

This is the penultimate draft of a paper forthcoming in *The Philosophical Quarterly*. Please cite the published version <https://doi.org/10.1093/pq/pqz043>

Revelation and Phenomenal Relations

Antonin Broi

Abstract

Revelation, or the view that the essence of phenomenal properties is presented to us, is as intuitively attractive as it is controversial. It is notably at the core of defenses of anti-physicalism. I propose in this paper a new argument against Revelation. It is usually accepted that low-level sensory phenomenal properties, like phenomenal red, loudness or brightness, stand in (phenomenal) relation of similarity and quantity. Furthermore, these similarity and quantitative relations are taken to be internal, that is, to be fixed by what their relata are. I argue that, under some plausible additional premises, no account of what grounds these relations in the essence of their relata is consistent with Revelation, at least if we take common phenomenological descriptions for granted. As a result, the plausibility of Revelation is undermined. One might however resist this conclusion by weakening the epistemic relation postulated between subjects and their phenomenal properties.

Keywords: phenomenal properties, revelation, acquaintance, similarity, quantity, anti-physicalism

1 Introduction

The intimate epistemic and metaphysical link between subjects and their phenomenal experiences has intrigued many philosophers. Recently, against the background of discussions over phenomenal concepts and the Phenomenal Concept Strategy (Stoljar, 2005, Alter and Walter, 2007, Sundström, 2011), the debate has come to focus on whether the nature of phenomenal properties is presented to the subjects, a thesis akin to what is often called the Revelation thesis.

This paper aims to challenge a widely respected version of the Revelation thesis and examine the consequences of this challenge. The problem that I shall raise for Revelation can be put as follows. It is usually taken for granted that there are relations of similarity (e.g., between phenomenal orange and phenomenal yellow) and quantity (e.g., between two (phenomenal) sounds of different levels of loudness) that hold between phenomenal properties. It is also commonly thought that there is something in the essence of phenomenal properties that makes them stand in these relations, i.e. they are *internal* relations. If Revelation is true, that is, the essence of phenomenal properties is presented to us, then the essential features of phenomenal properties that ground the relations must be presented to us too. However, I argue that this contradicts common phenomenological descriptions, which in turn sheds doubt on Revelation.

The challenge is not straightforward, though, as it is controversial how similarity and quantitative relations are fixed by the essence of phenomenal properties. One of the tasks of

this paper will thus be to identify these essential features by laying out various different views, before examining the contradictions that they imply.

Because phenomenal properties lie at the core of my investigation, it will be useful to say more about them. To make it clear from the beginning, the way I conceive of phenomenal properties here does not exclude physicalism. Physicalists could accept the existence of phenomenal properties as described below and argue that they are somehow identical or reducible to physical properties. More generally, neither physicalism or anti-physicalism belong to the premises of the argument provided in this paper.

Phenomenal properties are properties of our experience that constitute its phenomenal character, and correspond to what it is like to undergo it. Paradigm examples of phenomenal properties are the property of reddishness, or phenomenal red, instantiated by a visual experience of a fire hydrant, the brightness or lightness instantiated by a visual experience of the sun, the loudness instantiated by an auditory experience of a rock concert, etc.

As the previous examples show, this paper is concerned with low-level sensory phenomenal properties. Low-level properties are phenomenal properties like (phenomenal) color, shape, pitch, that can be opposed to high(er)-level properties like the phenomenal property associated to seeing a house *as a house* or the phenomenal property associated to listening to the voice of my mother *as the voice of my mother*, which some philosophers also hold to be irreducible phenomenal properties (Siegel, 2010). I will further restrict myself to sensory properties, as opposed to (alleged) cognitive or emotional phenomenal properties (Kriegel, 2015).

I take it that phenomenal properties imply potential access for subjects undergoing experiences of them. Subjects can normally focus their attention on them, introspect them, and form justified beliefs about them.

To reflect both the way in which phenomenal properties are what-it's-like properties and the way in which we have potential cognitive access to the phenomenal properties of our experience, we can say that phenomenal properties (and the phenomenal character of our experience) involve a *presentation* of something to us. The Revelation thesis can then be conceived of as an answer to the following question: What is it that is *presented* to us?

In the next section I introduce the gist of the Revelation thesis, and identify the variant that I use in the remainder. I then go on to present in Section 3 the kind of relations relevant for the argument discussed here: phenomenal similarity and quantitative relations. Section 4 is devoted to a discussion of two major views on how to ground these relations in the essence of their relata. I conclude that they both fail to accommodate Revelation, granted a fairly plausible metaphysical assumption, and then briefly attempt to provide a generalized argument against Revelation. I conclude the paper by examining the consequences of this possible objection and some possible replies (Section 5).

2 The Revelation Thesis

There is something about the phenomenal properties of our experiences that makes them appear very different from other kinds of properties, particularly physical properties. There is a sense in which there is no difference between what the phenomenal property is and what it appears to be. This intuition is at the heart of Jackson's argument against physicalism (Jackson, 1986), but also of subsequent works on the so-called Phenomenal Concept Strategy (Stoljar, 2005). In the recent literature, the notion of Revelation has been used to designate this kind of intimate presentation of the phenomenal properties to the subjects who undergo them, and many antiphysicalists have embraced it to argue against physicalism.

The term “Revelation” was used for the first time by Johnston (1992) in the context of a discussion about colors, and the claim is explained as follows: “The intrinsic nature of canary yellow is fully revealed by a standard visual experience as of a canary yellow thing” (p. 223). That the term “Revelation” was coined for the first time when talking about colors is not surprising, since the intuitions underlying the thesis are perhaps most compelling for (experiences of) colors. According to Hardin, for example, “[t]he hues are qualities with which we are acquainted. One can succeed in the task of identifying the hues with some physical structure only if that structure captures the essential features of the hues as these are displayed to us in experience” (Hardin, 1988, p. 66). When participants in the debate over physicalism took an interest in the notion of Revelation, the focus moved from the nature of colors to the nature of phenomenal properties in general as contenders for what is revealed to subjects¹.

