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Unity of Consciousness

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Abstract

Despite a burst of work in the past decade or so, some of it by us, there is still no general agreement on what unified consciousness is. This despite increasing recognition of its importance. Once more into the breach!

When one experiences a noise and, say, a pain, one is not conscious of the noise and, separately, of the pain. One is conscious of the noise and pain together, as aspects of a single conscious experience. This is the unity of consciousness. More generally, it is consciousness not of A and, separately, of B and, separately, of C, but of A-and-B-and-C together. James had a term for this: A, B, and C are *co-conscious* (1909, p. 221).¹

1. History

The unity of consciousness figured centrally in the work of Descartes, Leibniz, Hume, Reid, Kant, Brentano, James – indeed, in most major precursors of contemporary philosophy of mind and cognitive psychology. It played a particularly important role in Kant’s work (Brook, 1994).

starts like this:

When I consider the mind, that is to say, myself inasmuch as I am only a thinking thing, I cannot distinguish in myself any parts, but apprehend myself to be clearly one and entire. [Descartes, 1641, p. 196]

Descartes then asserts that if the mind is not made of parts, it cannot be made of matter because anything material has parts. He adds that this by itself would be enough to prove dualism, had he not proven it already. Notice where it is that I cannot distinguish any parts. It is in the unified consciousness that I have of myself. The central claim is then that unified consciousness could never be achieved by a system of components.

similar reasoning in Leibniz and Mendelssohn). However, Kant held that unity tells us nothing about what sorts of entity minds are, including whether or not they are made out of matter (1781, chapter on the Paralogisms of Pure Reason). His argument is that the achievement of unified consciousness by a system of components acting together would be no less mysterious than its being achieved by something that is simple, i.e., has no components (1781, A352).

of positions on unity. Briefly, for Leibniz, unified consciousness and the noncompositeness, the indivisibility that he took to be required for it seem to have served as his model of a monad, the building block of all reality. With Hume (1739), things are more complicated. It should have followed from his atomism that there is no unified consciousness, just “a bundle of different perceptions” (p. 252). Yet, in a famous appendix, he says that there is something he cannot render consistent with his atomism (p. 636). He never tells us what it is but it may have been that consciousness clearly seems to be more than a bundle of independent ‘perceptions’. Reid (1785), almost an exact contemporary of Kant’s, made extensive use of the unity of consciousness, among other things to run Descartes’ argument from unity to indivisibility the other way around. Brentano (1874) argued that all the conscious states of a person at a time will and perhaps must be unified with one another. (He combined this view with another strong thesis, that all mental states are conscious.) Finally, late in the 19th century James developed a detailed treatment of synchronic (or ‘at a time’) unity of consciousness. We will discuss his view later.

almost disappeared from the research agenda. Logical atomism in philosophy and behaviourism in psychology had little to say about such a notion. Logical atomism focussed on the atomic elements of cognition (sense data, simple propositional judgments, protocol sentences, etc.), rather than on how these elements are tied together to form a mind. Behaviourism urged that we focus on behaviour, the mind being either a myth or at least something that we cannot and do not need to study in a science of the human person.

consciousness among analytic philosophers in the past few decades, beginning with some influential commentaries on Kant in the 1960s (Strawson, 1966, Bennett, 1966, 1974) and works by Nagel (1971) and Parfit (1971, 1984). More recently, a large number of philosophers and a few psychologists have written on the subject, including Marks (1981), Trevarthen (1984), Lockwood (1989, 1994), White (1990), Hill (1991), Hurley (1994, 1998), Dainton (2000), Marcel (1994), Bayne and Chalmers (2003), and Blackmore (2004)

2. Some Varieties of Unity of Consciousness

Unified consciousness can take a number of forms and there

¹ Parfit reintroduced this term in (1984), p. 250.

are some important differences among these forms.

Unity of consciousness of objects in the world

Unity of consciousness of objects – one has unified consciousness of a group of items when to be conscious of any one of these items by means of that state is to be conscious of other such items and of at least some of the group of items as a group.

Let us call this form of unified consciousness UCC. In it, ‘item’ covers both objects and properties.

UCC allows us to see why unified consciousness is so important to us. Suppose that I am conscious of the computer screen in front of me and also of the car sitting in my driveway. If consciousness of these two items were not unified, I would lack the ability to compare them. I could not answer questions such as, Is the car the same colour as the WordPerfect icon?, or even, From where I stand, is the car to the left or to the right of the computer screen? That is what unified consciousness does for us: it allows us to make such comparisons. Since relating item to item in this and related ways is fundamental to our kind of cognition, unified consciousness is fundamental to our kind of cognition. As we will see, there are disorders of consciousness in which this ability to compare seems to be lost. Such people have huge cognitive impairments.

