

The Phenomenal Unity of Consciousness

Farid Masrour

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Edited by Uriah Kriegel

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Abstract and Keywords

Philosophical interest in unity of consciousness goes back at least to Kant. A recent revival of interest among analytic philosophers of mind focuses on unity of consciousness, construed as phenomenal unity. This chapter will survey some of the issues and questions that have been central to this recent work before sketching an alternative to what may be seen as a dominant, though implicit, tendency in the recent literature on unity: to formulate the idea that phenomenal unity is a natural feature of consciousness in terms of what the chapter will term the *Unity Thesis*. According to this thesis, all synchronous experiences of a conscious subject at a moment are phenomenally unified with each other. The chapter then rebuts another trend in recent literature: the tendency to understand phenomenal unity as obtaining in virtue of a type of oneness or singularity. The chapter advances an alternative that sees phenomenal unity as obtaining in virtue of connectivity conditions over relations among phenomenal experiences.

Keywords: Unity of consciousness, phenomenal unity, extrinsic unity, connectivity

It is early in the morning of a cold winter day. I am hearing the regular ticking of the wall clock. My back is a little sore from shoveling the snow yesterday and my fingers are cold. But it is a pleasant moment. Writing is going well and I'm happy. I can smell the rooibos that is brewing in the glass cup sitting next to the laptop and occasionally check if it is ready by shifting my attention to how its color is intensifying. I stop writing for a moment and check the shape of the glass. It has an ordinary cylindrical shape. But the proportions are perfect. It looks nice!

This is a partial description of what I am experiencing now. To complete the description, I should add more experiences. But there is an important item that is needed to give a complete description of my phenomenology that we would not normally regard as an experience. There is a sense in which my experiences are *phenomenally unified* with each other. In other words, my experiences seem to form some sort of unified field. I will refer to this as the *phenomenal unity of consciousness*, or for short, *phenomenal unity*.

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Philosophical interest in unity of consciousness goes back, at least, to Kant's work in the *Critique of Pure Reason*. But there has been a recent revival of interest among analytic philosophers of mind that focuses on unity of consciousness, construed as phenomenal unity. My first goal in this chapter is to survey some of the issues and questions that have been central to this recent work. I do so in Section 10.1, after clarifying what I mean by phenomenal unity.

My second goal is to sketch an alternative to what I see as a dominant, though implicit, tendency in the recent literature on unity. This is the tendency to formulate the idea that phenomenal unity is a natural feature¹ of consciousness in terms of what I will call the (p. 209) *Unity Thesis*, according to which all synchronous experiences of a conscious subject at a moment are phenomenally unified with each other.² This thesis has received substantial attention. But there has not been much explicit discussion of its philosophical significance, and in particular whether it provides the best formulation of the idea that unity belongs to the nature of conscious. In Section 10.2, after arguing that the *Unity Thesis* does not offer the best way of formulating this idea, I offer an alternative construal.

My third goal is to rebut another common trend in recent literature, namely, the tendency to understand phenomenal unity as obtaining in virtue of a type of oneness or singularity. I have argued against this tendency in previous work and advanced an alternative that sees phenomenal unity as obtaining in virtue of connectivity conditions over relations among phenomenal experiences. In Section 10.3, I discuss how the connectivity view can handle potential problems presented by cases of fusion and fission. The two last sections contribute to the broader project of offering a comprehensive account of the fundamental connection between phenomenal unity and consciousness. I end the chapter with a brief discussion of the theoretical burdens associated with this project and how the present discussion may contribute to their resolution.

10.1 Phenomenal Unity

10.1.1 What is Phenomenal Unity?

I started this chapter with a sketch of my experiences and used it to point to our target phenomenon, namely, phenomenal unity. Let me now make three points about what phenomenal unity is not—or at least what it cannot, at the outset of inquiry, be assumed to be.

First, when I say that my conscious experiences are phenomenally unified, I do not mean that they are *subjectively unified*, where conscious experiences are *subjectively unified* when they belong to, or are attributable to, the same conscious subject. Arguably, two experiences can belong to the same subject without being phenomenally unified. So, we should distinguish the concept of phenomenal unity from the concept of subjective unity.

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Second, phenomenal unity should be distinguished from *objectual unity*, where experiences are objectually unified when they together present something *as a* single object. For example, my experiences of the shape and color of the tea cup are objectually unified, but this seems distinct from, and over and above, their phenomenal unity.

(p. 210) Third, phenomenal unity should be distinguished from *access unity*, where conscious experiences are *access unified* when they are accessible to the same subject or cognitive process. When I say that my conscious experiences are phenomenally unified, I do not mean that they are accessible to the same subject (me) or cognitive process (whatever it might be).³

These remarks leave it open that there might be substantive a posteriori connections between phenomenal unity and subjective, objectual, or access unity. They also leave it open that at the end of theoretical enquiry one might decide that the concept of phenomenal unity has to be revised and thus analyzed in terms of these concepts.

Discussions of phenomenal unity usually confine themselves to a two-step manner of identifying the target phenomenon: they ostensibly identify phenomenal unity with the aid of examples and then sharpen the target by distinguishing it from other forms of unity. This is what I have done so far. However, I believe we can also do more. Specifically, we can provide a positive characterization of phenomenal unity, in the form of a set of data points (or if you like, platitudes). Although they function as data in the sense that they are (non-trivial) ideas that any adequate account of phenomenal unity must somehow handle or take into account, as we will see, they are not all universally accepted.

First, phenomenal unity is a *monadic property* of some but not all sets of experiences, where at least some such sets have more than one member. For example, the set of experiences that I have at the moment contains more than one experience and is phenomenally unified, but the set of experiences that contains both my experiences and your experiences is not.

Second, phenomenal unity is *phenomenally manifest* in the sense that there is a phenomenal contrast between its presence and its absence. In other words, what it is like to have a set of experiences when this set is phenomenally unified is different from what it is like to have the same set of experiences when the set is not phenomenally unified.⁴

Third, phenomenal unity is a *phenomenally singularizing* property. What I mean by this is that a set of experiences is unified only if its members together form a single phenomenal item. Note that this is a claim about a necessary condition for phenomenal unity. It should not be read as the claim that the single unified experience emerges from, or is less fundamental than, the experiences that are unified with each other. Whether the claim that phenomenal unity is phenomenally singularizing is a highly substantive claim depends on one's view about the phenomenal item and its individuation. A common assumption is that this item is an experience. Other phenomenal items that can serve the same purpose are streams of consciousness or phenomenal fields, where a (p. 211) phenomenal field is a

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momentary slice of a temporally extended stream of consciousness.⁵ We will revisit this issue below.