Roughly, the debate over physicalism has involved Revelation in two distinct ways. The first way concerns the kind of access to the *fundamental ontological nature* of phenomenal properties that Revelation makes possible. If Revelation and physicalism are true, then it has been argued that we should be presented with the physical nature of our phenomenal properties. Since it is not the case, we conclude either that physicalism is false (Chalmers, 2003, Nida-Rümelin, 2007, Goff, 2011, 2015) or that Revelation is false (Loar, 1997, Levin, 2007, Schroer, 2010). Others deny that the combination of Revelation and physicalism entails that we are presented with the physical nature of our phenomenal properties (Damjanovic, 2012, Elpidorou, 2016). The second way has to do with whether the relation implied by Revelation between the subject and her phenomenal properties can be physically implemented, i.e., satisfies what Levine (2007) calls the Materialist Constraint. Doubts have

¹ Another line of research has continued to use Revelation in a context of discussions about the nature of colors (Byrne and Hilbert, 2007), and has then given rise to a naïve realist take on Revelation (Campbell, 2005, Allen, 2011). This is not the sense of Revelation that interests me in this paper.

been expressed as to whether any physical-functional mechanism could account for the subject's special epistemic access to her phenomenal properties enabled by Revelation.

In both ways, Revelation appears to conflict with physicalism. As a result, the objection that I shall raise against Revelation might indirectly lend independent support for physicalism.

The Revelation thesis has been interpreted in a variety of ways, some of which are more demanding and plausible than others. The variant of Revelation that I am going to use is the following:

Revelation The phenomenal (characterization of the) essence of a phenomenal property is presented to its subject every time she experiences the phenomenal property.

Several remarks about this definition are in order.

Strictly speaking I should talk of the *phenomenal characterization of the essence* of phenomenal properties rather than talking directly of their phenomenal essence. Drawing on Trogon (2016), the notion of phenomenal characterization points to the diverse guises, or conceptualizations, under which we can have an epistemic access to a property. Rather than implying that the nature of phenomenal properties is purely phenomenal (and not physical), I leave open the possibility of arguing, in an anti-physicalist fashion, that the phenomenal characterization of the essence of phenomenal properties is the only possible characterization of these properties, while physicalists could argue that there is a physical characterization of the essence as well. For convenience I shall often skip this detail in the rest of the paper, and talk more sloppily of being presented with the phenomenal essence of phenomenal properties, or more simply with the essence of phenomenal properties.

Talking about the essence of something is often taken to go beyond modality (Fine, 1994). All the essential properties of something are metaphysically necessary to it, but not all its

necessary properties are essential to it. Take Fine's well-known example: it is necessary for Socrates to belong to the set whose only member is Socrates. But we are intuitively reluctant to admit that this fact is part of the essence of Socrates. What then do we mean by “essence”? Some have argued that it has to do with real definitions, what makes something be what it is and nothing else (Fine, 1994, Oderberg, 2011). The details of such a view are disputed, but here I will take it that the essence of something, say X, is one or a plurality of properties². These properties can be said to be essential properties, and are associated with essential facts of the sort “X has property F”. In the case of phenomenal properties, I shall talk of a plurality of essential *features*, to avoid any confusion. The essence of phenomenal property X is thus a plurality of features F, G, etc., and essential facts include that X has F, X has G, etc. It is notoriously difficult to give precise examples of essential features of phenomenal properties: it could be argued that a phenomenal property essentially has a specific internal structure, that it essentially has a specific functional role, or simply that it essentially has a specific look (and that its essence is not analyzable beyond its look).

I will take it for granted that the presentation of the essence of something to us must involve some potential propositional knowledge about its essential facts, that is, knowledge that, say, X has F. This goes further than availability for further cognitive processes, which is one characteristic of the notion of presentation mentioned in the introduction. What I am pointing at here is that if we are presented with the essence of X, then we should be in a position to know, under ideal cognitive conditions, all the essential facts about X. In other words, only additional cognitive and attentional conditions are required for the subject to gain propositional knowledge about the essential properties of X. Conditions may include attention to the phenomenal property, acts of concept formation, absence of various cognitive biases, etc. This propositional knowledge involves deployment of concepts, but might not be expressible in public language.

² Again I leave open the possibility of characterizing these properties under different guises.

All of that is controversial. Those who insist that Revelation primarily consists in a metaphysical connection between the subject and her phenomenal properties could be tempted to argue that there is no such straightforward path from what is presented to us to what we propositionally know about it. These views are especially compatible with, although not directly deducible from, the claims that Revelation fundamentally involves knowledge of things and not knowledge of truths (Russell, 1994, Tye, 2009), or that metaphysical presence does not entail cognitive presence (Balog, 2012). On these views, although subjects might be able to make justified judgments of the form “I am experiencing the essence of *this*” while focusing their attention on the experienced phenomenal property, even a subject with ideal cognitive abilities would not be able to make judgments of the form “this has feature F” for each F essential feature of the phenomenal property. Philosophers who defend such a view would disagree with my variant of Revelation, but to my knowledge nobody explicitly endorses it. Finally, it is not clear whether those who think that we know the counterfactual extension of our phenomenal concepts are committed to the variant of Revelation that I will use (Chalmers, 2003, Nida-Rümelin, 2007, Damjanovic, 2012)³.

The argument I am going to expose in the remainder aims at undermining the variant of Revelation just introduced. Note that this variant cannot simply be rebutted by pointing out that normal human beings are not able to exhibit and verbally express essential facts about their phenomenology (let alone *all* their essential facts), that we often seem to disagree over the best description of our phenomenal properties, or that we often make blatant mistakes in these descriptions. I readily admit that this is the case, and that whatever it is that is presented to the subject, the latter has great difficulty in reporting it appropriately (Schwitzgebel, 2008). However, Revelation as I understand it only says that if further conditions (notably on our

³ While these views hold that we are presented with the essence of phenomenal properties, it is less clear whether they would agree with the claim that this essence has to be potentially accessible to subjects in a propositional way.

cognitive abilities) were fulfilled, we would be able to verbally express all the essential facts about our phenomenology, we would not disagree (except if there are genuine inter-individual differences in phenomenology), and we would not make any mistakes. Revelation, as I shall use it, is consistent with introspection being largely unreliable, and this unreliability is to be explained in terms of mistakes of miscategorization, terminological variations between locutors, etc. (Bayne and Spener, 2010, Giustina and Kriegel, 2017).