In addition to unified consciousness of represented objects, one can have unified consciousness of representing them, and unified consciousness of oneself, the thing that has the representations. There is a fourth form of unified consciousness, too, as we will see shortly. UC(1) does not simply transfer to any of these three forms. Let us take them one at a time.

Unified consciousness of one’s representing

We typically have unified consciousness of *how* different items of content are being represented (by seeing, hearing, remembering, and so on). For example, we can compare what it is like to *see* an object to what it is like to *touch* the same object. This involves consciousness of experiences themselves, for it is experiences that are taken to be visual or tactual. Let us capture the notion at work here a bit more formally.

Unity of consciousness of representing – one has unified consciousness of representing when to be conscious of how an item is being represented on the basis of having the representation is to be conscious of how other such items are being represented on the same basis.

The same goes for consciousness of feelings by feeling them and actions by doing them. Let us call this new notion UCR. It is very similar to UC(1). There is one important difference: the way in which one is conscious of items does not matter in UCC. It does matter here.

Unified consciousness of self

When one has unified consciousness of self, one is conscious of oneself not just as subject but, in Kant’s words (A350), as the ‘single common subject’ of many or all the aspects of the unified representation that one is now having and of a number of similarly representations past and, in anticipation, still to come. (*Mutatis mutandis* for the single common agent of various bits of deliberation and action.)

Neither UCC nor UCR works here. When one is conscious of oneself as the common subject of activities and contents of one’s current unified representation and the same subject of unified representations past and to come, one is not uniting *a number* of objects, nor a number of ways of representing either. Rather, one is conscious of one and the same thing in one and the same way, namely, of oneself as oneself – via a number of contents and activities of one’s global representation.²

Unity of Consciousness of self – Being conscious of, and knowing that one is conscious of, one and the same thing, namely, oneself, in the same way, namely, as oneself, via a number of representings.

Call this UCS. It happens both at a time and over time. While it is different from UCC and UCR, it is not that different. We have the same core idea: we have unified consciousness when to be conscious of an item is to be conscious of other items of the same kind. It is just that in this case, the ‘contents’ are a number of instances of conscious access to oneself as oneself.

Unity of focus

Finally, there is what we might call unity of focus (UF). UF is our ability to pay unified, focussed attention to things. It differs from the other sorts of unified consciousness. In the other two, consciousness ranges over either many represented items (UCC), complex representings (UCR), or oneself as subject of many representings (UCS). Unity of focus picks out something within these unified ‘fields’. Wilhelm Wundt captured what we have in mind in his distinction between the field of consciousness (*Blickfeld*) and the focus of consciousness (*Blickpunkt*). The consciousness of a single item on which one is focussing is unified because one is conscious of many *aspects* of the item in one state or act of consciousness (especially relational aspects, e.g., any dangers it poses, how it relates to one’s goals, etc.), and of many different considerations with respect to that item (one’s goals, how well one is achieving them with respect to this object, etc.), in the same state or act of consciousness. In UF, one integrates a number

² According to Kant, indeed, when one is conscious of oneself as subject, one need not be conscious of oneself as an *object* at all (A382, A402, B429).

of cognitive *abilities* and applies them to an object, especially to properties of the object that involve relationships to oneself.³

3. Two Theses about Unified Conscious States

What kind of mental state is required for conscious unity at a time of the UCC and UCR sort? What characterizes unified consciousness? One thesis is that some kind of relationship among contents is required, logical coherence for example (Hurley 1994, 1998). Unified conscious states cannot be inconsistent with one another. But that cannot be right. Suppose that one sees a stick immersed in water as being bent but knows that this is an illusion. Here, one's conscious perception conflicts with one's conscious belief that it is not bent. Yet one's consciousness of them is unified.

Others have advanced what we will call the *strong unity thesis*. This is the thesis that all the conscious states of a subject are unified; every conscious state is unified with every other conscious state. Bayne and Chalmers (2003): "Necessarily, any set of conscious states of a subject at a time is unified" (2003, p. 24). Against this thesis, cases of dissociation may be adduced, particularly split brain cases, where it looks like a subject has parallel streams of consciousness between which there are no relations of co-consciousness.