Fourth, phenomenal unity is a *uniformly grounded* property. By the claim that phenomenal unity is grounded I mean that when a set of experiences is phenomenally unified it is so in virtue of the instantiation of more fundamental person-level properties or relations. In saying that phenomenal unity is uniformly grounded I mean that phenomenal unity is not grounded in a disjunction of several distinct properties or relations. We can call the question about the uniform ground of unity the *grounding question*: when experiences are unified, what are the more fundamental uniform personal-level facts, if any, in virtue of which they are unified? One's answer to the grounding question should be distinguished from a proposal concerning the necessary and sufficient conditions for unity. As we shall soon see, theorists disagree about the correct answer to the grounding question.

Fifth, as indicated at the outset, phenomenal unity belongs to the nature of consciousness. There is a sense in which we cannot conceive of an occurrence of consciousness that lacks phenomenal unity and this strongly indicates that phenomenal unity belongs to the nature of consciousness. This datum inspires the question of how best to formulate the idea that phenomenal unity is a natural feature of consciousness. Call this the *articulation question*. As we saw earlier, a common, though implicit, answer to this question is in terms of the *Unity Thesis*. I will argue in Section 10.2 that this is not a good answer.

I have introduced five data concerning phenomenal unity. They tell us that phenomenal unity is a property of a set of experiences that is phenomenally manifest, uniformly grounded, singularizing, and natural to phenomenal consciousness. I think each datum is *prima facie* justified by extended introspection, by which I mean introspection supplemented with reflection and a bit of philosophical ideology (for example, views about the individuation of experience, and the conceptual framework of grounding and natures). The data can serve as constraints that help to identify the target phenomenon. But this is not to say that they are sacrosanct; we can regard them as theoretically negotiable constraints in the sense that at the end of theoretical enquiry one might reject some or even all of them. In fact, some current debates and implicit disagreements about unity can be understood as debates over these data, or as centering on questions that emerge once they are accepted. What follows is a quick survey of some of these debates and questions.

10.1.2 Debates about Phenomenal Unity

Some theorists deny our first datum. Such denial is common among theorists who endorse what I will call the *one-experience view*, according to which the cases that we (p. 212) normally describe as cases in which experiences are unified are, strictly speaking, cases in which there is only one single experience with a complex content. So phenomenal unity is not a monadic property of a set of experiences that can contain more than one member.⁶ Accordingly, the proponent of the one-experience view would reject our first datum, though they can replace it with the thesis that phenomenal unity is the monadic

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property of a set of items other than experiences, items such as phenomenal contents, or experience parts.

There are also some theorists who deny that unity is phenomenally manifest.⁷ On these views, there are cases in which phenomenally conscious experiences are unified and cases in which they are not. But the difference between these cases should be understood in non-phenomenal terms, for example, in terms of the failure of other forms of unity such as access unity or subjective unity.

Many theorists accept that unity is singularizing in that when experiences are unified we have a single phenomenal entity that encompasses those experiences. But there is disagreement about the kind of entity in question. Many regard this entity as a single experience, but there are some dissenters.⁸ I shall revisit this issue in Section 10.2, where I side with the dissenters.

The idea that unity is uniformly grounded is also denied by some theorists. Hill (2014), for example, defends a multiple property account of unity on which phenomenal unity is a disjunctive property that can be grounded in several distinct properties. Most other theorists disagree with Hill and offer uniform accounts of the grounds for unity.

We can find a variety of explicit or implicit answers to the grounding question among these theorists. These answers fall into two broad categories namely, those that ground unity in a primitive form of oneness and those that ground it in certain relations among experience. I call the generic thesis that phenomenal unity is grounded in a fundamental form of oneness *Newtonianism* because it structurally resembles Newton's account of relations of co-spatiality.⁹ Newtonian answers to the grounding question can be contrasted with *Leibnizian* answers that ground phenomenal unity in unity relations. (p. 213) Here again, the label marks a structural similarity between these views and Leibniz's view about what grounds the fact that a set of points belong to one space.¹⁰

Tracking the debate about whether unity is a natural feature of conscious experiences is not straightforward. This is partly because this idea has been in the background of the debates; it has not been explicitly discussed, at least not as such. As remarked earlier, a common construal of the idea is the Unity Thesis. As we shall soon see, the status of this thesis depends on the exact sense of 'subject' that is involved in its formulation. There are several options here, but it is common to regard the subject either in a biological sense or as one who is capable of having cognitive attitudes such as beliefs and desires. Understood in either of these ways, many theorists deny the Unity Thesis, though they do not conclude from this that unity is not a natural feature of consciousness.¹¹

If we assume that phenomenal unity has to satisfy all five of the above data, then we might be tempted to think any theorist who denies one of the data should be regarded as a skeptic about unity. But philosophical inquiry rarely proceeds in ways that would justify this way of using the labels 'data' and 'skeptic'. In many cases, we start with a set of pri-

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ma facie warranted assumptions about a target domain, some of which will be subsequently revised as theoretical enquiry proceeds.

This said, I think two of the above data are so central that denying them would qualify one as a skeptic about phenomenal unity. The first is the idea that unity is phenomenally manifest (the second datum) and the second that it is phenomenally singularizing (the third datum). It should be clear why denying the former would amount to skepticism: if unity is not phenomenally manifest, then it would not be *phenomenal* unity. The reason for regarding the idea that unity is singularizing as central is that this feature distinguishes unity from other features of consciousness that belong to its nature. If we do not accept this datum, then we would not be able to distinguish unity from other phenomenally manifest natural features of consciousness—such as temporal extension, intensity, and subject-object dichotomy—that are uniformly grounded. Accordingly, I will call any position that denies either that unity is phenomenally manifest or that it is singularizing *skepticism* about phenomenal unity.

Understood in this restrictive way, skepticism about phenomenal unity does not seem to have many advocates among those who are not generally skeptical about phenomenal consciousness.¹² In what follows, I will assume that skepticism conflicts with (p. 214) extended introspection and should therefore be rejected. This is not to say that the move from extended introspection to positing unity as a phenomenally manifest and singularizing property is straightforward and uncontroversial. But arguably, the controversies that are involved here are the general controversies about the reliability of introspection and reflection; they are not specific to phenomenal unity. So, I will set skepticism aside here.