3 Phenomenal relations

There are many senses in which phenomenal properties can be said to stand in relation with other phenomenal properties. For example, many phenomenal properties can be experienced spatially, especially visual properties. Phenomenal relations therefore include “X being on the left of Y”, “X being under Y”, etc. Phenomenal properties can arguably be temporally structured as well: “X occurring before Y”, for instance. Both spatial and temporal relations, however, seem to be external to phenomenal properties like phenomenal colors. They do not depend upon, nor are fixed by, what the phenomenal colors really are. Our experience could instantiate phenomenal red in the top-left corner of our visual field, but we are not tempted to think that its location in our visual field is part of what it is for our experience to be of phenomenal red.

Consider now the relation of similarity between phenomenal red₃₂ and phenomenal red₂₅ (two determinate nuances of phenomenal red) and the relation of quantity between two different levels of loudness. In these cases it seems that the relations are internal. Phenomenal red₃₂ would not be what it is if it did not bear this particular relation with phenomenal red₂₅, etc. They are somehow fixed by the essence of the phenomenal properties (Hardin, 1992 for

the example of colors, Clark, 1993, Schroer, 2010)⁴. Similarity and quantitative relations, the relations that I will focus on, are very diverse. Similarity relations come in various degrees. There are two-place similarity relations, like “X is similar to Y”, three-place similarity relations, like “X is more similar to Y than to W” and four-place relations, like “X and Y are more similar than W and Z”. Regarding quantitative relations, it is common to distinguish between different scales, each one being associated with a specific kind of quantitative relations. Take the example of loudness. The least binding scale is ordinal, and is roughly associated to the relation “X is louder than Y”. An interval scale enables to make sense of distances between determinates of loudness, and is associated to relations that compare the distances between two pairs of determinates. Finally, a ratio scale introduces a zero-level of brightness, and is associated to relations like “X is twice as loud as Y”. It is notoriously contested whether phenomenal properties stand in more than ordinal quantitative relations with each other (see Michell, 1999).

Before going further, several caveats are necessary. What are precisely the bearers of these relations? In the case of the relation “louder than”, at least three candidates come to mind: overall phenomenal experiences, phenomenal sounds (the phenomenal properties associated to hearing physical sounds), and determinates of loudness. The latter two can be rightly described as phenomenal properties. Each option reflects deep theoretical commitments about the metaphysics of our experiences, but a detailed discussion of these alternatives would take

⁴ At this point the reader might point out a hidden assumption. Perhaps similarity and quantitative relations are only theoretical constructs, postulated to account for the results of psychophysical experiments. Or they are merely inferred from phenomenal facts (i.e., facts made true only by what it is like to have an experience) *supplemented with some prior beliefs*, like the property of reminding the subject of her vacation last summer. In such cases, these relations would not be phenomenal. I lack the space to mount a compelling argument in favor of the phenomenality of these relations, but I think that this view is by far the most intuitive and commonsensical.

me too far. I do not wish to commit myself to any particular view in this regard, as the issues I shall be interested in are largely independent from the ontological status of phenomenal entities. I shall generally have it that the relata of these relations are phenomenal properties, and not experiences, and I leave it to the reader to substitute his or her preferred account of the bearers of these relations in the course of the discussion.

If we were to make a list of all phenomenal internal relations, it should quickly become obvious that some of them are superfluous. This is because it is easy to define some of these relations in terms of others. Ordinal quantitative relations can be defined in terms of cardinal quantitative relations, for example, since a cardinal scale contains all the information given by an ordinal scale and adds to it (Roberts, 1985). The three-place similarity relation “X is more similar to Y than to W” can trivially be defined in terms of the four-place similarity relation “X and Y are more similar than X and W”.

Even more interesting is the possibility that whole families of relations be defined in terms of others. For example, determination relations, for example between phenomenal red and phenomenal red₃₂ (a particular nuance, i.e. a determinate, of phenomenal red) might ultimately be nothing more than similarity relations between nuances of phenomenal red. Roughly, phenomenal red could be said to be the set consisting of phenomenal red₁, phenomenal red₂, ..., phenomenal red₃₂, etc., grouped together because they are more similar to each other than to other phenomenal colors.

While I do not have a definite answer to which relations can be defined in terms of others, it matters insofar as we need to ground only the latter, the most fundamental ones. The views developed in the next section will help identify the potential fundamental relations.

Are similarity and quantitative relations really internal? Well, that a relation is internal implies that it is necessary to its relata. A first way to question the internality of these relations is thus to deny that they are necessary. This proposal is dubious on the face of it, but a detailed

discussion exceeds the scope of this paper. Once we admit that they are necessary, it is hard to resist the conclusion that similarity and quantitative relations hold *in virtue of* what their relata are, that they do not simply happen to be necessary to them. This is why internality can be put in terms of grounding. There are essential facts about the phenomenal relata that together ground the fact that the relation holds. More formally, let X and Y be two phenomenal properties. A relation R of similarity or quantity holds between the two, that is, we have $R(X,Y)$. R could be, for example, the relations “brighter than” or “similar to”. $R(X,Y)$ is internal if and only if there exist features F and G such that X has F essentially and Y has G essentially, and the facts that X has F and Y has G ground the fact that $R(X,Y)$ (I simplify the framework by focusing on binary relations, but extending it to n -ary relations is trivial).

4 What grounds phenomenal relations

To develop the argument against Revelation, it is important to understand how similarity and quantitative relations are grounded in the essence of their relata. In terms of the framework just outlined, the objective is to identify F and G , essential features of phenomenal properties X and Y , which together enable to ground a phenomenal relation. Two views are proposed here⁵, which both lead to contradictions with Revelation under plausible assumptions. I will then outline a way of generalizing the conclusion to other potential views.

The partial identity view

⁵ Interestingly, the two views outlined here to account for similarity and quantitative relations correspond to the two views recently examined by Blumson (2018) to account for similarity in general.

