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The Phenomenal Field

‘Consciousness’, as William James noted, ‘is of a teeming multiplicity of objects and relations’ (James 1890/1950: 219). James was right: consciousness does present us with a teeming multiplicity of objects and relations. But as James also recognized, in presenting us with a teeming multiplicity of objects and relations consciousness itself remains unified. This book is about that unity—the ‘unity of consciousness’.

My treatment of the unity of consciousness is a tale told in three acts. The first act unfolds over Chapters 1 to 3 and is concerned with questions of *analysis*. Some theorists assert that consciousness is unified—indeed, that it is necessarily unified. Others hold that although consciousness is typically unified there are conditions in which this unity is lost. Still others assert that consciousness is generally disunified. Without a clear conception of what it might mean to say that consciousness is unified we cannot be sure what exactly is at stake in this dispute—indeed, we cannot be sure that it is substantive rather than merely verbal. In order to articulate competing conceptions of the unity of consciousness we need to first identify the various unity relations that can be found within consciousness. That task forms the focus of this chapter. I single out *phenomenal unity* as the most fundamental of the various unity relations that permeate consciousness. With the notion of phenomenal unity in hand I go on to advance an analysis of what it might mean to say that consciousness is unified. I call this claim the *unity thesis*. Roughly speaking, the unity thesis is the claim that a human being can have only a single stream of consciousness at any one point in time. The unity thesis forms the backbone of this project.

The second act unfolds across Chapters 4 to 9, and is concerned with the question of whether the unity thesis is true. In Chapter 4 I provide some initial motivation for the unity thesis, arguing that first-person acquaintance with consciousness provides us with reason to take it seriously. But this *prima facie* case in favour of the unity thesis must be weighed against evidence for thinking that the unity of consciousness can break down. In order to evaluate that evidence we need a suitable framework. I develop such a framework in Chapter 5; subsequent chapters apply this framework to a variety

of findings—drawn from both normal and abnormal forms of consciousness—that might be taken to show that consciousness is not always unified. Chapter 6 examines potential counter-examples to the unity thesis that are drawn from the study of perceptual experience (§6.1); behavioural control in infants and young children (§6.2); and patients in minimally responsive states (§6.3 and §6.4). Chapter 7 examines the case for thinking that the unity of consciousness might be lost in the clinical syndromes of anosognosia (§7.1), schizophrenia (§7.2), and dissociative identity disorder (§7.3). And Chapters 8 and 9 address objections to the unity thesis that derive from the study of hypnosis and the split-brain syndrome respectively. The conclusion of this section of the volume is that the unity thesis remains unrefuted by these conditions.

The final act is concerned with implications of the unity thesis and tidies up some loose ends. In Chapter 10 I suggest that the unity of consciousness has important—and widely overlooked—implications for theorizing about consciousness. If consciousness is indeed necessarily unified, then models that take specific, fine-grained states of consciousness as the fundamental units of consciousness must be rejected in favour of holistic models that begin with the subject's overall conscious state. In Chapter 11 I explore certain points of contact between the unity of consciousness and the experience of embodiment, and I argue against the claim that the unity of consciousness might be grounded in the phenomenology of bodily self-consciousness. The volume closes with Chapter 12, in which I argue that prominent approaches to the self must be rejected on the grounds that they fail to account for the essential link between the unity of consciousness and the self. In their place I sketch a view of the self that does do justice to this link.

So, that's where we are going. First, however, the central characters in our play must be introduced.

1.1 Consciousness

This is a book about the unity of consciousness rather than consciousness *per se*, but one's view of the unity of consciousness cannot but be informed by one's view of consciousness itself. In this section I present the framework that I adopt in thinking about consciousness. This framework is restricted to what we might think of as the 'surface' features of consciousness. Importantly, it does not make any assumptions about the 'deep' nature of consciousness, such as the relationship between consciousness and the physical world. I do assume that conscious states are grounded in neural states, but I will make few controversial assumptions about the nature of this grounding relation.

The notion of consciousness that I am interested in here is that of *phenomenal* consciousness. Phenomenal consciousness is the kind of consciousness that a creature enjoys when there is ‘something that it is like’ for that creature to be the creature that it is (Farrell 1950; Nagel 1974). Phenomenal consciousness—and only phenomenal consciousness—brings with it an experiential perspective or point of view. There is something that it is like for me to be me, and—I presume—there is something that it is like for you to be you. An account of consciousness is nothing more nor less than an account of what is involved in having such a point of view.