Even though there are strong reasons to question these requirements on unity, acceptance of them may be behind some of the recent skepticism about unified consciousness. Nagel (1971), Davidson (1982), and Dennett (1991) have all urged that the mind's unity has been overstated. However, the everyday incoherence of our beliefs, perceptions, etc., does not threaten unity at all, and if some of a subject's conscious states do not need to be unified with some of her other conscious states, all that would force us to do is to shrink the range of states over which consciousness is unified. From the fact that not all of one's conscious contents are unified it does not follow that none are. So there is still something here, unity of consciousness, for which we need to account. Indeed, when theorists claim that some conscious states may fall outside one's grasp, we should ask: outside the grasp of what? The answer would be: a unified conscious mind.

4. Two Models of Unified Conscious States

So what *is* unified consciousness like? There are two ways to understand what the unity consists in. On one view, the experience whereby I have unified consciousness of a number of things includes simpler experiences of those contents. For example, my experience of the pain and the noise includes an experience of just the pain, and an experience of just the noise.

These simpler experiences are the relata of co-consciousness, and are joined as parts of the unified experience of the pain and noise together. In short, experiences *a* and *b* are united in a third experience, *c*, which is their joint occurrence. We will dub this view the doctrine of Experiential Parts (EP).

On the rival account, the conscious mental act through which diverse contents are presented does not have other conscious states, experiences, as parts. Call this doctrine No Experiential Parts (NEP).

To clarify the two, let us use the notation '*E(o1)*' for an experience that is the conscious representation of just the intentional object *o1*. A conscious representation of just *o2* is *E(o2)*. What is the nature of an experience that takes the broader content in which *o1* and *o2* are presented together? On NEP, it has the structure of *E(o1, o2)*, where this introduces a single experience that has both contents as its object. To be conscious of *o1* by means of that experience is also to be conscious of it *with o2*. According to NEP, this is what the subject's conscious unity at the time amounts to (if we oversimplify by supposing her to be conscious of nothing but *o1* and *o2*). No 'smaller' or simpler conscious states figure as parts. This experience might be realized in a brain state that has parts, but these parts would not be further conscious states.

By contrast, EP must provide an account of how *E(o1)* and *E(o2)* persist as parts of an encompassing experience by means of which one is conscious of *o1* and *o2* together. As we will see, James already saw big problems here.

Proponents of EP include Lockwood (1989, p. 88), who introduces the notion of co-consciousness as "the relation in which two experiences stand, when there is an experience of which they are both parts" and Dainton (2000, p. 88), who says, "The relata of co-consciousness are experiences" and speaks of co-conscious experiences as "component parts" of the "total experience" that results from their linkage (2000, p. 214). Similarly, Shoemaker (2003, p. 65) says, "The experiences are co-conscious ... by virtue of the fact that they are components of a single state of consciousness ..."

NEP is advanced by Searle and Tye among others. Searle ventures the hypothesis that "it is wrong to think of consciousness as made up of parts at all" (2002, p. 56). For I have a "single, unified, conscious field containing visual, auditory, and other aspects" (Ibid.), but "there is no such thing as a separate visual consciousness." Do "visual experiences stand to the whole field of consciousness in the part-whole relation?" No, says Searle (2002, p. 54). Tye offers a similar view, which he dubs the 'one-experience view' (Tye 2003, chap. 1). Considering the polymodal nature of our experience, he says, "There are not five different ... experiences somehow combined together to produce a new unified experience" (2003, p. 27). Instead, "there is just one experience here" (Ibid.).

James was the first to champion NEP. He endorsed it in

³ If focus is closely related to attention, as we suggested, attention is not part of some forms of consciousness (Hardcastle, 1997).

the course of repudiating the ‘mind-stuff theory’, according to which “our mental states are composite in structure, made up of smaller states conjoined”(1890, p. 145). Against this, James says that while our experience is complex, this complexity is not a matter of there being several experiences (or ‘feelings’) present in an encompassing experience. This is because “we cannot mix feelings as such, though we may mix the objects we feel, and from *their* mixture get new feelings” (1890, p. 157).⁴ If one’s experience appears to become more complex, that is a matter of *a single experience’s content* being more complex, and is not the addition of *more experiences* (of the diversity of content).

