

Sensory Integration and the Unity of Consciousness.

Edited by David J. Bennett and Christopher S. Hill

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This collection is well timed to fit in with the recent explosion of rigorous and sensitive interdisciplinary work between philosophy and cognitive science. The volume brings together 17 previously unpublished essays on ‘the relationships among the various senses, and the bonds that tie conscious experiences together to form unified wholes’ (xi). The essays as a whole are extremely wide-ranging, though some core issues recur throughout the collection.

The volume is divided into two sections, on sensory integration and the unity of consciousness respectively. In part I, chapters 2, 4, 5 and 6 (by Tim Bayne, Casey O’Callaghan, Ophelia Deroy and Frédérique de Vignemont respectively) all discuss intermodal binding of properties: the processes by which properties processed by different sense modalities are ‘bound’ to one object or event, as when we perceive a drink as a particular colour as well as having a particular taste (126). Synesthesia is the topic of chapter 3 (by Berit Brogaard, Kristian Marlow and Kevin Rice) and chapter 7 (by Jennifer Matey). In the former, the authors put forth an interesting and empirically well-informed argument for the view that synaesthesia is a memory-based phenomenon, as opposed to a pre-attentive perceptual one. By contrast, Matey uses synaesthesia in the service of an ambitious argument for the claim that colour experiences sometimes represent numbers. Chapter 8 (by Pawan Sinha, Jonas Wulff and Richard Held) and chapter 9 (by James van Cleve) both profitably draw on work from a recent project that aims to restore sight to blind children in India. They employ this in a discussion of Molyneux’s question: whether a man blind from birth and suddenly able to see will be able to recognise by sight alone objects he previously knew only by touch. The other chapters in part I (chapter 1 by David Bennett, Julia Trommershäuser and Loes van Dam and chapter 10 by Loes van Dam, Cesare Parise and Marc Ernst) both discuss computational approaches to perception and multisensory integration.

The essays in part II are more explicitly focussed on the unity of consciousness. Chapters 12, 13 and 14 (by Barry Dainton, Geoffrey Lee and Farid Masrour respectively) each apply issues to do with the unity of consciousness to the debate between phenomenal atomism

(the view that individual token experiences are more basic than the ‘experiential wholes’ that they compose) and phenomenal holism (the view that the overall experiential state of the subject is more basic, and that individual experiences are derivative on this). A more sceptical approach is taken by David Bennett and Christopher Hill in chapter 11, where they argue that ‘the unity of consciousness’ is an umbrella term for several different relatively quotidian cognitive faculties. Bennett and Hill also note (to my mind plausibly) that there may be nothing theoretically significant linking these different unity relations (244, cf. Hill, 2014). In chapter 15, Elizabeth Schechter argues in favour of interpreting split-brain phenomena as cases where subjects have a single but only *partially unified* stream of consciousness, an idea that Jonathan Vogel attacks in chapter 17. Finally, in a careful and wide ranging essay (ch.16) Robert Van Gulick lays out different formulations of the unity claim, and closely discusses Bayne’s work.

I cannot address all of the issues raised in the collection, but I will make two comments, one on a specific argument of Bayne’s, and a more general comment about the volume’s treatment of the unity of consciousness.

In chapter 2, Bayne argues against what he calls ‘the decomposition thesis’, the claim that:

‘a person’s overall perceptual experience can be identified with the sum of his or her modality-specific experiences’ (15).

Against the decomposition thesis, Bayne argues that we have some experiences that are essentially multi-modal, and irreducible to modality-specific experiences. I am inclined to agree with Bayne on this, but I would like to raise some questions about his arguments. In Bayne’s first argument, he employs his work on the unity of consciousness, arguing that when a subject has an auditory and a visual experience together, then she will also have a complex experience that ‘subsumes’ the others (18).

Of course, someone who holds the decomposition thesis can accept this, and simply claim that this complex state is a mere conjunction of two modality specific experiences. Against this, Bayne says:

‘a subject with two streams of consciousness could enjoy both the visual state and the auditory state without enjoying the complex state... Insofar as the phenomenology of [the complex state] “outstrips” that of its modality-specific constituent experiences, it would appear to be at odds with the decomposition thesis’ (18)

I find this thought experiment somewhat obscure. I am unsure how to go about thinking about a *single* subject with *two* streams of consciousness. Presumably such a subject would have access to information from both streams simultaneously (otherwise, why would we claim that she was the subject of them?). However, once we grant this, then I have

difficulty seeing how her experiences would be different from my own (presumably unified) experiences. I also have difficulty understanding why she would count as having *two* streams of consciousness at all.

In Bayne's other argument against the decomposition thesis, he draws on work in cognitive science to argue that the perceptual system has 'object files', each of which contains information about an object's properties, drawn from different sensory modalities and stored in an amodal format (24-25). Obviously, this claim on its own is not enough to disprove the decomposition thesis, since such files could operate entirely unconsciously. Against this suggestion, Bayne argues that our experience is 'committal' in a multi-modal sense. For example, our experience often does not leave it an open question whether a flash and a beep belonged to the same event, but 'instead imposes this requirement on one's environment' (26). In other words, the phenomenal content of our experience would only be satisfied if the flash and the beep came from the same source. Bayne takes this to imply that this kind of experience is essentially and irreducibly multi-modal. Personally, I am unsure that I could tell the difference between the case Bayne describes and one in which I have two modality-specific experiences (one of the flash and one of the beep) and an *unconscious* belief that the flash and the beep came from the same event. In both cases our expectation would be violated if the auditory and the visual property turned out to belong to different events, but I do not see strong reason to think that such an expectation would be part of the phenomenal character of our experience.

My more general comment about the collection is that I would have liked to see more examination of the *phenomenology* of the unity relation. Dainton seems to take a particular unity relation (which he calls 'co-consciousness') to be something that can be revealed by introspection, and which has a unique phenomenal character distinct from that of the experiences it unifies (e.g. 258 and 266-267). Others (such as Hill and myself) are more sceptical of the existence of such a relation, and have difficulty finding it in their own experience. Interestingly, Bayne presents a third position, where unity has an impact upon our phenomenology, but does not itself have any phenomenal character:

'phenomenal unity does not itself possess any phenomenal character. Although there is something it is like to experience *a* and *v* together, this phenomenal togetherness should not be assigned to the phenomenal unity relation itself' (17)

The phenomenological disagreement between these three positions strikes me as at the very heart of the debate over the unity of consciousness, but it does not receive much dedicated and sustained discussion in the collection. At one point, Dainton raises it (264-267). He says:

'One of the least controversial claims that one can make about our ordinary states of consciousness is that at any given time they are unified, and that this unity is itself manifest in our experience-it is something we are acquainted with' (266)

However, anyone sceptical of the claim that phenomenal unity is manifest in our experience will be unmoved by this, as it is precisely their *failure* to recognise any such relation that motivates their scepticism. Dainton further notes that the unity relation is not monadic but relational, and is unlike our experience of redness or pain (266-267) but again these comments are unlikely to be helpful to the sceptic.

Obviously, no volume can be expected to address *all* of the issues concerning the unity of consciousness, especially one that also hopes to address sensory integration as well. Nonetheless, given the importance of the issue, more discussion of it would have been very welcome.

These minor reservations aside, this volume contains much rich and interesting work, and it does an impressive job of blending empirical and philosophical work. Anyone interested in sensory integration or the unity of consciousness will certainly find a great deal of valuable material in it.

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References

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