The rest of this chapter focuses on the articulation and the grounding questions. Section 10.2 argues that the Unity Thesis and other similar answers to the articulation question that appeal to the notion of a subject (or some other entity) fail to properly capture the fundamental connection between consciousness and unity. We should, I will argue, aim to articulate a *direct* link between consciousness and unity, one that is not mediated by a third element.¹³ I call this approach Purism. After motivating Purism, I propose and defend a specific purist thesis. Section 10.3 focuses on the grounding question. Building on previous work, I propose and defend a Leibnizian view.

Two last remarks before we turn to the articulation and grounding questions. First, it has become customary in the recent literature on phenomenal unity to distinguish between *synchronic* and *diachronic* phenomenal unity, where the former applies to the unity of experiences at one moment of time and the latter concerns unity among experiences at different times. I will not make much of this distinction here. So, in what follows, unless explicitly stated, all claims about phenomenal unity should be understood as applying equally to synchronic and diachronic unity.

Second, many issues about phenomenal unity are intimately related to issues about the individuation of experiences. This paper assumes a specific individuation scheme and I want to end this section by making this individuation scheme explicit. This will help to clarify the proceeding discussion. I started this chapter by describing some of the things

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that I was experiencing. The list included the sound of the ticking of the clock, my back pain, the smell of the tea and the color and contour of the tea inside the glass, etc. How many experiences did I undergo? Let me outline three different approaches to this question in broad strokes.

One possible answer is that for any quality that is experientially presented to me, I have at least one experience that presents only that quality. For example, I have an experience that presents the color of the tea, another experience that presents the shape that it takes in the glass, an experience of the quality of my back pain, and yet another experience that presents its location, so on and so forth. Let us call this the *quality-based individuation scheme*. This individuation scheme gives us a very fine-grained experiential structure.

At the opposite end, we have the view that I have as many experiences as I have unified streams of consciousness. Assuming that my consciousness is unified, I have only (p. 215) one experience with a very rich content; it presents to me the color of the tea, its smell, the quality and location of my back pain, the sound of the clock, so on and so forth. We can call this the *unity-based individuation scheme*. This individuation scheme would give us what we earlier called the one-experience view.

In between these poles, there are many possible individuation schemes on which we get more than one experience during a unified stream of consciousness but fewer than the qualities that are experientially presented. I think the most plausible among these is that during a period of time, there are as many experiences as there are experientially presented intentional objects, where abstracta or property instantiations do not count as intentional objects. We can call this the *intentional object individuation scheme*. It is plausible to assume that a set of phenomenal items together present an intentional object if and only if they present the qualities that they present as belonging to the same object. Our scheme thus entails that a set of phenomenal items together form one experience if and only if they present the qualities that they present as belonging to the same object.¹⁴ In other words, to determine the number of experiences in a stream of consciousness, we need to look at what we earlier called objectual unity. In our example, my pain is presented by my experience as having a location and a quality. My experience also presents the tea as having a color, a location, and a shape (a shape that it acquires from the shape of the cup). Thus, on the intentional object individuation scheme, I have at least two experiences, namely, the pain experience and the tea experience. In what follows, I will assume the intentional object individuation scheme without arguing for it.

10.2 Pure Extrinsic Unity and the Articulation Question

How should we articulate the idea that phenomenal unity is a natural feature of consciousness? This is a multi-faceted question with at least two dimensions. One dimension concerns the general issue of how to articulate theses about natures. Here, a common

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trend has been to put things in terms of necessities. A second, more recent, trend is to put things in terms of essences. Thus, the idea that phenomenal unity belongs to the nature of consciousness can be put either in terms of the thesis that consciousness is necessarily unified or in terms of the thesis that consciousness is essentially unified. These two formulations are not equivalent. But in what follows I will be ignoring their difference and, though I believe that we should go with the essentialist formulation, will put things in terms of necessities.

(p. 216) My focus will be on a second dimension pertaining to the different ways in which the idea that consciousness is necessarily unified can be made more precise. There are a variety of options here. To mention two examples, one answer is that necessarily all conscious experiences of a subject at a time, or during a continuous stream of consciousness, are unified with each other. Another possible answer is that necessarily every occurrence of consciousness is unified.

The Unity Thesis, that is the thesis that necessarily all conscious experiences of a subject at a time are unified, expresses a connection between consciousness and unity but it contains a third element, namely, a subject. We can say that this is an *impure* articulation of the idea that unity is a natural feature of consciousness. In contrast, the thesis that necessarily all occurrences of consciousness are unified, as incomplete and ambiguous as it might be, is a *pure* thesis because it expresses an unmediated connection between consciousness and unity. An important question is whether our answer to the articulation question should be a pure or an impure answer. My contention is that our answer has to be pure. The goal in this section is to motivate this claim and defend a specific pure answer. I start by arguing that the Unity Thesis is either very likely false or trivial. I then argue that the considerations against the Unity Thesis generalize to other impure theses. This motivates purism. I then turn to proposing and defending a pure thesis.

10.2.1 Why Purism?

To see why the Unity Thesis is not a good response to the articulation question, let us distinguish between two senses of a subject. Under one construal, a subject is a being capable of having cognitive attitudes such as beliefs and desires. We can call this the cognitive sense of a subject, henceforth called $\text{subject}_{\text{cog}}$.¹⁵ Most discussions of the Unity Thesis assume either the cognitive sense of the subject or a watered-down version of it that allows us to attribute subjectivity to some creatures who do not possess cognitive attitudes. For our purposes here, I will ignore the difference between $\text{subject}_{\text{cog}}$ and its watered-down version. A different notion of a subject builds on the idea that every conscious experience is essentially given or presented to a phenomenally conscious perspective. This gives us the perspectival sense of a subject according to which subjects are identical with the phenomenal perspectives to which conscious experience are presented. On this construal the number of perspectival subjects contained in a body at a moment corresponds to the number of phenomenally conscious perspectives contained in that body at the moment.

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The cognitive and perspectival notions of subjects are conceptually distinct and might also fail to be co-extensive.