Putting James’ view in terms of co-consciousness, only contents, not the experiences of them (or ‘feelings’), are the relata of co-consciousness, and the contents are made co-conscious by being presented together in the same, single experience. If we say that experiences *a* and *b* are fused to form experience *c*, we should treat ‘fused’ as referring to a process in which *a* and *b* are turned into *c*, not included in *c*. They have been replaced by *c*, in which their contents are connected, and they (*a* and *b*) no longer exist. As James (1909, p. 189) put it, contrasting the unified consciousness of the whole alphabet with the several states involved in consciousness of each letter taken singly, “It is safer ... to treat the consciousness of the alphabet as a twenty-seventh fact, *the substitute and not the sum of the twenty-six simpler consciousnesses.*”

EP faces a difficulty that does not confront NEP. James describes the problem in his example of the twelve-word sentence. Suppose each word in the sentence is known by just one of twelve people. It is hard to see, James says, how these twelve thoughts could be combined to yield a unified consciousness of the sentence. As he says,

Take a sentence of a dozen words, take twelve men, and to each one word. Then stand the men in a row or jam them in a bunch, and let each think of his word as intently as he will; nowhere will there be a consciousness of the whole sentence. (James, 1890, p.160)

What EP needs is a way of combining experiences that yields more than just an experiential aggregate, for a mere combination of experiences is not the experience of a combination. EP needs, then, a way of putting together experiences that also puts together their contents. With no story about how this combining of contents is done, we are left with a mere aggregate of experiences, each member of which is oblivious to the contents of the other states in the aggregate. As James says, “Idea of *a* + idea of *b* is not identical with idea of (*a* + *b*)” (1890, p. 161).

Tye links NEP to the idea that conscious states are transparent. ‘Transparent’ here means that while I am conscious *via* conscious states, I am not conscious *of* them. I ‘see through’

them; hence ‘transparency’. What might seem to be qualities of conscious states are really qualities that things are represented as having. “Phenomenal unity is a relation between qualities *represented* in experience, not between qualities *of* experiences” (Tye 2003, p. 36).

However, proponents of NEP need not affirm transparency. Consider, for example, the idea that conscious states are self-representing states, states of which one becomes conscious just by having them. On this approach, some of the qualities *of which* one becomes conscious in having an experience belong to the experience itself. This idea is entirely consistent with NEP. Thus NEP carries no commitment to the transparency thesis.

5. Disorders of Unified Consciousness

One of the most interesting ways to study psychological phenomena is to see what happens when they break down or take an abnormal form. Phenomena that look simple and seamless when functioning smoothly often turn out to have all sorts of structure when they begin to malfunction. This is certainly true of unified consciousness. Abnormalities of unified consciousness take two forms. There are situations in which it is retained in an unusual form, for example, it splits in two, and situations in which unity deteriorates more severely, to the point where it may even be said to be destroyed.

We will begin with cases in which unity is more clearly retained, but with an unexpected number of instances.

Unusual but still present unity of consciousness

Brain Bisection Operations

Commissurotomies (brain bisection operations) are the best known situations in which unified consciousness seems to split but otherwise remains intact. The abnormality is that it seems to split into two such centres of consciousness within one body. Here it is natural to say that the unity itself has not been destroyed or perhaps even damaged. It is just ‘parcelled out’ differently. In a commissurotomy, the corpus callosum is cut. The corpus callosum is a large strand of about 200,000,000 neurons running from one hemisphere to the other. When present, it is the chief channel of communication between the hemispheres. (These operations are a last-ditch effort to control certain kinds of severe epilepsy by stopping the spread of seizures.)

Here are a couple of examples of the kinds of behaviour that prompt the assessment that under special conditions, two centres of consciousness can appear in these patients. The human retina is split vertically in such a way that the left half of each retina is primarily hooked up to the left hemisphere of the brain and the right half of each retina is hooked up to the right hemisphere of the brain. Now suppose that we flash the word TAXABLE on a screen in front of a brain bisected pa-

⁴ Indeed, he says, “We cannot even ... have two feelings in mind at once” (James 1890, p. 157).

tient in such a way that the letters TAX hit the left side of the retina, the letters ABLE the right side and we put measures in place to ensure that the information hitting each half of the retina goes only to one lobe and is not fed to the other. If such a patient is asked what word is being shown, the mouth, controlled usually by the left hemisphere, will say TAX while the hand controlled by the hemisphere that does not control the mouth (usually the left hand and the right hemisphere) will write ABLE. Or, if the hemisphere that controls a hand (usually the left hand) but not speech is asked to do arithmetic in a way that does not penetrate to the hemisphere that controls speech and the hands are shielded from the eyes, the mouth will insist that it is not doing arithmetic, has not even thought of arithmetic today, etc. – while the appropriate hand is busily doing arithmetic!

Dissociative Identity Disorder

Another candidate phenomenon is what used to be called Multiple Personality Disorder, now, more neutrally, Dissociative Identity Disorder (DID). Since everything about this phenomenon is controversial, including whether there is any real multiplicity of consciousness at all, we will not say more about it.

Shattered Unity of Consciousness

In contrast to the cases that we just considered, there are phenomena in which unified consciousness seems not to split but to shatter.