The partial identity view can be summarized by the following claims. First, phenomenal properties are taken to have an internal structure, or composition⁶. Second, because of their internal composition, similarity (and more controversially quantitative) relations can all be defined in terms of identity relations between components. Third, identity relations are (trivially) grounded in the essential components of phenomenal properties.

Similarity between two entities is often taken to consist in the sharing of properties that the two things have in common (Blumson, 2018). Peas in a pod are similar to each other because they share many properties –greenness, roundness, etc. In this way, one can define similarity relations between entities in terms of identity relations between their properties. The properties in common can also be mereological: a computer has a motherboard as part, and the sharing of the same model of motherboard can ground the similarity between two computers. By drawing on this notion of partial identity, we can use identity relations to define relations of similarity, and, more tentatively, relations of quantity, as I shall show later on. In this case, the F and G, essential features of X and Y that enable to ground relation R, are any two essential features that are identical.

Let us now apply the partial identity account to phenomenal experience. It is usually accepted that phenomenal experiences can have parts (Lee, 2014). They have what may be called a quasi-mereological internal structure. Consider the overall phenomenal experience a subject is having at a certain time. If her overall phenomenal experience has auditory and visual parts, then its phenomenal character P is arguably conjunctive and could be described, for example, as P = visual phenomenal character associated to seeing a tree & auditory phenomenal character associated to listening to a bird. For complex phenomenal characters composed, say, of a visual and an auditory component, similarity can just consist in sharing a

⁶ This internal structure need not be mereological, but the view has mostly been applied to structures that are comparable to parts/whole structures, so I will nevertheless continue to talk of *partial* identity for convenience. This implies that they are not unanalyzable.

certain number of components. For instance, that the auditory components of two different phenomenal characters are identical can ground a similarity relation. This is rather uncontroversial. But what we are interested in are phenomenal properties such as phenomenal red or loudness, and not complex phenomenal characters. The former are not obviously conjunctive in the way that the latter are. Rather, they seem to be singular, or synthetic (Byrne and Hilbert, 2008). In short, they do not seem to have any quasi-mereological structure. So we have to extend the partial identity account from a domain where it is a natural fit (complex experiences and phenomenal characters) to a domain where it is much more controversial (“simple” phenomenal properties like phenomenal orange or loudness), in order to account for similarity relations within the latter. Are apparently simple phenomenal properties in fact complex?

Take phenomenal colors. It could be argued that phenomenal red is more similar to phenomenal orange than to phenomenal blue because phenomenal orange and phenomenal red have reddish components. Schroer (2010), for example, states that “the previously mentioned resemblance [in hue between phenomenal red and phenomenal orange] is the result of their *sharing a common element*—it is the result of their sharing an element of reddishness” (p. 514). Sundström (2013) also argues that mixed colors like orange are complex, by appealing to successful phenomenological color models. Another domain where the partial identity account seems successful could be phenomenal taste properties (Byrne and Hilbert, 2008). At least some similarity relations holding between taste properties could be taken to be defined in terms of partial identity relations.

The case for reducing similarity relations between phenomenal properties to partial identity relations seems fairly promising. Are quantitative relations also reducible?

Let us come back to the case of objects, which have mereological properties. In the case of *physical* objects, it has been argued that quantitative relations could be reduced to partial

identity relations by appealing to what can be called a “Russian nesting dolls” model (Eddon, 2007). This view was developed for specific metaphysical purposes, but I will use it without any commitment to its associated metaphysical theory. Take mass. On this account, an object is heavier than another if it has a part which has the same mass as the other object. The property of having a 10 grams mass has as constituents all the inferior mass properties, for instance the property of having a 9 grams mass, the property of having a 5 grams mass, etc. If an object instantiates the property of having a 10 grams mass, then it has a part that instantiates the property of having a 9 grams mass, another that instantiates the property of having a 5 grams mass, etc. Armstrong develops this view through his notion of structural universal (Armstrong, 1988), which Eddon (2007) sums up as follows:

Think of quantitative universals as Russian nesting dolls. Within each doll there is a smaller doll, and a smaller one, ad infinitum. The largest doll “contains” all the other dolls: it shares many nested dolls with the second-largest doll, slightly fewer nested dolls with the third-largest doll, and so on. [...] Likewise for quantitative universals –every quantitative property has an infinite number of “nested” constituent universals. Intuitively, the more constituents two quantitative universals share, the more similar they are. For example, the *five grams mass* universal shares many constituents with the *four grams mass* universal, hence the property of *five grams mass* closely resembles the property of *four grams mass*.
(2007, p. 387)

On this view there is a close parallel between the ordering of quantitative properties and the mereological structure of objects.

Applying it to phenomenal properties is not straightforward. One difficulty is, once again, that the metaphysical structure of our phenomenology is disputed. On one interpretation, we obtain that a phenomenal sound is louder than another when all the determinates of loudness of the less loud phenomenal sound are also instantiated by parts of the louder phenomenal sound (or, on an alternative metaphysics of our phenomenal properties, each determinate of loudness quasi-mereologically contains all the lower determinates of loudness). Likewise, a phenomenal color instantiates a determinate of brightness, and thus, on this account, its parts must instantiate all of the lower determinates of brightness. That this phenomenal color is brighter than another can thus be explained by the fact that it has in common some of its lower determinates of brightness with the other phenomenal property. In any case, the gist of this view is that if a phenomenal property instantiates a certain level of a magnitude, it has to be somehow composed of all the lower levels of that magnitude.