Creatures, of course, are never *merely* conscious; instead, they are conscious in particular ways. Many of these ways involve what I will call *specific conscious states*. Specific conscious states can be distinguished from each other by reference to their phenomenal character (or ‘content’). Here’s a description, as I remember it, of some of the specific conscious states that I enjoyed during a short episode of consciousness some years ago:

I’m sitting in the Café Cubana (47 Rue Vavin, Paris). I have auditory experiences of various kinds: I can hear the bartender making a mojito; I can hear the dog behind me chasing his tail; and there’s a rumba song playing somewhere on a stereo. I am enjoying visual experiences of various kinds: I can see these words as they appear in my notebook; I can see the notebook itself; and I have a blurry visual impression of those parts of the room that lie behind the notebook. Co-mingled with these auditory and visual experiences are olfactory experiences of various kinds (I can smell something roasting in the kitchen); bodily sensations of various kinds (I am aware of my legs under my chair; I can feel my fingers on the table); and a range of cognitive and affective experiences. The bartender is talking to an old woman at the bar, and I have a vague sense of understanding what he’s saying. I am soon to embark on a lengthy trip, and a sense of anticipation colours my current experiential state. Finally, I am enjoying conscious thoughts. I realize that the bar is about to close, and that I will be asked to leave if I stay for much longer.

Despite its detailed nature, this vignette barely touches on the tremendous variety of conscious state types that can be found within the stream of consciousness. There are experiences within the five familiar perceptual modalities. There are bodily sensations of various kinds, each with its distinctive phenomenal character. Staying within the sensory realm, there are conscious states associated with imagery and memory, not to mention the conscious states associated with various kinds of affect. There is the phenomenology of both directed and undirected moods and emotions. Moving from the sensory to the cognitive we can identify states of ‘fringe’ phenomenology, such as tip-of-the-tongue and *déjà vu* experiences. There are various experiential states associated

with agency, such as the feeling that one is in control of one's movements. And there are conscious thoughts of familiar kinds, such as desire, intention, and judgement. There are clearly a vast number of ways in which one can be conscious.

Although few would disagree with the claim that consciousness manifests itself in many forms, many would reject the claim that all forms of consciousness are forms of *phenomenal* consciousness. According to a number of theorists, we need to distinguish those conscious states that are phenomenally conscious from those that are conscious in some other sense of the term. Theorists who hold this view typically regard bodily sensations, perceptual experiences, and affective experiences (plus or minus a bit) as modes of phenomenal consciousness, but they deny that thoughts are ever phenomenally conscious *as such*. These theorists usually allow that conscious thoughts are *accompanied* by various phenomenally conscious states—inner speech and visualization of various kinds, for example—but they deny that thoughts themselves are modes of phenomenal consciousness—that they have a distinctive or proprietary phenomenal character in the way that bodily sensations or perceptual states do. This conservative view of the reach of phenomenal consciousness can be contrasted with a *liberal* perspective. Liberals hold that conscious thoughts possess a ‘what it’s likeness’ in precisely the same sense in which perceptual states and bodily sensations do. There is, the liberal insists, something that it is like to get a joke, to be puzzled about a problem, and to see that an argument is fallacious. According to this perspective, it is simply a mistake to restrict the domain of the phenomenal to the sensory. Sensory states may be among the most obvious and arresting examples of phenomenal consciousness, but the sensory does not exhaust the domain of the phenomenal.¹

The contrast between these two views has a vital bearing on approaches to the unity of consciousness. From the liberal perspective it is natural to expect that there will be a single account of the unity of consciousness that might accommodate conscious states of all stripes, although liberals might allow that this account will be ‘supplemented’ by subsidiary analyses that apply only to restricted classes of phenomenal states (say, perceptually conscious states). Conservatives, by contrast, have no reason to expect any single approach to do the ‘heavy lifting’ in accounting for ‘the’ unity of consciousness, for the conservative denies that conscious states form a unified category. Instead, the conservative is likely to expect at least two accounts of the unity of consciousness:

¹ For conservatism see e.g. Carruthers (2005); Lormand (1996); Nelkin (1989); Prinz (2011); Robinson (2005); Tye & Wright (2011); for liberalism see Flanagan (1992); Horgan & Tienson (2002); Kriegel (2007); Pitt (2004); Siewert (1998); Strawson (1994).

one that applies to *phenomenally* conscious states and another that applies to *non-phenomenally* conscious states. Indeed, conservatives are likely to also need a third account of the unity of consciousness in order to accommodate the unity that holds between phenomenally conscious states and non-phenomenally conscious states.