(p. 217) The two senses of subject give us two different versions of the Unity thesis that I shall refer to as $Unity_{cog}$ and $Unity_{pers}$. $Unity_{cog}$ is the thesis that necessarily all of the synchronic experiences of a $subject_{cog}$ are unified. On $Unity_{pers}$, necessarily all the synchronic experiences that are given to the same conscious perspective are unified.¹⁶

Many theorists reject $Unity_{cog}$ because they hold that in some experimental settings split brain patients have two disunified streams of consciousness yet constitute one $subject_{cog}$.¹⁷ This should disqualify $Unity_{cog}$ as a good articulation of the idea that phenomenal unity belongs to the nature of consciousness. For there is no clear reason to assume that one who accepts that cases like split brain are cases of disunified consciousness within a $subject_{cog}$ should reject this connection between consciousness and unity. It is no wonder that many who reject $Unity_{cog}$ still accept that there is a fundamental connection between unity and consciousness.¹⁸ So, there must be a way to articulate the connection that does not commit us to $Unity_{cog}$.

What about $Unity_{pers}$? According to this thesis, necessarily, all synchronic experiences that are given to the same conscious perspective are unified with each other. This thesis is intuitively plausible. The problem, however, is that under the natural way of understanding the notion of a phenomenal perspective, phenomenal perspectives have to be individuated in terms of unity relations. Under this natural understanding, $Unity_{pers}$, though true, does not say much. For example, the thesis would be true even in a condition where the set of all conscious experiences that I have at this moment is fully disunified in that none of its members are unified with each other because they are given to different perspectives.¹⁹ Suppose that this set consists of experiences E_1, E_2, \dots, E_n . Since a $subject_{pers}$ is identified with the conscious perspective to which an experience is given, the set of experiences that I have is associated with at most the same number of subjects in the perspectival sense as the number of experiences that I have, where E_1 is given to $Subject_{1pers}$, E_2 to $Subject_{2pers}$, and so on. Now, even if none of these experiences are unified with each other, it is still true that all conscious experiences that are given to any of the perspectival subjects in me are unified because there is one experience given to every subject.

Neither $Unity_{cog}$ nor $Unity_{pers}$, therefore, seem to fit the bill. In a sense, $Unity_{cog}$ demands too much. We want a thesis that tells us that unity is a fundamental feature of consciousness. But in order to get this, we do not need to demand that all the conscious experiences of a $subject_{cog}$ have to be unified with each other. $Unity_{pers}$, on the other hand, seems to ask for too little. It secures the connection between subjects and (p. 218) unity by deflating the notion of a subject, but in doing so it becomes too non-committal. It is true even in a situation where we have a totally fractured state of consciousness. A good articulation of the fundamental connection between unity and consciousness should avoid both pitfalls.

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One possible reaction to the above observations is to look for different construals of the Unity Thesis based on alternative notions of the subject. Another option is to appeal to alternative impure theses that appeal to items other than subjects, items that might have intuitive connections to unity and consciousness.²⁰ However, I suspect that the resulting theses would be subject to similar problems. To avoid the problem that afflicts Unity_{cog}, that is, in order to avoid expressing a thesis that is not necessarily true, the relevant notion has to be derived from the notion of unity of consciousness. But if we rely on such a notion it is unclear how we can avoid the problem that afflicts Unity_{pers}; the thesis would express something rather uninteresting and trivial. So, it is unclear how any third item, whether it be another construal of a subject or a distinct third element, could serve our purpose. Obviously, this claim requires careful defense. But my purpose here is only to provide an intuitive motivation for abandoning appeals to third elements, not to conclusively establish that all ways to do so would fail. I therefore propose that we look for a purist articulation of this connection.

10.2.2 Pure Extrinsic Unity

Assuming that unity belongs to the nature of consciousness, we should find unity wherever we find consciousness. Put modally, a pure articulation of this idea would be that necessarily all conscious experiences are unified. But this thesis is rather ambiguous. So, let us start by distinguishing between two senses of unity.

Extrinsic Unity

An experience, *E*, is extrinsically unified iff there is some experience, *F*, such that *F* is numerically distinct from *E*, is unified with *E*, and is neither a part of *E* nor contains *E* as a part.

Intrinsic Unity

An experience, *E*, is intrinsically unified iff either *E* is simple (has no parts) or all of its simple parts are extrinsically unified with each other.

Drawing on the above distinction, we get two different pure theses.

Pure Intrinsic Unity

Necessarily, all experiences are intrinsically unified.

Pure Extrinsic Unity

Necessarily, all experiences are extrinsically unified.

(p. 219) Pure Intrinsic Unity avoids the first pitfall that we discussed earlier; it does not ask for too much and is therefore compatible with the idea that experiences of split brains are at times disunified. Moreover, it seems hard to see how parts of the same experience may not be unified with each other. Since every occurrence of consciousness is either

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simple or complex in that it has parts, it follows that every occurrence of consciousness exhibits intrinsic unity.

However, Pure Intrinsic Unity does not seem to be a substantive thesis that reveals a deep connection between unity and consciousness that is grounded in the specific natures of consciousness and unity. To see this, note that Pure Intrinsic Unity can be regarded as an implication of a general thesis that applies to nearly all forms of existence. By this, I mean the thesis that necessarily every K is either simple or its parts are united in a K-wise relation, where two things stand in a K-wise relation when they are part of the same particular that is of kind K. For example, my nose and my eyes stand in a face-wise relation. Pure Intrinsic Unity does not logically follow from this general thesis, but it is too close to it. This is because it is a near triviality that experiences that are parts of the same experience are phenomenally unified. In other words, being experience-wise related is a trivially sufficient condition for phenomenal unity. But this triviality in conjunction with the thesis that necessarily every K is either simple or its parts are united in a K-wise relation entails Pure Intrinsic Unity. So, Pure Intrinsic Unity would be a consequence of a thesis that is universally true and a near triviality. The upshot is that although Pure Intrinsic Unity implies that we should find unity whenever we find consciousness, it does so at the expense of making the thesis non-specific. The thesis therefore demands something that is satisfied by nearly every form of existence. In a sense, the thesis does not avoid our second pitfall; it still demands too little.

The above observations motivate a closer look at Pure Extrinsic Unity. According to Pure Extrinsic Unity, necessarily for any experience, E, there is some numerically distinct experience, F, that is unified with E and does not stand in part-whole relations with E. The thesis obviously avoids the above two pitfalls and is clearly substantive. For one thing, it entails that lonely experiences are impossible, where a lonely experience is an experience that is not extrinsically unified with any other experience. Therefore, if true, the thesis would indicate a deep and substantive feature of consciousness that does not apply to many other forms of existence.