Does the partial identity view accommodate Revelation? As for similarity relations, in the case of color mixture it is not clear whether we are really presented with phenomenal red when we have an experience of phenomenal orange. There are large disagreements over how to interpret such compound colors (Allen, 2011). But the failure of the partial identity account to conform with Revelation is clearer when it comes to quantitative relations, where the account would completely contradict Revelation. When we have a single experience instantiating a phenomenal color with a certain determinate of brightness, the phenomenal color does not seem to have a Russian nesting doll composition; we are certainly not presented with all the determinates of brightness inferior to the determinate of brightness we are intuitively presented with. When we compare two phenomenal colors instantiating some determinates of brightness and conclude that the first is brighter than the second, we are not judging that there are some determinates of brightness that both phenomenal colors share. The judgment is not a judgment about partial identity. Moreover, if the partial identity account

were true, there would be an asymmetry between the determinates of brightness superior and those inferior to the one that the phenomenal color intuitively seems to instantiate. On this account, superior determinates would be altogether absent from our experience, whereas inferior determinates, as constituents of the determinate of brightness that the phenomenal color seems to instantiate, would be presented to us. This asymmetry is not phenomenologically motivated. If we focus our attention on the degree of brightness that a particular portion of our visual field seems to have, we are presented neither with superior degrees of brightness nor with inferior degrees of brightness.

I conclude that the partial identity view fails to comply with Revelation.

The quality space view

We thus need to examine the idea that (at least some) similarity and quantitative relations between phenomenal properties are not reducible to partial identity relations. By leaving behind the partial identity account, we abandon a highly attractive account, that puts forward an elegant and transparent way to ground similarity and quantitative relations. Its main difficulty is that it postulates that many phenomenal properties have an internal structure that they do not seem to have. The similarity between the phenomenal sounds associated to two successive notes of a piano cannot be simply reduced to a partial identity, but even phenomenal colors, which I have previously interpreted as exhibiting a quasi-mereological structure, are often treated as singular as well. The quality space view accounts for these facts.

According to the quality space view, a phenomenal property is not on a par with objects, but is rather a point in a multi-dimensional space (Clark, 1993, Palmer, 1999). The dimensions of the space, contrary to parts, cannot stand alone and independently from the other dimensions. Consider again the case of colors. They are commonly analyzed, not as

having parts, but as having three dimensions, hue, saturation, and brightness, where hue can in turn be analyzed in terms of relative distance to pure colors like phenomenal red or phenomenal green (Palmer, 1999). On this account, relations of similarity between them are not to be explained in terms of partial identity, but rather in terms of the relative distance between them in the color space. As for quantitative relations, they merely correspond to distances in the quality space along a single dimension. On the quality space view, phenomenal properties can then be coded by their coordinates in a quality space.

If we follow the spirit of this view, how are similarity and quantitative relations grounded? Well, on this view these relations are ultimately reducible to the respective positions of their relata in the quality space, and their positions are arguably essential features of the relata.

I wish to defend the view that the relations have to be already present within the essence of one phenomenal property, because no essential feature can specify the location of the phenomenal property without referring to other components of the quality space. This idea is not new; it lies at the core of structuralist accounts of phenomenal properties (defended among others by Clark, 1993), according to which phenomenal properties are nothing more than points in a quality space. The fact that we can sometimes express the coordinates of a phenomenal property using a sentence such as “X has (x, y, z)” (for example, “this phenomenal color has 85% brightness”), where x, y and z are numbers representing magnitudes for each dimension, should not throw us off. (x, y, z) cannot be made sense of without referring to other features of the scales which they belong to. As a result, some essential facts about a phenomenal property are that it belongs to a given quality space, and so is the fact that this quality space has such and such structural features, like its dimensions. The fact that there are higher or lower degrees of brightness should then be somehow already implied by the essence of each phenomenal color taken separately. By knowing the essence of

one phenomenal property, one could come to understand the structure of the phenomenal space that it fits into, as well as the similarity and quantitative relations that it gives rise to.

One way to flesh out this idea is to say that what grounds similarity and quantitative relations between phenomenal properties are locational relations between locational features. These latter relations are internal in a strong sense, one that corresponds to what Marmodoro and Yates (2016) call “internal₁” relations: “ $R(x,y)$ is internal₁ iff $R(x,y)$ is essential to x and y ” (p. 8, 2016). On this view, internal relations “inhere in” what their relata essentially are. This view comes close to Bradley's drastic claim, according to which “[e]very relation . . . essentially penetrates the being of its terms and is, in this sense, intrinsic” (Bradley, 1897, quoted in Marmodoro and Yates, 2016). As a result, in order to know the essence of locational features, we have to know in addition all the locational features that are related to them. If locational relations are internal in this sense, then from the essential fact that phenomenal property X has locational feature F , one can logically derive the fact that X stands in some similarity or quantitative relations *with anything that has one of the locational features that F essentially relates to*. What it takes for something to stand in some similarity or quantitative relation with X can be found within its essence.

Problems arise when Revelation is brought into play. Since Revelation states that we are presented with the essence of phenomenal properties, it seems that one experience of X should give us access to all the quantitative and similarity relations that the phenomenal property can bear in virtue of its location in the quality space, as well as the essential locational features of the other relata in virtue of which the relations hold. Suppose that a subject already possesses the concept associated to, say, a certain degree of brightness (most plausibly induced by a previous experience of this degree of brightness). It is uncontroversial that she can come to understand, by having an experience of another degree of brightness, that one is brighter than the other. What I am suggesting is that even without previous experience

of brightness, one experience of a certain degree of brightness is sufficient to enable her to grasp the other degrees of brightness and the quantitative relations that they give rise to. Suppose that this latter, more controversial claim is true.

The consequences are deeply counter-intuitive and contradict common phenomenological reports. Consider the following commonsensical claims: when we have a visual experience of a uniformly red patch, we have a unique phenomenal color associated to the red patch instantiated and presented to us, namely a certain nuance of phenomenal red; it possesses at most one magnitude value for each of its dimensions; nothing about the other (phenomenal) colors is given access to. If the quality space view and Revelation are both true, these intuitions prove to be false. One experience of a color gives us access to the location of a wide range of other phenomenal colors in the phenomenal color space. An entire phenomenal structure of relations and locational essential features is communicated to us in one go⁷. Boghossian and Velleman (1991) review a variant of this position for the case of colors, and criticize it in an eloquent way:

If color experience conformed to this proposal, the difference between red and orange would not only be evident from the experiences of seeing red and orange; it would be evident from the experience of seeing red alone, since that experience, by representing red as located in a property space of a particular shape, would already intimate the locations of codeterminate properties. The characterization of something as having a property located at longitude x , latitude y , and depth z in a space of co-determinate properties would already suggest the location of