The debate between conservatism and liberalism is a complicated one, and I will not attempt to settle it here. (That's a job for another book—see Bayne & Montague 2011.) Instead, I will simply assume that liberalism is true. In other words, I will take 'phenomenal consciousness' to be pleonastic: *all* consciousness is phenomenal consciousness. I use the terms 'conscious', 'experiential', and 'phenomenal' as synonyms, and my choice of one term over another is made on purely stylistic grounds. Conservatives are advised to take note of this fact, for some of the arguments in the following chapters—particularly those in Chapter 2—assume liberalism.

A final dimension of consciousness involves what are variously known as 'background states' or 'levels' of consciousness. The notion can perhaps be best introduced by means of examples. Consider the contrast between being conscious in the context of the normal waking state on the one hand and being conscious in the context of extreme drowsiness, delirium, hypnosis, or REM dreaming on the other. Over and above the fine-grained differences in conscious contents that might accompany this contrast, it will also be characterized by differences in the overall 'tone' of one's conscious state. One's general conscious state will be modulated in one way in the context of normal wakefulness and a very different way in the context of (say) extreme drowsiness.

Although widely recognized, the notion of a background conscious state has not received the critical attention that it deserves, and it is something of an open question how best to conceptualize it. I think that such states are best thought of as regions in a complex state-space, the parameters of which determine both the selection and functional roles of the subject's specific conscious states (or 'contents'). Consider first the role that background states play in the selection of specific conscious states. Although some types of conscious states can occur within the context of various background states—for example, one can have a pinprick experience whilst normally awake, dreaming, or hypnotized—others are restricted to particular background states. The kinds of conscious reflection and thought that are possible within the state of normal, 'clear' wakefulness are not to be found within the states of 'clouded consciousness' that occur in delirium or REM sleep. Moreover, where a specific conscious state (or 'content') can occur in the context of different background states it might play quite different functional roles. The ways in which a specific conscious state can be employed in the control of thought and action will depend on the background conscious state of the

creature in question. Subjects who are in a state of normal wakefulness might be able to employ the contents of their specific conscious states in the service of multiple forms of cognitive and behavioural control, whereas subjects who are (say) delirious might be able to employ the contents of their specific conscious states in only a restricted range of cognitive and behavioural tasks.

Within the neuroscientific and clinical literatures the contrast between different background states of consciousness is often referred to as a contrast between different ‘levels’ of consciousness. In my view the term ‘levels’ should be avoided, for it suggests that differences between background states of consciousness can be mapped onto differences in *degrees* of consciousness. This assumption is problematic. Someone who has made the transition from the state of delirium to the normal waking state might be conscious *of* more than they were before, but they are not thereby *more conscious* than they were before. In this respect being conscious resembles being alive. In the same way that it is not possible for one creature to be more alive than another, so too it is not possible for one creature to be more conscious than another. (This is so even if there are cases in which there is no fact of the matter as to whether or not a creature is conscious.) That being said, talk of levels does point to the fact that background states can be ordered in some kind of rough hierarchy according to the kinds of specific conscious states that they admit and the functional roles that they support. Ordinary waking consciousness involves a ‘higher’ level of consciousness than that which is seen in (say) delirium, for not only does ordinary wakefulness admit forms of consciousness that do not occur within the context of delirium (such as self-conscious thought), it also involves forms of cognitive and behavioural control that are not to be found within delirium. However, in recognizing that these background states can be ordered in this way we should avoid the temptation to think that those in the state of ordinary wakefulness are more conscious than those who are delirious.

Let us recap. I have distinguished three broad ‘aspects’ of phenomenal consciousness. We might call the first of these three aspects ‘creature consciousness’. As I use it, this term does not pick out a particular *kind* of consciousness that might be contrasted with phenomenal consciousness, but merely refers to the most general (or ‘determinable’) property associated with consciousness: the property of being phenomenally conscious. Creature consciousness takes two kinds of determinates: background conscious states and specific conscious states. Background states of consciousness can be contrasted with each other in terms of the kinds of conscious states that they admit and the functional roles that those states play within the subject’s cognitive economy. Specific states of consciousness can be contrasted with each other in terms of their phenomenal character (or ‘content’)—that is, what it is like to be in them. As we will see, in accounting for the unity of consciousness we will need to take all three aspects of consciousness into consideration.

1.2 Unity relations

I turn now from consciousness per se to the various unities that structure consciousness. This section provides an introduction to the central unity relations with which I will be concerned in this book. I will return to each of these notions at various points in later chapters.