Schizophrenia

In some particularly severe forms of schizophrenia, the victim seems to lose the ability to form an integrated, interrelated representation of his or her world and self altogether. The person speaks in ‘word salads’ that never get anywhere, indeed sometimes never become complete sentences. The person is unable to put together or act on plans even at the level necessary to obtain sustenance, tend to bodily needs, or escape painful irritants. Here, it seems more correct to say that the unity of consciousness has shattered than split. The behaviour of these people seems to express what we might call mere experience-fragments, the contents of which are so narrow and unintegrated that the subject is unable to cope and interact with others in the ways that even split brain subjects can.

Dysexecutive Syndrome

In schizophrenia of the severe sort just described, the shattering of consciousness is part of a general breakdown or deformation of mental functioning: affect, desire, belief, even memory all suffer massive distortions. In another kind of case, the normal unity of consciousness seems to be just as absent but there does not seem to be general cognitive or affective disturbance. This is what some researchers call dysexecutive syndrome

(Dawson, 1998, p. 215). What indicates breakdown in the unity of consciousness is that these subjects are unable to consider two things together, even things directly related to one another. For example, such people cannot figure out whether a piece of a puzzle fits into a certain place even when the piece and the puzzle are both clearly visible and the piece obviously fits. They cannot crack an egg into a pan. And so on.⁵

Simultagnosia

A disorder presenting similar symptoms is simultagnosia or Balint’s syndrome. In this disorder, patients see only one object located at one ‘place’ in the visual field at a time. Outside of a few ‘degrees of arc’ in the visual field, these patients say they see nothing but an “undifferentiated mess” and seem to be receiving no information about objects (Hardcastle, 1997, p. 62).

What is common to dysexecutive disorder, Trevarthen’s cases, and simultagnosia is that subjects seem not to be conscious of two items in a single conscious state. They cannot, for example, compare the objects (or, in Trevarthen’s cases, the object of a perception with the object of an intention). If the person has any representation of the second item at all, it is not a conscious representation. Unlike the split brain case, it is not just that the representation is missing from one conscious state. Also, it is not incorporated into any other conscious state. Rather than consciousness being split into two discrete parcels, there is just one diminished parcel. The rest of the conscious representing that is typical of normal consciousness has disappeared.

6. Is There a Common Thread to the Cases?

We can describe more precisely what is missing in these cases where consciousness is shattered or seriously impaired. Let us distinguish between being conscious of individual objects and having unified consciousness of a number of objects at the same time. We can think of these as two stages in the construction of one’s conscious state. First, the mind ties together various sensory inputs into representations of objects (binding). Then the mind ties these represented objects together into a single array of objects of which a single subject has a unified representation. (The first theorist to separate these two stages was Kant, in his doctrine of the synthesis of recognition in concepts.)

The first stage continues to be available to dysexecutive and simultagnosia patients: they continue to be conscious of individual objects, events, etc. The damage seems to be to the second stage: it is the tying of objects together in unified conscious representation that is impaired or missing. The distinc-

⁵ Trevarthen (1984) reports a related syndrome.

tion can be made this way: these people can achieve some measure of UF, unity of focus with respect to individual objects, but UCC and UCR are abnormally restricted or even missing altogether. (And UCS? It is hard to tell.) Following the same line of thought, even the first stage is not available in the severe schizophrenias just discussed.

In brain bisection cases, by contrast, the ability to tie objects together is (relatively) intact, especially in the left lobe. What opens the way to the idea of a split in consciousness is that, in some situations, whatever is conscious of some items being represented in the body in question is *not* conscious of other items being represented in that same body at the same time. (See the examples of the word TAXABLE and the doing of arithmetic.)

So far we have always had a clear number of instances of unified consciousness in each case. Some philosophers reject this result. Nagel (1971) claims that there is no whole number of ‘centres of consciousness’ in brain bisection patients: there is too much unity to say “two”, yet too much splitting to say “one”. In our view, this conclusion is not justified.

A common pattern is evident in the cases of commissurotomy, severe schizophrenia, dysexecutive disorder and similtagnosia. In all these cases, consciousness of some items goes with an unusual lack of consciousness of others.

In the severe schizophrenia cases we considered, there may also be a failure to meet the conditions of UCS. It is interesting that in none of the cases we have considered in which UCC remains, though in unusual forms, is there any evidence of damage to or destruction of UCS. Consciousness of self as a single common subject seems to remain intact, though the number of selves can vary.

To sum up, the unity of consciousness is a pervasive, cognitively important feature of our kind of mind. It takes a number of related but still distinguishable forms. And the ways in which it breaks down are revealing and informative.

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