⁷ It is usually thought that quality spaces are local. There is a color quality space, a gustatory quality space, etc. Some have nevertheless argued that quality spaces were larger and transmodal, to the point where there could be one single global quality space encompassing every phenomenal property (Tolliver, 1999, Pestana, 2005). If that is true, then by knowing the location of a phenomenal property in its quality space, we should gain potential access to every phenomenal property.

properties to the north or south, properties to the east or west, and properties above or below. Yet the experience of seeing something as red does not by itself reveal that the property now in view has a yellower neighbor (orange) and a bluer neighbor (violet), nor that it has more or less bright and more or less saturated neighbors, either. The current proposal has the unfortunate consequence that to see one color is, in a sense, to see them all. [p. 103]

This conclusion holds only if the locational feature of a phenomenal property in a quality space gives access to the whole structure of the quality space. This is required for indicating its location in the quality space, or so I have argued. One might deny this and argue that there is an essential locational feature that does the job of indicating the location of the phenomenal property, but from which the rest of the quality space is not accessible. This essential feature is monadic. In the case of brightness, suppose that phenomenal color X has as essential feature a certain degree of brightness. On this alternative view, the degree of brightness is monadic and does not hint at other degrees of brightness. And yet it helps to ground a quantitative relation between X and other phenomenal colors that have other degrees of brightness, such that a subject can gain access to the quantitative relation once she has experienced several degrees of brightness.

The problem with this alternative view is that it leaves an explanatory gap. The locational feature enables its bearer (the phenomenal property) to stand in relation with other phenomenal properties (that have other locational features), but we lack an explanation as to why it is so. If a similarity or quantitative relation is truly internal, and thus is grounded in facts about some essential features of its relata, then we should arguably be able to answer the following question: why is it that *these* essential features ground the phenomenal relation? On the alternative view, the phenomenal relation supervenes on its relata in virtue of some essential features of the latter, but the crucial role of these essential features in grounding the

relation remains mysterious. One would have to accept as a brute fact that the monadic locational features ground the similarity and quantitative relations. In contrast, the view that I put forward states that by inspecting each of the locational features, taken separately, a subject with ideal cognitive abilities can find the structure of the quality space that the locational feature fits into. As a result, it avoids the explanatory gap and the brute fact view that follows.

Other discussions about resemblance between objects or universals have led to the brute fact view that the partisan of the alternative view is committed to defend. To account for resemblance between two entities, one can either appeal to intrinsic or essential facts about each entity, or posit the existence of brute resemblance relations. To account for quantities, one can either appeal to intrinsic features of each quantitative property (an example of a quantitative property is having a mass of 4 grams) or posit the existence of brute quantitative relations (Eddon, 2013, Armstrong, 1988, Bigelow and Pargetter, 1988). The second option is always unsatisfactory for at least two reasons. First, intuitively these relations are not brute, they are to be explained by what their relata are, and not the other way around. That a locational feature of a phenomenal property contributes to the grounding of some relations has to be explained by facts about the locational feature. Second, if the brute relations are really taken to be fundamental, then one may think that they can be freely recombined in different ways. But this is dubious. A given phenomenal color is not *contingently* brighter than another. It is necessarily so.

My conclusion that the quality space view contradicts Revelation is thus dependent on the rejection of the brute fact view, but I have provided several arguments to motivate this rejection. Those who are nonetheless ready to accept the brute fact view may reject my conclusion. If we accept this conclusion that the quality space view contradicts Revelation, we obtain that the two most plausible views on what grounds similarity and quantitative relations—the partial identity and the quality space views—both fail to comply with Revelation: the

essential features of phenomenal properties that they posit to ground the relations are not presented to us. The most straightforward way to avoid this contradiction, I argue, is to get rid of Revelation.

Interestingly, whether or not the partial identity and the quality space views are satisfactory, we can construct a generalized argument against Revelation based on the rejection of the brute fact view. Rejecting the brute fact view amounts to demanding an answer to why such and such essential features of phenomenal properties contribute to the grounding of similarity and quantitative relations. Suppose moreover that the only way to provide such an answer, and thus to bridge the explanatory gap, is to make the similarity and quantitative relations and all the essential features that ground them present or accessible within the essence of each of their relata, i.e. each phenomenal property. This is a controversial claim, but it is difficult to think of an alternative way. Note that not only the quality space view but also the partial identity view have bridged the gap in this manner: from the essence of anything we can indeed trivially derive what it takes for something else to stand in partial identity relation with it. Now, if Revelation is true, we should be presented with the similarity and quantitative relations and the features that ground them when having an experience of a single phenomenal property, because they are accessible from its essence. For example, take the quantitative relation “A is brighter than B”: one experience of a phenomenal color would give us access to all of the determinates of brightness, since all of them can ground a relation “brighter than” with the experienced phenomenal color. Since this is at odds with common phenomenological reports, a contradiction arises.

Of course, a full-fledged generalized argument would have to make clear what it precisely means to say that the relations and the features that ground them are present or accessible within the essence of each phenomenal property. This exceeds the scope of this paper, but I

hope that the outline of the argument provided is enough to make it at least prima facie plausible.

5 The consequences of the argument

I have thus provided a specific argument, based on the partial identity and the quality space views, and a generalized argument that shed some serious doubt on the plausibility of the Revelation thesis. What lessons can we learn from this challenge? If the arguments are convincing, Revelation as I understood it should be given up. But there are several ways to resist the conclusion.

First, one can reject some of my initial assumptions, for example that phenomenal similarity and quantitative relations are internal. The problem is that the necessity of these relations to their relata seems indisputable, so the Revelationist –the partisan of Revelation– will have to find an intermediary position between necessity and internality, by accepting the former but not the latter.

Second, as already mentioned, one could embrace the brute fact view and argue that similarity and quantitative relations and the features that ground them need not be present within each phenomenal property. I have pointed out the drawbacks of this option in the previous section.