Subject unity

The self or subject of experience provides one form of unity to be found within consciousness. My conscious states possess a certain kind of unity insofar as they are all mine; likewise, your conscious states possess that same kind of unity insofar as they are all yours. We can describe conscious states that are had by or belong to the same subject of experience as *subject unified*. Within subject unity we need to distinguish the unity provided by the subject of experience across time (diachronic unity) from that provided by the subject at a time (synchronic unity). In keeping with my focus on the unity of consciousness at a time, references to subject unity should be taken as picking out synchronic subject unity unless otherwise specified.

The notion of subject unity is a formal one, and just what the notion amounts to materially will depend in no small part on how the subject of experience (or self) is understood. We need to ask what role the notion of a subject of experience might play within our conceptual scheme, and what kind of thing might actually play that role. There is famously little agreement with respect to these questions. It would be an exaggeration to claim that there are as many conceptions of the subject of experience as there are theorists who have written on the topic, but it would not be much of an exaggeration. Some theorists regard selves as immaterial substances or souls. Other theorists regard selves as brains or some part thereof. Still others regard selves as psychological networks that are realized in or constituted by brains but are in principle distinct from them. Yet another approach conceives of the self as a kind of virtual entity, albeit one that may play an indispensable role in theoretical and practical reason. A final approach identifies selves—at least the kind of selves that we are—with organisms.

In the final chapter I will argue that we ought to think of the self in virtual terms. However, for the majority of this project I will employ an organismic (or biological) conception of the self, according to which the self is nothing other than an organism—in our case, the human animal. Adopting this conception of the self provides a particularly useful framework in which to explore questions relating to the unity of consciousness. Unlike other conceptions of the self, the

biological account enables us to determine the boundaries between selves with relative ease.

Representational unity

A second kind of unity to be found within consciousness concerns not the subject of conscious states but their ‘objects’ or ‘intentional contents’. Let us say that conscious states are *representationally unified* to the degree that their contents are integrated with each other. Representational unity comes in a variety of forms. A particularly important form of representational unity concerns the integration of the contents of consciousness around perceptual objects—what we might call ‘object unity’. Perceptual features are not normally represented by isolated states of consciousness but are bound together in the form of integrated perceptual objects. This process is known as *feature-binding*. Feature-binding occurs not only within modalities but also between them, for we enjoy multimodal representations of perceptual objects. Representational unity extends beyond perceptual objects to include the perceptual fields in which those objects are located. As Kant emphasized, one experiences the objects of perception as bearing determinate spatial relations, both to each other and to oneself. So, representational unity involves multiple layers of structure: features are bound together into objects, and objects are bound together into scenes.

Representational unity isn’t restricted to the contents of perceptual states but can also be found within conscious thought. A set of thoughts that is consistent with each other is more representationally unified than a set of thoughts that is not; and a set of thoughts that is both consistent and structured around a common theme is even more representationally unified than a set of thoughts that is merely consistent. Self-consciousness and various forms of metacognitive monitoring bring with them additional opportunities for representational unity and disunity. We might say that a creature enjoys representationally unified states to the extent that it has an accurate awareness of its own first-order states of consciousness, and that it enjoys representationally disunified experiences to the extent that it misrepresents its own first-order states of consciousness.

Phenomenal unity

Subject unity and representational unity capture important aspects of the unity of consciousness, but they don’t get to the heart of the matter. Consider again what it’s like to hear a rumba playing on the stereo whilst seeing a bartender mix a mojito. These two experiences might be subject unified insofar as they are both yours. They might also be representationally unified, for one might hear the rumba as coming from behind the bartender. But over and above these unities is a deeper and more primitive unity: the fact that these two experiences possess a *conjoint experiential character*. There is something it is like to hear the

rumba, there is something it is like to see the bartender work, and there is something it is like to hear the rumba *while* seeing the bartender work. Any description of one's overall state of consciousness that omitted the fact that these experiences are had together as components, parts, or elements of a single conscious state would be incomplete. Let us call this kind of unity—sometimes dubbed ‘co-consciousness’—*phenomenal unity*.

Phenomenal unity is often in the background in discussions of the ‘stream’ or ‘field’ of consciousness. The stream metaphor is perhaps most naturally associated with the flow of consciousness—its unity through time—whereas the field metaphor more accurately captures the structure of consciousness at a time. We can say that what it is for a pair of experiences to occur within a single phenomenal field *just is* for them to enjoy a conjoint phenomenality—for there to be something it is like for the subject in question not only to have both experiences but to have them *together*. By contrast, simultaneous experiences that occur within distinct phenomenal fields do not share a conjoint phenomenal character. This claim is stipulative. It is not to be taken as a substantive thesis about the relationship between phenomenal unity and the phenomenal field, but as a way of fleshing out the notion of phenomenal unity.