The thesis also seems to resonate with what we find under introspection. I have never had lonely experiences and I do not have any reason to think that this does not generalize to other subjects.²¹ In fact, my intuition that there is a fundamental connection between unity and consciousness is grounded in the introspective observation that whenever I find an experience through introspection, I find other experiences that are unified with it. In other words, my conscious experiences are always marked by *unity within a complexity*. This conforms to the demand for complexity that is inherent (p. 220) in Pure Extrinsic Unity. Pure Extrinsic Unity therefore seems to be an attractive formulation of the connection between unity and consciousness.

Despite its attractiveness, however, Pure Extrinsic Unity faces some rather obvious challenges. This is perhaps why the thesis has not received the attention that it deserves. In what follows, I discuss some of these difficulties and argue that they are surmountable.

10.2.3 The Subsumption Challenge for Pure Extrinsic Unity

It might be argued that Pure Extrinsic Unity runs into what is sometimes called the bloat problem. Let us assume that E1 and E2 are extrinsically unified. Since they are unified, there must be a third experience E3 that contains E1 and E2 as parts. But if Pure Extrinsic Unity is true, there must be another experience, E4, that is extrinsically unified with E3. This will in turn give rise to another experience E5 that contains E4 and E3 as parts. But again, we need another experience that is extrinsically unified with E5 and the chain continues ad infinitum. Thus, Pure Extrinsic Unity leads to an unbearable ever-growing bloat.²²

A related problem is that Pure Extrinsic Unity seems to have many counterexamples. Take the totality of experiences that you have at this moment. Assuming that these experiences are all unified with each other, let T be the single experience that contains all of them as parts. T is not extrinsically unified with any other experience. But then T would be a lonely experience, which is a counterexample to Pure Extrinsic Unity.²³

These two problems are related, because they both rely on the following assumption:

Subsumption

A set of experiences is extrinsically unified only if there is an experience that contains all of its members as parts.²⁴

According to Subsumption, whenever you have extrinsic unity you have a total experience that contains the unified experiences as parts. This is just a logical relation between the existence of total experiences and extrinsic unity. It is therefore weaker than the thesis that experiences are extrinsically unified in virtue of being parts of a total experience.

(p. 221) Subsumption is a more specific version of the general thesis that phenomenal unity is singularizing, that is, the thesis that experiences are unified only if they together form a single phenomenal item. According to Subsumption this item is an experience. But why should we accept Subsumption? We do not accept the general principle that entities of some kind are connected in some intimate sense only if another entity of the same kind contains them as parts. For example, mountains can form a mountain range together, but a mountain range is not a mountain. Analogously, although all of one's experiences at a moment might be unified with each other, this may not entail that the resulting unity is itself an experience. So, the motivation behind Subsumption cannot be a general metaphysical principle and, in the absence of reasons to the contrary, the proponent of Pure Extrinsic Unity can reject Subsumption. Further support for this comes from the principle of individuation discussed in the previous section. On this principle there are as many experiences as there are experientially presented objects. So my experience of the tea in the glass and my mood experience, although phenomenally unified, do not together form an experience because they do not together form a single object. Another line of support for rejecting Subsumption comes from the Connectivity view developed in the next section. Although this view is compatible with Subsumption, it sheds light on how Subsumption

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might be false. As we shall see, the Connectivity view gives us a detailed account of how experiences can be unified just in virtue of their relations and without forming a single total experience. Connectivity gives us unity without a single total experience.

This said, I think it is important to note the connection between Subsumption and a somewhat deeper issue. To see this, it helps to consider the following phenomenological argument for Subsumption. Let *S* be a subject in the cognitive sense, and let *S* have only two disunified experiences *E*₁ and *E*₂ at *t*₁ and undergo a change in *t*₂ that consists only in *E*₁ and *E*₂ becoming extrinsically unified and whatever other change might come about in virtue of this unity. Let *T*₁ and *T*₂ be the total phenomenology of *S* at *t*₁ and *t*₂ respectively. The argument would go as follows:

1. Since extrinsic unity is a phenomenal relation it must make a difference to the overall phenomenology of *S* at *t*₂.
2. The phenomenal character of *E*₁ and *E*₂ does not change from *t*₁ to *t*₂.
3. Therefore, there must be a third experience, *E*₃, that exists in *t*₂ and is absent in *t*₁.
4. Either *E*₃ is an encompassing experience that has *E*₁ and *E*₂ as parts or it is extrinsically unified with *E*₁ and *E*₂.
5. On pain of infinite regress, we should assume that there is some encompassing experience that has *E*₁ and *E*₂ as parts.

A realist about phenomenal unity would accept the first premise. If unity is a phenomenal relation, it must be phenomenally manifest. So there must be a phenomenal contrast between *T*₁ and *T*₂. One who rejects certain forms of holism would also (p. 222) accept 2.²⁵ The move to 3 can be defended by relying on the idea that whenever there is a phenomenal difference between two situations there must be an experience that explains the difference. This might strike many as plausible, but it is incompatible with several theoretical views about experience. Before getting into this issue, however, let us see the rationale behind the rest of the argument. If *E*₃ is neither extrinsically unified with *E*₁ and *E*₂ nor has them as parts, then it is very paradoxical why it is relevant to explaining the phenomenal difference between *T*₁ and *T*₂. But if *E*₃ is extrinsically unified with *E*₁ and *E*₂ then, by the same pattern of reasoning applied in 1–4, there must be another experience *E*₄ that is either extrinsically unified with *E*₁, *E*₂, and *E*₃ or contains them as parts. To stop an infinite regress, we have to assume that at some point there is an experience that contains the previous experiences as components.

How could the proponent of Pure Extrinsic Unity reject this argument? As I noted, the suspect is the idea that motivates the move from 1 and 2 to 3: whenever there is a phenomenal difference between two situations there must be an experience in virtue of which the difference obtains. There are several theoretical perspectives that can help us see how one might reject this idea. For example, one who holds that experiences essentially involve phenomenal perspectives might also hold that when experiences are unified their phenomenal perspectives overlap and this overlap explains the phenomenal difference between unity and disunity. Thus, the difference between *T*₁ and *T*₂ can be ex-

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plained by citing the fact that in t_1 the phenomenal perspectives inherent in E_1 and E_2 are separate but in t_2 they are overlapping. Similar moves can be made by appealing to the emergence of phenomenal subjects, for-me-ness, and the manner in which an experience is given. On closer look, all of these views are committed to the same generic principle: some phenomenal differences between two situations can be simply explained in terms of relations among experiences. This suggests that the simplest version of this strategy can appeal to the relation of phenomenal unity. The phenomenal difference between T_1 and T_2 simply consists in the fact that E_1 and E_2 are phenomenally unified at t_2 but are not unified at t_1 . So, there is no reason to posit a new experience to explain the difference between T_1 and T_2 .

