences Institute, Ankara.
- Arici, M. (2018). “The Problem of Phenomenal Consciousness: A Descriptive and Categorical Analysis.” *MetaZihin*, 1(1): 14-15.
- Bealer, G. (1994). “Mental Properties.” *Journal of Philosophy*, 91: 185-208.
- Block, N. (2006). “Max Black’s Objection to Mind-Body Identity.” *Oxford Studies in Metaphysics*, 2: 3-78.
- Chalmers, D. J. (1996). *The Conscious Mind*. New York: Oxford University Press.
- Chalmers, D. J. (2002). “Does Conceivability Entail Possibility?” In T. Gendler and J. Hawthorne (Eds.), *Conceivability and Possibility*, (pp. 145-200). Oxford: Oxford University Press.

- Chalmers, David J. (2003). "Consciousness and Its Place in Nature." In S. Stich and T. Warfield (Eds.), *Blackwell Guide to the Philosophy of Mind*. Blackwell.
- Chalmers, D. J. (2009). "The Two-Dimensional Argument Against Materialism." In McLaughlin and A. Beckermann (Eds.), *The Oxford Handbook of the Philosophy of Mind*. New York: Oxford University Press.
- Churchland, P. S. (1996). "The Hornswoggle Problem." *Journal of Consciousness Studies*, 3(5-6): 402-408.
- Descartes, R. (1641). *Meditations on the First Philosophy*. Translated by Donald A. Cress. In Steven M. Cahn (Eds.), *Classics of Western Philosophy* (2000) (Sixth Edition). Indianapolis: Hackett Publishing Company.
- Feigl, H. (1958). "The "Mental" and the "Physical."" In H. Feigl, M. Scriven, and G. Maxwell (Eds.), *Concepts, Theories and the Mind-Body Problem* (Vol.2). Minneapolis: Minnesota Studies in the Philosophy of Science.
- Jackson, F. (1982). "Epiphenomenal Qualia." *Philosophical Quarterly*, 32(April): 127-36.
- Jackson, F. (1986). "What Mary didn't Know." *Journal of Philosophy*, 83: 291-5.
- Kıymaz, T. (2019). "Subjective Physicalism as a Response to the Knowledge Argument." *MetaZihin*, 2(2): 199-211.
- Kripke, S. (1980). *Naming and Necessity*. Cambridge, MA: Harvard University Press.
- Levine, J. (1983). "Materialism and Qualia: The Explanatory Gap." *Pacific Philosophical Quarterly*, 64(October): 354-61.
- Levine, J. (1999). "Conceivability, Identity and the Explanatory Gap." In S. Hameroff, A. Kaszniak and D. Chalmers (Eds.), *Towards a Science of Consciousness: The Third Tuscon Discussions and Debates*. Cambridge, MA: The MIT Press.
- Levine, J. (2001). *Purple Haze: The Puzzle of Consciousness*. New York: Oxford University Press.
- Levine, J. (2007). "Phenomenal Concepts and the Materialist Constraint." In T. Alter and S. Walter (Eds.), *Phenomenal Concepts and Phenomenal Knowledge: Essays on Consciousness and Physicalism*. New York: Oxford University Press.

- Levine, J. & Trogon K. (2009). "The Modal Status of Materialism." *Philosophical Studies*, 145(3): 351-62.
- McGinn, C. (1989). "Can We Solve the Mind-Body Problem?" *Mind*, 98(391): 349-66.  
Reprinted (1997) in N. Block, O. Flanagan and G. Güzeldere (Eds.), *The Nature of Consciousness*, (pp. 529-542). Cambridge, MA: The MIT Press.
- Melnyk, A. (2003). *A Physicalist Manifesto: Thoroughly Modern Materialism*. New York: Cambridge University Press.
- Moore, G. E. (1903). *Principia Ethica*. Cambridge: Cambridge University Press.
- Nagel, T. (1974). "What Is It like to Be a Bat?" *Philosophical Review*, 83(October): 435-50.
- Nida-Rümelin, M. (2007). "Grasping phenomenal properties." In T. Alter and S. Walter (Eds.), *Phenomenal Concepts and Phenomenal Knowledge: New Essays on Consciousness and Physicalism*. New York: Oxford University Press.
- Papineau, D. (1993). "Physicalism, Consciousness and the Antipathetic Fallacy." *Australasian Journal of Philosophy*, 71(2): 169-183.
- Papineau, D. (2002). *Thinking about Consciousness*. Oxford: Oxford University Press.
- Papineau, D. (2007). "Phenomenal and Perceptual Concepts." In T. Alter and S. Walter (Eds.), *Phenomenal Concepts and Phenomenal Knowledge: New Essays on Consciousness and Physicalism*. New York: Oxford University Press.
- Papineau, D. (2008). "The Explanatory Gap and Dualist Intuitions." In L. Weistrantz and M. Davies (Der.), *Frontiers of Consciousness: Chichele Lectures*, (pp. 55-68). New York: Oxford University Press.
- Schwitzgebel, E. (2014). "The Crazyist Metaphysics of Mind." *Australasian Journal of Philosophy*, 92(4): 665-682.
- Smart, J. J. C. (1959). "Sensations and Brain Processes." *Philosophical Review*, 68: 141-56.
- Shoemaker, S. (2007). *Physical Realization*. New York: Oxford University Press.

————— This Page Intentionally Left Blank —————