Although there is no denying that phenomenal unity is a puzzling feature of consciousness, I take the existence of some such relation to be beyond doubt. The multiplicity of objects and relations that we experience at any one point in time are not experienced in isolation from each other; instead, our experiences of them occur as components, aspects, or elements of more inclusive states of consciousness. It is this fact—however exactly it is to be understood—that the notion of phenomenal unity attempts to capture. I will say much more about phenomenal unity in the following chapters, but I trust that the foregoing suffices to provide readers with an initial grip on the notion.

1.3 Conceptions of the unity of consciousness

Although it is common to speak of *the* unity of consciousness, this locution can be misleading. As we have noted, multiple unity relations can be discerned within consciousness, and it is possible to draw on each of these relations to construct a conception of what it would be for consciousness to be unified. Indeed, various conceptions of the unity of consciousness *have* been constructed from these relations. We will get to these conceptions of the unity of consciousness shortly, but let us first reflect on what we might want from a conception of the unity of consciousness.

What we want—or at least, what *I* want—is a thesis that might capture the thought that the simultaneous experiences of a single subject must bear some kind of unity relation to each other. We might call such a thesis ‘the unity thesis’. Ideally, we want our unity thesis to have three properties. First, it must be substantive. If true it must not be a trivial truth. Secondly, it must be plausible. There is no point in exploring the viability of a unity thesis that has little chance of being true. Thirdly, it must be interesting—it must have the potential to significantly inform our understanding of consciousness. Let us examine some candidate unity theses with these desiderata in mind.

Some theorists conceive of the unity of consciousness in terms of the representational integration of its contents. Baars adopts a somewhat deflationary version of this approach, claiming that the unity of consciousness is the thesis that ‘the flow of conscious experience . . . is limited to a single internally consistent content at any given moment’ (Baars 1993: 285). Drawing on a more expansive conception of the representational structure of consciousness, Shoemaker suggests that the ‘unity of consciousness is in part a matter of one’s various beliefs forming, collectively, a unified conception of the world’ (Shoemaker 1996: 184). He goes on to say that ‘perfect’ unity of consciousness ‘would consist of a unified representation of the world accompanied by a unified representation of that representation’ (1996: 186).

What should we make of these conceptions of the unity of consciousness? It is pretty clear that Baars’ conception of the unity of consciousness does not provide us with a plausible unity thesis. Although perceptual experience does exhibit some kind of drive towards consistency, there is good reason to think that a single subject of experience can enjoy conscious states that are inconsistent with each other (see §3.2). For example, the visual experiences that one enjoys on looking at the two lines of a Müller-Lyer illusion might be at odds with one’s judgements about their relative lengths. And even if it were true that the contents of a creature’s simultaneous conscious states must be consistent with each other, this conception of the unity of consciousness would lack the scope that we might want from a robust conception of the unity of consciousness, for at best consistency is only a necessary condition on unity.

What about Shoemaker’s suggestion that the unity of consciousness can be thought of in terms of representational integration? This certainly captures a viable notion of the unity of consciousness. The conscious states of some subjects of experience will exhibit more representational integration than others, and it would be natural to describe a subject whose conscious states exhibited a high degree of representational unity as having a more unified consciousness than a subject whose conscious states exhibited a low degree of representational unity. But although Shoemaker’s conception of the unity

of consciousness might be suitable for some purposes, it does not suit our purposes for it does not capture a conception of the unity of consciousness according to which it is plausible to suppose that the simultaneous experiences of a single subject are necessarily unified. This is because it is possible for a subject to have conscious states that exhibit very little in the way of representational integration (see §6.3). Suitably qualified, representational unity might provide us with some kind of regulative ideal on consciousness, but it does not provide us with a constraint on unity that every subject of experience must meet.

Another version of the representational approach to the unity of consciousness appeals to self-consciousness. Rosenthal holds that the ‘so-called unity of consciousness consists in the compelling sense we have that all our conscious mental states belong to a single conscious subject’ (2003: 325). This claim suggests a certain conception of what it is for consciousness to be unified, according to which it is a necessary truth that any subject of experience will be aware of their conscious states *as* their own conscious states. As his use of the term ‘so-called’ suggests, Rosenthal himself does not think that consciousness is unified in this sense, but his approach might nonetheless provide us with a viable analysis of what it would be for consciousness to be unified.

This conception of the unity of consciousness certainly captures an important aspect of the unity of consciousness. It gives us a substantive conception of the unity of consciousness, for it is no trivial truth that subjects will always experience each of their conscious states as their own states. It also provides us with an interesting conception of the unity of consciousness, for if consciousness were unified in this sense then we would have an important constraint on theories of consciousness. But does it also provide us with a conception of the unity of consciousness according to which it might be plausible to suppose that consciousness is necessarily unified?