My goal in this section has been to motivate and defend a substantive purist thesis about the fundamental connection between consciousness and unity. I motivated purism by arguing that it is hard to see how impure theses could be both substantive and true. I then advanced Pure Extrinsic Unity according to which, necessarily, every experience is extrinsically unified with another experience. This thesis captures the idea that unity is present in every occurrence of conscious experience. I also explained the Subsumption challenge for this thesis and discussed how it can be blocked. Rejecting Subsumption, as noted earlier, does not have to amount to a rejection of the platitude that phenomenal unity is singularizing. For one does not have to identify the single (p. 223) phenomenal item in this platitude with an experience. There are a variety of options here. My own view is that the single item is a stream of consciousness.

10.3 Connectivity

This section focuses on the grounding question: when consciousness is unified, what are the uniform fundamental person-level facts,²⁶ if any, in virtue of which it is unified? Earlier, I distinguished between Newtonian and Leibnizian answers to this question. To get an intuitive idea of the difference between these answers, let us consider the following example. Jack and Jill are family members. What are the more fundamental facts in virtue of which they are family members? One possible answer is that there is an entity called the Anderson family and Jack and Jill are both members of this family. Let us call this answer Family. According to Family, the fact that Jack and Jill are family members obtains in virtue of the fact that there is a single entity and they stand in a membership relation to this single entity. This answer is intuitively unappealing. It is natural to hold that families emerge from family relations, but Family reverses the order. A more plausible answer is that Jack and Jill are family members, in virtue of being connected through a continuous chain of parent-child relations. For example, Jack's mom is Jill's cousin, where the relationship of being a cousin is also grounded in a chain of parent-child relations. Let's call this answer Kinship.

The distinction between Family and Kinship exemplifies a structural difference that can be seen in several everlasting philosophical debates. For example, on Newtonian views of space, objects stand in spatial relations in virtue of being located in a single space. On

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this view, facts about spatial relations are grounded in facts about locatedness in a single space. Leibniz reverses the order. On his view, spatial relations are more fundamental than locatedness in a single space. In fact, on Leibniz's view, space is grounded in and derivative from the fact that spatial relations among objects satisfy certain conditions. The same structural differences distinguish Family from Kinship. The former is Newtonian, the latter Leibnizian.

I have defended a Leibnizian answer to the grounding question about phenomena unity in previous work.²⁷ This section explains the intuitive case for adopting this approach and the original connectivity view that is defended in earlier work. I then argue that in (p. 224) order to offer a uniform treatment of synchronic and diachronic unities, the original version of the view has to be revised. I propose a revised version at the end.

10.3.1 The Original Connectivity View

The intuition behind the connectivity approach to unity is that relations of phenomenal unity can be accounted for in a way that is structurally analogous to Kinship. So, let me highlight the structural features of Kinship that Connectivity shares. We have already discussed one crucial feature: Kinship has a Leibnizian structure. The second feature is that Kinship is a non-primitivist view. The fundamental parent-child relations that Kinship appeals to do not necessarily connect all members of the Anderson family. The relation that is at the bottom of this account is therefore different from the relation that the account aims to explain. On a primitivist Leibnizian account, however, being family members would be a primitive relation that is not grounded in a more fundamental relation. The third feature of Kinship is that it gives us a uniform treatment of diachronic and synchronic family relations. Suppose that Charles is an Anderson who lived in the eighteenth century. Jack and Jill stand in a synchronic family relation to each other and a diachronic family relation to Charles. An interesting feature of Kinship is that it accounts for these synchronic and diachronic relations in exactly the same way. In both cases, facts about family relations are grounded in the existence of a continuous chain of parent-child relations. Kinship is therefore a uniform account of synchronic and diachronic family relations. To summarize, Kinship is Leibnizian; it is non-primitivist; and it provides a uniform account of synchronic and diachronic family relations.

Connectivity, similarly, is Leibnizian, non-primitivist, and offers a uniform account with respect to synchronic and diachronic unity. The key is to find an element in experience that plays a role that is similar to parent-child relations. In the connectivity approach, this role is played by experiences of specific relations. What are these experiences? An example might help. I just heard the song that the ice cream truck that frequents our neighborhood plays and, looking through the window, I cut a glimpse of the truck slowly passing by. I did not just experience the sound and the visual profile of the truck; I experienced the sound as originating from the same spatial location as the truck and I experienced the truck as the cause of the sound. So, I experienced spatial and causal relations between the sound and the truck. Let us call the experiences exemplified in these cases experi-

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ences of specific relations.²⁸ The connectivity approach grounds unity in continuity conditions defined over experiences of specific relations.

We can use experiences of specific relations to define a relation among experiences called binding:

(p. 225)

Binding

Two experiences are bound together iff they are attached by an experience of a specific relation.

In the previous example, my auditory experience of the truck's sound and my visual experience of its visual profile are bound together by the experience of the specific causal and spatial relations that I experience between the truck and its sound. Three points about binding deserve highlighting. First, we can sometimes experience relations among our experiences, or between our experiences and objects and events in the world. But in normal perceptual cases experiences of specific relations are not experiences of relations among our experiences. Rather, they are experiences of relations among the items that we experience. Second, for our current purposes we can treat attachment as a primitive relation that connects experiences of specific relations with other experiences. In pointing out that this relation is a primitive relation, I want to emphasize that it is a relation that cannot be reduced to content relations. The mere existence of an experience of a specific relation is not sufficient for binding two experiences with each other. The experience of a specific relation has to be *attached* to the experiences that it binds together. Third, although this does not follow from the characterization of binding, it is not the case that all of our unified experiences are bound together. This is clear in the case of diachronic experiences within a unified stream that do not succeed each other. But I think it applies to synchronic experiences too. The melody that the ice cream truck plays usually invokes a sense of nostalgia in me and I experience this emotion as caused by the melody. My emotional experience is bound with my auditory experience of the melody. But my emotional experience is not directly bound with the visual experience of the truck through an experience of a specific relation.²⁹ I do not experience my emotional reaction as caused by what I see; I experience it as caused by what I hear.