Third and finally, the most promising reply from the Revelationist may be to bite the bullet and accept that the partial identity view and/or the quality space view are correct, but contest that this entails a contradiction with Revelation. This may be achieved in at least two ways. First, by arguing that our phenomenological descriptions might after all accommodate that we are presented with counterintuitive features. On this view, supposing that phenomenal quantities are to be explained by the quality space view, ordinary subjects would have access

to the whole quantitative structure of loudness within one phenomenal sound and, more generally, to all the locational features that ground similarity and quantitative relations in the quality space. This response is dubious on the face of it. It would require a thorough re-examination of common phenomenological descriptions to be convincing. Second, and perhaps more promisingly, by weakening the cognitive link postulated between the subjects and what is presented to them. Let us develop this response in more details. One could admit that similarity and quantitative relations can be directly or indirectly found in what is presented to us in an experience of a single phenomenal property, but point out that normal subjects might not have the cognitive resources to effectively gain access to these relations and the essential features that ground them. They might have difficulties identifying them in or inferring them from their phenomenology. This is all the more plausible since it is well-known that introspection is not reliable and mistakes are widespread, so we should not be surprised to have trouble accessing all the aspects of our phenomenology. Common phenomenological descriptions of what is presented to us are thus simply mistaken, and I was too hasty in taking their conclusions at face value.

While this move seems appealing at first glance, I want to argue now that it faces difficulties, for the kind of mistake at play here is of a different nature from the kind of mistake at play in discussions about the reliability of introspection. The latter kind of mistake is supposed to consist in an inadequacy between our phenomenology and the way in which we categorize and conceptualize it. All of this seems to point towards one specific kind of mistake, that of misinterpretation of what is presented. An interesting feature of misinterpretation is that most philosophers agree that interpreting our phenomenology is a genuinely difficult task. It is in no way obvious what the right interpretation is, and we often feel torn between several interpretations of the very same phenomenological data. After having heard the arguments from different parties in the debates, whether there is a

proprietary phenomenology of cognitive attitudes or whether some phenomenal colors are phenomenally composed are questions that certainly have no *obvious* answer.

Now, the sort of mistake involved in the argument of this paper seems utterly different: the problem is not that there is something that we all experience –e.g., the essential features postulated by the partial identity or the quality space views– and then interpret in different ways, but simply that what is supposed to be presented to us is simply not there, not presented to us at all. There does not seem to be any quality space or Russian nesting dolls composition (derivable from what is) presented to us when we experience a given phenomenal property. We would struggle to point to the feature of phenomenal properties whose interpretation is controversial and to explain the mistaken phenomenological reports, while this could arguably be done for typical phenomenological disagreements. In other words, something that should be (derivable from what is) presented to us is missing altogether.

The Revelationist could reply that she agrees that there are two distinct kinds of mistakes at play here, but that this is precisely what is to be expected if the relations and the features that ground them have to be *derived* from the locational feature of the experienced phenomenal property. The alleged additional inferential steps involved for the subject to get from the essence of the phenomenal property to the relation and the features that ground it explain our practical inability to do it, or so the story would go. The mistake would not involve misinterpretation, but rather an inability to infer some consequences from the presentation of the essence.

This reply is not convincing. On the one hand, we do manage to draw inferences from what is presented to us all the time. We can count the number of persons that we see in a room, and infer “I see five persons” from our perceptual experience only. From an auditory experience of a chord, we can infer the pitch of the notes that are part of it. What would explain our inability to do so when it comes to inferring the essential features that ground similarity and

quantitative relations? On the other hand, if we experience two phenomenal colors at the same time, we may easily judge that one is brighter than the other, which means that in this case we do have access to the essential features that ground the quantitative relation. How would we account for our ability to gain access to them when only one phenomenal color is presented to us? Even though these remarks are not a decisive rebuttal, it is far from obvious how to make the Revelationist's reply convincing.

Revelation is arguably one of the main pre-theoretical assumptions that we have about our phenomenal experience (Lewis, 1995). It is thus important to explore its limits for its own sake, and the argument I have raised here points toward important, perhaps decisive, limitations to it. Those already skeptical of Revelation will find in my challenge additional reasons to reject it.

As I mentioned earlier, Revelation is often taken to raise problems for physicalism. It is clear how by abandoning Revelation we no longer need to reconcile physicalism with either an enigmatic intimate connection between subjects and their phenomenal properties or with a putative access to their ontological nature.

I conclude with some final remarks about Revelation. One powerful intuition underlying Revelation is that for each phenomenal property there is a class of phenomenal facts that is presented to us every time we experience the phenomenal property. From there, Revelationists are tempted to argue that perhaps this class of phenomenal facts is all there is to the phenomenal property, such that we are presented in one go with what the phenomenal property really consists in. The arguments developed here challenge this move by exhibiting some phenomenal facts, namely facts about similarity and quantitative relations between phenomenal properties, that are not accessible to us even if they arguably do help to answer the question of what a phenomenal property (essentially) consists in. This in turn undermines an appealing argument for anti-physicalism. If even some essential *phenomenal* facts are

missing, we have no reason to argue for a particularly strong relation of acquaintance between subjects and their phenomenal properties, one that would make *all* essential facts about them presented to us.

It is finally quite surprising that the argument developed in this paper has not been made more explicitly before. It has been noted repeatedly how fundamental the quantitative and similarity structures are to the phenomenal properties, to the point where they were often considered as belonging to what we most certainly and clearly know about them. In this sense, then, they are the features of phenomenal properties that seem to lend the greatest support to intuitive variants of Revelation. Ironically, if the argument introduced in this paper is sound, the fact that what grounds these relations is not presented to us undermines the very same Revelation thesis.

References

Allen, K. (2011). Revelation and the Nature of Colour. *Dialectica*, 65(2), 153–176.

Alter, T. A., & Walter, S. (Eds.). (2007). *Phenomenal concepts and phenomenal knowledge: new essays on consciousness and physicalism*. Oxford ; New York: Oxford University Press.

Armstrong, D. M. (1988). Are Quantities Relations? A Reply to Bigelow and Pargetter. *Philosophical Studies*, 54(3), 305–316.