Opinions will differ on this point. Those theorists who hold that all conscious states involve some kind of self-consciousness may be inclined to think that it captures a sense in which consciousness might be necessarily unified. But those theorists who doubt whether consciousness necessarily involves any form of self-consciousness—even one that might be ‘implicit’ or ‘pre-reflective’—are very unlikely to think that this captures a sense of the unity of consciousness that might hold necessarily. This suggests that Rosenthal’s conception of the unity of consciousness does not capture the basal phenomenon that we are after. We want a conception of the unity of consciousness that might be endorsed even by those who deny that subjects of experiences are invariably aware of their conscious states as their conscious states.

It might be suggested that a plausible modification of Rosenthal's conception of the unity of consciousness can be found by drawing on Kant's famous claim that 'it must be possible for the "I think" to accompany all my representations' (1781/1787/1999: B131-2). Just what Kant really meant by 'the unity of consciousness' is notoriously obscure, but we might take him to have held that the members of a set of conscious states are unified with each other exactly when the subject of those states is *able* to self-ascribe them.² Might *this* conception of the unity of consciousness be the one that we are after?

The first question to ask is just what this Kantian conception of the unity involves. Does it require that the subject in question be able to self-ascribe its conscious states right *here and now*, or does it require only that the subject be able to self-ascribe its conscious states under certain *idealized* conditions? Does it require that those conscious states must be *conjointly* self-ascrivable, or does it require only that they be *individually* self-ascrivable? Whatever the answers to these questions, it seems unlikely that this conception of the unity of consciousness will do a better job of meeting our desiderata than Rosenthal's conception did. Although the Kantian conception of the unity of consciousness is both substantive and interesting, it too fails to capture a thesis that might be generally regarded as plausible. Those who deny that conscious states are always experienced as the subject's own states will often also deny that subjects are invariably in a position to self-ascribe their conscious states. Awake adults will typically be able to self-ascribe their conscious states but they might lose this capacity in the context of certain pathologies of consciousness. Moreover, young children and non-linguistic animals might not have ever had this capacity to begin with. The potential for self-ascrivation undoubtedly contributes to the rich sense of conscious unity that we enjoy, but it does not provide us with the basis for a conception of the unity of consciousness that meets the constraints that I have set out.

1.4 The unity thesis

The conception of the unity of consciousness that I am after has at its heart the notion of phenomenal unity. Consider again the vignette of my experience in the Parisian cafe (see p.5). Although it is something of an open question just how rich the stream of consciousness can be at any one point in time (see §4.1), let us suppose

² For discussion of Kant's conception of the unity of (self)-consciousness see Blackburn (1997), Brook (1994), Keller (1998), Powell (1990), and van Cleve (1999).

that there was a period during which I simultaneously enjoyed a visual experience of the bartender in front of me, an auditory experience of a rumba, a vague sense of embodiment, and a background experience of dull anxiety. Each of these experiential elements were, I suggest, phenomenally unified with each other within my overall phenomenal field. This unity was not something that I reflected on in enjoying this stream of experience—it was not itself an *object* of experience—but it was nonetheless a feature of my experience. Irrespective of their modality, each of the experiences that I was enjoying at a particular time were phenomenally unified with each other.

Let us say that a subject has a unified consciousness if, and only if, every one of their conscious states at the time in question is phenomenally unified with every other conscious state. We can think of such subjects as *fully unified*. Where a subject is fully unified, we can say that they enjoy a single *total conscious state*. A total conscious state is a state that is subsumed by nothing but itself, where one conscious state subsumes another if the former includes the latter as a ‘part’ or ‘component’. This total state will capture what it is like to be the subject at the time in question. In specifying the subject’s total conscious state one thereby provides a full specification of the subject’s specific conscious states. By contrast, if we are dealing with a creature whose consciousness is disunified, then there will be no single conscious state that ‘subsumes’ each of their specific conscious states.

How common is it for human beings to have a unified consciousness in this sense of the term? Quite common, it seems to me. Take any set of conscious states that you are currently enjoying—visual experiences, auditory experiences, emotional experiences, bodily sensations, conscious thoughts, or whatever. Irrespective of the degree to which these states might be representationally unified with each other, they will—I wager—be mutually phenomenally unified with each other. You might not have been aware of this unity until I drew your attention to it, but having drawn your attention to it I trust that you recognize it in your own experience.