It follows from the third point that a simple Leibnizian view that identifies unity with binding cannot account for diachronic unity and arguably not even synchronic unity relations. Therefore, we should not identify unity with binding. Nevertheless, there can be an intimate connection between the two notions. We can use the binding relation to define the notion of a unity path in the following manner:

Unity Paths

There is a unity path between two experiences E_m and E_n iff E_m is bound with E_n or there is an E_r such that E_m is bound with E_r and there is a unity path from E_r to E_n .³⁰

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(p. 226) A path consists in a chain of experiences of specific relations and the experiences that are bound by the path. An experience can be a member of a unity path in either of two ways. It can either be a binder or one of the experiences that are bound by the binders in the path.

The notions of a unity path and path membership can be used to offer an analysis of unity:

Connectivity

Two experiences are unified in virtue of the fact that they belong to the same unity path as members.

Connectivity is attractive in many respects. However, the view suffers from a problem. What follows explains this problem and proposes a revision that would address it.

10.3.2 The Revised Connectivity View

The main problem for Connectivity is that it cannot accommodate phenomenal fission and fusion. By phenomenal fusion I mean a case in which two disunified streams of consciousness become unified. If fusion is possible, then two experiences, E1 and E2, that are not unified before fusion can be members of a diachronic unity path that results from fusion. The original version of Connectivity, would imply that these experiences are unified and this clashes with the intuitive sense that E1 and E2 are not unified. A similar problem emerges in the case of fission where one unified stream breaks into two disunified streams. It is intuitive to say that the experiences in the two streams after the fission are disunified, but there is a unity path that connects them through the unified stream in the past.

It is possible to solve this problem by providing different accounts of synchronic and diachronic unity relations. For example, we can distinguish between synchronic and diachronic binding and use this distinction to define different relations of synchronic and diachronic connectivity. Doing so would enable us to say that in the fusion and fission cases E1 and E2 are synchronically disunified but diachronically unified. But if we go with this option, we have in effect given up on the ambition to provide a uniform treatment of diachronic and synchronic unity relations.

Another option would be to index claims about unity relations to times or temporal periods. For example, we might say that E1 and E2 are disunified during the period before fusion and unified after fusion. But this seems implausible. For E1 and E2 may not even exist at the time of fusion and afterwards. So it would make no sense to say that they are unified after fusion.

The best strategy, in my view, is to revise Connectivity in order to block the implication that disunified experiences before fusion or after fission satisfy the conditions for unity.

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The key here is that the unity paths that result from fusion and fission change their temporal direction; they contain a *diachronic turn*.

(p. 227)

Diachronic Turn

There is a diachronic turn in a unity path when there are experiences E_n , E_m , and E_p in the path such that (a) E_n is between E_m and E_p , and (b) E_n is either temporally prior or temporally posterior to both E_m and E_p .

An experience, E_n , is between experiences E_m and E_p in a unity path, U , iff there is a sub-path of U that starts with E_m and ends with E_p and E_n is a member of this sub-path. A path that has a diachronic turn travels in time in one direction and then turns back.

We can solve the fission/fusion problem by restricting Connectivity to unidirectional paths, where a unidirectional path is one that does not contain a diachronic turn.

Revised Connectivity

Two experiences are unified in virtue of the fact that there is a unidirectional unity path that they both belong to as members.

As a thesis about the fundamental facts in virtue of which unity obtains, Revised Connectivity has many advantages.³¹ The thesis also has implications for our understanding of the neural correlates of consciousness in that it suggests a distributed model of these correlates as opposed to models on which the correlates of consciousness have to relate to a core or center.³²

10.4 Conclusion

My goal in this chapter has been three-fold. In the first section, I surveyed some of the issues and questions that have been central to recent work on phenomenal unity. In the second section, I argued that the Unity Thesis and other impure answers to the articulation question fail to properly capture the intuitive sense in which phenomenal unity belongs to the nature of consciousness. I proposed and defended a purist alternative. Finally, I proposed and defended a Leibnizian answer to the grounding question.

The articulation and the grounding questions have independent philosophical significance, but they also play an important role in a project whose main goal is to offer an account of how phenomenal unity belongs to the nature of consciousness. To get the project off the ground, we need first to properly formulate the thesis that corresponds to the intuitive idea that unity belongs to the nature of consciousness. Thus, we need to answer the articulation question. I have argued here that the Pure Extrinsic Unity thesis is the best answer to the articulation question and defended the thesis from various (p. 228) objections. But this does not amount to showing *why* the thesis is true. In order to do so, one needs to explain how Pure Extrinsic Unity flows from the nature of consciousness. Ap-

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proached systematically, this is a two-fold task. First, we need an account of the facts in virtue of which unity obtains; in other words, we need an answer to the grounding question. Second, we need to show how the presence of the facts that ground unity relations is a consequence of facts about the nature of consciousness. Doing so would help us see why unity is present wherever consciousness is present. I have not attempted this second task. But let me end this chapter with the promissory note that this can be done in full satisfaction if one could demonstrate that consciousness has a necessary (or if you like essential) structure that is grounded in experiences of relations. Establishing this claim is the task of future work.

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Notes:

⁽¹⁾ By a natural feature of consciousness I simply mean something that belongs to its nature. I will be treating 'X belongs to the nature of Y' and 'X is a natural feature of Y' as equivalent.

⁽²⁾ Bayne and Chalmers (2003), Bayne (2010).

⁽³⁾ This is a partial list. Other forms of unity that are often distinguished from phenomenal unity include introspective unity, spatial unity, Gestalt unity, and representational integration. For a more in-depth discussion of these distinctions see Bayne and Chalmers (2003), Tye (2003), and Dainton (2006).

⁽⁴⁾ For an interesting analysis of the different ways in which this condition can be satisfied see Koksvik (2014).

⁽⁵⁾ This characterization of the notion of a phenomenal field was suggested to me in a conversation by Christopher Hill. For an interesting alternative analysis of the notion of a phenomenal field see Roelofs (2014).

⁽⁶⁾ See Tye (2003). See also Guistina (2017) who defends the view and also interprets Brentano as endorsing it. Bayne (2010: 29-32) responds to Tye's argument for the one experience view. See also this chapter, Section 10.2.3.