Balog, K. (2012). Acquaintance and the mind-body problem. In S. Gozzano & C. S. Hill (Eds.), *New perspectives on type identity: the mental and the physical*. Cambridge: Cambridge University Press.

- Bigelow, J., & Pargetter, R. (1988). Quantities. *Philosophical Studies*, 54(3), 287–316.
- Blumson, B. (2018). Two Conceptions of Similarity. *The Philosophical Quarterly*, 68(270), 21–37.
- Boghossian, P. A., & Velleman, J. D. (1991). Physicalist Theories of Color. *The Philosophical Review*, 100(1), 67.
- Byrne, A., & Hilbert, D. R. (2007). Color primitivism. *Erkenntnis*, 66(1–2), 73–105.
- Byrne, A., & Hilbert, D. (2008). Basic Sensible Qualities and the Structure of Appearance. *Philosophical Issues*, 18(1), 385–405.
- Campbell, J. (2005). Transparency versus Revelation in Color Perception: *Philosophical Topics*, 33(1), 105–115.
- Chalmers, D. (2003). The Content and Epistemology of Phenomenal Belief. In Q. Smith & A. Jokić (Eds.), *Consciousness: new philosophical perspectives*. Oxford : New York: Clarendon Press ; Oxford University Press.
- Clark, A. (1993). *Sensory qualities*. Oxford : New York: Clarendon Press ; Oxford University Press.
- Cowling, S. (2017). Resemblance. *Philosophy Compass*, 12(4).
- Damnjanovic, N. (2012). Revelation and Physicalism. *Dialectica*, 66(1), 69–91.
- Decock, L. (2006). A physicalist reinterpretation of ‘phenomenal’ spaces. *Phenomenology and the Cognitive Sciences*, 5(2), 197–225.
- Elpidorou, A. (2016). A Posteriori Physicalism and Introspection. *Pacific Philosophical Quarterly*, 97(4), 474–500.

Fine, K. (1994). Essence and Modality: The Second Philosophical Perspectives Lecture. *Philosophical Perspectives*, 8, 1.

Gertler, B. (2012). Renewed Acquaintance. In D. Smithies & D. Stoljar (Eds.), *Introspection and consciousness*. New York, N.Y: Oxford University Press.

Goff, P. (2011). A Posteriori Physicalists Get Our Phenomenal Concepts Wrong. *Australasian Journal of Philosophy*, 89(2), 191–209.

Goff, P. (2015). Real Acquaintance and Physicalism. In P. Coates & S. Coleman (Eds.), *Phenomenal Qualities* (pp. 121–143). Oxford University Press.

Hardin, C. L. (1988). *Color for philosophers: unweaving the rainbow*. Indianapolis: Hackett Pub. Co.

Jackson, F. (1986). What Mary Didn't Know. *Journal of Philosophy*, 83(May), 291–5.

Johnston, M. (1992). How to speak of the colors. *Philosophical Studies*, 68(3), 221–263.

Kriegel, U. (2015). *The varieties of consciousness*. New York, NY: Oxford University Press.

Lee, G. (2014). Experiences and Their Parts. In D. J. Bennett & C. S. Hill (Eds.), *Sensory Integration and the Unity of Consciousness* (pp. 287–322). The MIT Press.

Levin, J. (2007). What is a Phenomenal Concept? In T. A. Alter & S. Walter (Eds.), *Phenomenal concepts and phenomenal knowledge: new essays on consciousness and physicalism*. Oxford ; New York: Oxford University Press.

Levine, J. (2007). Phenomenal Concepts and the Materialist Constraint. In T. A. Alter & S. Walter (Eds.), *Phenomenal concepts and phenomenal knowledge: new essays on consciousness and physicalism*. Oxford ; New York: Oxford University Press.

Lewis, D. (1995). Should a materialist believe in Qualia? *Australasian Journal of Philosophy*, 73(1), 140–144.

Loar, B. (1997). Phenomenal States. In N. J. Block, O. J. Flanagan, & G. Güzeldere (Eds.), *The nature of consciousness: philosophical debates*. Cambridge, Mass: MIT Press.

Marmodoro, A., & Yates, D. (2016). Introduction: The Metaphysics of Relations. In A. Marmodoro & D. Yates (Eds.), *The metaphysics of relations* (pp. 1–18). New York, NY: Oxford University Press.

Michell, J. (1999). *Measurement in psychology: critical history of a methodological concept*. New York: Cambridge University Press.

Nida-Rümelin, M. (2007). Grasping Phenomenal Properties. In T. A. Alter & S. Walter (Eds.), *Phenomenal concepts and phenomenal knowledge: new essays on consciousness and physicalism*. Oxford ; New York: Oxford University Press.

Oderberg, D. S. (2011). Essence and Properties. *Erkenntnis*, 75(1), 85–111.

Palmer, S. E. (1999). Color, consciousness, and the isomorphism constraint. *Behavioral and Brain Sciences*, 22(6).

Pestana, M. (2005). (A Laconic Exposition of) a method by which the internal compositional features of qualitative experience can be made evident to subjective awareness. *Philosophical Psychology*, 18(6), 767–783.

Russell, B. (1997)[1912]. *The problems of philosophy*. New York: Oxford University Press.

Schroer, R. (2010). Where's the Beef? Phenomenal Concepts as Both Demonstrative and Substantial. *Australasian Journal of Philosophy*, 88(3), 505-522.

Siegel, S. (2010). *The contents of visual experience*. New York: Oxford University Press.

Stoljar, D. (2005). Physicalism and Phenomenal Concepts. *Mind and Language*, 20(5), 469–494.

Sundström, P. (2011). Phenomenal Concepts. *Philosophy Compass*, 6(4), 267–281.

Tolliver, J. T. (1999). Sensory holism and functionalism. *Behavioral and Brain Sciences*, 22(6), 972–973.

Trogon, K. (2016). Revelation and physicalism. *Synthese*, 194(7), 2345–2366.

Tye, M. (1995). *Ten problems of consciousness: a representational theory of the phenomenal mind*. Cambridge, Mass: MIT Press.

Tye, M. (2009). *Consciousness revisited: materialism without phenomenal concepts*. Cambridge, MA: MIT Press.