Generalizing somewhat, we might hazard the guess that unity in this sense is a deep feature of normal waking experience. Indeed, we might even go further, and suggest that this kind of unity is not just a feature of normal waking experience but also characterizes other kinds of background states of consciousness, such as those that are present in REM dreaming, hypnosis, and various pathologies of consciousness. One might even hazard the thought that this kind of unity is an *essential* feature of consciousness—one that it cannot lose (at least when it comes to creatures like us). As Searle puts it, ‘all of the conscious experiences at any given point in an agent’s life come as part of one unified conscious field’ (Searle 2000: 562). Indeed, Kant himself gestures at this idea in referring

to the ‘one single experience in which all perceptions are represented’ (1781/1787/1999: A110).

All of this leads directly to a conception of the unity of consciousness that can be captured by appeal to the following thesis (Bayne & Chalmers 2003).

Unity Thesis: Necessarily, for any conscious subject of experience (S) and any time (t), the simultaneous conscious states that S has at t will be subsumed by a single conscious state—the subject’s total conscious state.

Here, I think, we have found an acceptable characterization of the unity of consciousness. First, this thesis is substantive: if true, it is not trivially true. Secondly, this thesis is interesting, for it offers us an exacting constraint on theories of consciousness. Thirdly, it is plausible: although it faces plenty of hard cases (as we shall see), there are no obviously decisive counter-examples to it. All up, the unity thesis provides us with just what we have been looking for.

This analysis of the unity of consciousness provides us with a deeper analysis of the unity of consciousness than that which is provided by the representationally based approaches that we examined in the previous section. As we will see in the following chapters, there are many ways in which the representational unity of consciousness can break down. Patients who suffer from integrative agnosia no longer experience objects as unified and coherent wholes (see also §3.3). Patients who suffer from anosognosia have difficulty tracking the contents of their own conscious states (§7.1). And patients who suffer from certain dissociative disorders seem to have lost the sense that their conscious states are their own (§7.3). But despite the breakdowns in representational unity that characterize these conditions, there is every reason to suspect that patients might nonetheless retain a more primitive form of conscious unity. It is this kind of unity—the unity of the phenomenal field—that the unity thesis is concerned with.

Although we have located a viable conception of the unity of consciousness, we cannot bring this chapter to a close just yet, for the unity thesis raises three issues that require comment. The first of these issues concerns the notion of the subject of experience. It is clear that the plausibility of the unity thesis will depend in no small part on just how we conceive of subjects of experience. As I indicated earlier, I will work with an organismic conception of the subject, according to which subjects of experience are animals of a certain kind—in our case, human beings. We could of course employ some other conception of the subject of experience (see Chapter 12), but any other view would enormously complicate the task of assessing the unity thesis. So, in the interests of keeping the discussion manageable I will assume that we can count subjects of experience by counting human beings.

The second of the three issues that needs to be addressed concerns the kind of necessity that governs the unity thesis. In what sense is the unity of consciousness a necessary feature of human experience? I will argue that we *never* have disunified experiences. Not only do we retain a unified consciousness within normal everyday contexts, we retain this kind of unity even in the context of the most severe impairments of consciousness. The mechanisms underpinning consciousness function in such a way that the conscious states they generate always occur as the unified components of a single phenomenal field. However, I do not claim that it is a conceptual or metaphysical truth that our conscious states are always unified; indeed, I do not even claim that the unity of consciousness is grounded in the laws of nature. Perhaps there are surgical innovations or evolutionary developments that could bring about a division in the stream of consciousness; perhaps there are other species in which the unity of consciousness can be lost. My only claim is that we have no good reason to think that any such division has actually occurred in the members of our own species.

The third of the three outstanding issues concerns the temporal structure of consciousness. The unity thesis asserts that the simultaneous conscious states of a single subject will be phenomenally unified with each other. The idea, roughly, is that any ‘instantaneous snapshot’ of a subject’s experience will reveal it to be fully unified (in the sense identified). Some will object to the idea that we might be able to take snapshots of the stream of consciousness, for—they might say—to do this would be to impose a static structure on something that is fundamentally dynamic and temporally extended. I think that this objection misses its target. Even if consciousness is essentially temporally extended, we can nonetheless take a slice of the stream of consciousness and investigate its internal structure. (What we cannot assume if consciousness is essentially dynamic is that the content and structure of the slice that we select is independent of the content and structure of the stream from which it is taken.) Taking the unity thesis seriously doesn’t presuppose a naïvely static metaphysics of experience.