⁽⁷⁾ See Hurley (1998). See Masrour (2014a) for a response.

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⁽⁸⁾ Hill (2014), for example, denies that unified experiences always form a single experience. See Bayne (2014) for a response.

⁽⁹⁾ Bayne (2014), for example, defends the view that when experiences are unified they are so in virtue of being parts or components of one encompassing experience. Many other accounts of unity have the same structural profile, though they differ in their conceptions of the oneness that grounds unity. Tye (2003) proposes that the oneness of experience obtains in virtue of the oneness of content, and Peacocke (2014) maintains that experiences are unified in virtue of belonging to the same single subject. Newtonian tendencies also figure in interpretations of historical figures. The idea that phenomenal unity is grounded in the oneness of an act of synthesis is commonly attributed to Kant. Giustina (2017) interprets Brentano as adopting the view.

⁽¹⁰⁾ Dainton (2006) defends a primitivist version of Leibnizianism that grounds unity on relations of co-consciousness. I, on the other hand, have defended a non-primitivist version that grounds unity on connectivity conditions defined over a relation of attachment; see Masrour (2014a, 2014b). Watzl (2014) also defends a Leibnizian view that grounds unity in foreground-background relations in attentional structure, though he puts things in terms of the nature of unity as opposed to its uniform grounds. Roelofs (2014) defends a somewhat similar view.

⁽¹¹⁾ Among philosophers, Moor (1982), Davis (1997), Tye (2003), and Schechter (2010) deny the Unity Thesis. A notable exception here is Bayne (2010: 189–221) who mounts an impressive defense of the idea that unity is maintained in split brain cases, and offers an excellent review of the philosophical and scientific literature on split brains.

⁽¹²⁾ As noted earlier, Hurley (1998) denies that unity is phenomenally manifest and would therefore qualify as a skeptic about phenomenal unity, even though she is not a skeptic about phenomenal character/consciousness more generally.

⁽¹³⁾ A purist does not have to deny that there are deep links between the notion of unity and the notions of a conscious subject. She could even accept that unity relations among experiences are necessary conditions for the existence of conscious subjects to whom the experiences belong. But a purist would hold that the fundamental connection between consciousness and unity holds even if we deny the connection between unity and subjects.

⁽¹⁴⁾ Note that since the relevant notion of object here is the intentional notion, the scheme allows for the presentation of objects that do not in fact exist. This notion also allows for the possibility that the number of intentional objects that are presented by experience might diverge from the number of objects that are perceived.

⁽¹⁵⁾ As noted earlier, another option is to construe the subject in the biological sense. Everything that I say here about subjects in the cognitive sense would generalize to subjects in the biological sense. Therefore, I will be ignoring this sense of subjects here.

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(¹⁶) Obviously, this dichotomy does not exhaust the space of possible versions of the Unity Thesis. But, as we shall soon see, focusing on these two notions will do for our purposes here.

(¹⁷) This view is popular among both philosophers and cognitive scientists. Among philosophers, Moor (1982), Davis (1997), Tye (2003), and Schechter (2010), hold this view. A notable exception here is Tim Bayne who puts up an impressive defense of unity in split brain cases. See Bayne (2010: 189–221) for his defense and an excellent review of the philosophical and scientific literature.

(¹⁸) Tye (2003) is a good example.

(¹⁹) One might argue that even in such a case, there is a sense in which we find unity because each of my experiences are in an intrinsic sense unified. I explain why this move is unsatisfactory in Section 10.2.2.

(²⁰) A list of potential candidates would include items such as an ‘I think’ that accompanies all experiences, for-me-ness (Kriegel 2005; Zahavi and Kriegel 2015), and higher order or same order self-representations (Rosenthal 1997; Kriegel 2009).

(²¹) Some meditators claim that deep meditation can result in states of consciousness that are devoid of any complex content. Perhaps these could be regarded as examples of lonely experiences. If this is the case then Pure Extrinsic Unity is false. But, of course, there are several other ways to interpret the phenomenology of deep meditative states that is compatible with the impossibility of lonely experiences.

(²²) An argument of this nature is one of the main reasons that Tye (2003) denies that there can be phenomenal unity relations among experiences and embraces the one-experience account of unity.

(²³) We cannot solve this problem by assuming that T is diachronically unified with some of your experiences in the immediate past and the future because we can use those experiences to generate another counterexample. Let T* be the experience that contains all your experiences during the uninterrupted continuous stream of consciousness that includes T. T* is a lonely experience because it is not extrinsically unified with any other experience. So T* is a counterexample to Pure Extrinsic Unity.

(²⁴) I borrow the term ‘subsumption’ from Bayne and Chalmers (2003), although they do not characterize it in terms of extrinsic unity.

(²⁵) Some hold that the phenomenal character of E1 and E2 would slightly change when they are unified. For discussion see Koksvik (2014).

(²⁶) By person-level facts I mean facts that are somehow manifest at the conscious level. The view that unity obtains when this or that condition fashioned in terms of brain processes are satisfied, for example, would not be an answer to the grounding question because facts about brain processes are not manifest at the conscious level as such.

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(²⁷) In Masrour (2014b), I argue that Newtonian answers to the grounding question are dialectically undesirable in that (a) the explanans of these views are not sufficiently removed from their explananda, (b) they are more susceptible to skepticism about phenomenal unity, and (c) they are not easily generalizable to diachronic unity relations.

(²⁸) There can be disagreement about whether we experience specific relations and if we do which specific relations we can experience. But for the purposes of this chapter I take it for granted here that there is a non-empty set of specific relations that we can experience.

(²⁹) In general, one can consistently maintain that although we can experience relations of temporal succession, not all of our experiences that succeed each other are bound by experiences of temporal succession.

(³⁰) This is obviously a recursive definition. The occurrence of 'unity path' in the second disjunct is discharged by repeated applications of the first.

(³¹) For discussion see Masrour (2014a).

(³²) Bayne (2010) refers to this distinction as the distinction between the Federalist and the Imperialist models of consciousness. For discussion see Masrour (2014a).

Farid Masrour

Farid Masrour is Vilas Associate Professor of Philosophy at University of Madison-Wisconsin. His primary area of research is philosophy of mind, epistemology, and Kant's theoretical philosophy. He is currently working on a Kant-inspired book on perception.