But what sort of time-slice should we take? The temporal structure of consciousness has two aspects. On the one hand, conscious events themselves (or their neural realizers) have locations in objective time. We can ask of any particular conscious event when it happened. This is the temporal structure of the *vehicles* of consciousness. On the other hand, conscious events also *represent* events as occurring at particular times. This is the temporal structure of the *contents* of consciousness. As Dennett and Kinsbourne (1992) pointed out, in principle the temporal relations between the vehicles of conscious events can dissociate from the temporal relations between their contents. The possibility of this kind of dissociation is most evident in the context of conscious thought, for it is obvious that the temporal content of a thought can come apart from the

temporal location of the thought itself. But it is no less important to distinguish content from vehicle when it comes to perceptual experience. Consider two perceptual events, e_1 and e_2 . In principle, e_1 might occur before e_2 even if the intentional object of e_1 is represented as happening after the intentional object of e_2 is represented as happening. Just as there is no *a priori* requirement that the brain use space to represent space, so too there is no *a priori* requirement that it use time to represent time. So, we need to ask whether the unity thesis is best understood in terms of the temporal structure of the vehicles of consciousness or in terms of the temporal structure of its content.

It is clear that the motivation behind the unity thesis is not captured by an appeal to the contents of conscious thought. Suppose that at 9 a.m. this morning I formed the intention to book some airline tickets at noon today, and that when noon arrived I remembered this intention and as a result booked some tickets. Now, the intention to book the tickets and the actual booking of the tickets all involved a reference to the same time (namely, noon), but it is clear that the conscious states involved in these processes were not phenomenally unified with each other. Furthermore, I might now remember that I booked the tickets at noon, and this memory would not be phenomenally unified with either the conscious intention to book them or the actual act of booking them. These states might (or might not) have occurred within the same temporally extended stream of consciousness, but there was no single phenomenal state that subsumed them all. This suggests that when it comes to conscious thought, the frame of reference that concerns us must be that of the states themselves rather than their contents. And indeed that is precisely how the unity thesis is formulated: the temporal framework in question is that of clock-time, not that of the contents of experience.

Although the distinction between the temporal structure of consciousness itself and that of its content is of deep theoretical interest, it will be of little direct concern to us here. There may be no *a priori* requirement that the brain use neural time to represent time, but in practice the experience of temporal relations is tightly constrained by the temporal relations between experiences themselves. In light of this, in the pages that follow I will frequently move back and forth between claims about simultaneous experiences on the one hand and claims about the experience of simultaneous events on the other.

1.5 Conclusion

There are many ways in which consciousness might be said to be unified—or, as the case may be, disunified. In some senses of ‘unity’ the claim that consciousness is necessarily unified is clearly implausible; in other senses of ‘unity’ it

is well-nigh trivial. The main business of this chapter has been to identify a conception of the unity of consciousness according to which the claim that consciousness is unified is substantive, plausible, and of some interest.

I began the search for such a conception by first considering the central unity relations that structure consciousness: subject unity, representational unity, and phenomenal unity. Subject unity does not itself provide us with a conception of the unity of consciousness that we are after, for it is trivial that each of a subject's simultaneous conscious states will be subject unified with each other. Various forms of representational unity appeared to be more promising, and certainly many theorists have taken some form or another of representational unity to capture what it is for consciousness to be unified. However, I suggested that representational analyses of the unity of consciousness fail to provide us with what we are after. Instead, we were able to find a viable conception of the unity of consciousness by putting together the notions of subject unity and phenomenal unity: what it is for a subject's consciousness to be unified is for each of their simultaneous conscious states to be phenomenally unified with each other. Putting the same point in different terminology, it is for the subject to have a single conscious state—a total conscious state—that subsumes each and every one of the conscious states that they enjoy at the time in question. We might identify this total conscious state with a phenomenal field. And what it is for ‘consciousness itself’ to be unified is, I suggested, for it to be the case that no human subject can have a disunified consciousness. This claim is encapsulated in the unity thesis.

The unity thesis is the gravitational centre around which the following chapters orbit, although some chapters are more tightly bound to that centre than others. Chapters 2 and 3 focus on the notion of phenomenal unity, and are somewhat independent of the unity thesis. Chapters 4 and 5 examine the unity thesis in the abstract: the former provides a first-person based case for taking the unity thesis seriously, while the latter provides a third-person framework for evaluating potential counter-examples to it. Chapters 6 through 9 apply this framework to a variety of phenomena drawn from the study of both normal and abnormal forms of experience. The remaining three chapters explore some of the implications of the unity thesis: for theories of consciousness (Chapter 10), treatments of embodiment (Chapter 11), and accounts of the self (Chapter 12).