

## Consciousness, Time, and Memory

*Ian Phillips*

To do full justice to our conscious perceptual experience, mention must be made of our awareness of succession, duration and change. Even the banal experience as I look out of my office window includes leaves and branches nodding in the wind, cars moving down the road, their lights blinking successively on-and-off as they turn, and now a bus pausing for a moment at its stop before moving on.<sup>i</sup> Many theorists have suggested that our capacity to see such happenings, and more generally to perceive temporal aspects of reality, depends essentially on memory. Here I explore (and ultimately defend) this putative connection.

I begin by motivating the idea that memory must be involved in our temporal consciousness via the notorious slogan that a succession of experiences is not, in and of itself, an experience of succession (§1). This leads to the introduction of a traditional memory theory and, by way of objections, its replacement by a more refined version (§2). This refined theory distinguishes between ordinary recollective memory, and a form of memory often called “retention” which is held to be distinctively implicated in temporal experience. In §3, I discuss how these theories relate to Dainton’s influential cinematic/retentional/extensional trichotomy of models of temporal consciousness. Here, I suggest that, *contra* certain contemporary theorists, there are grounds for thinking that some form of memory is involved in all variants of the class of models which Dainton calls retentional—a claim I later extend also to all extensionalist models. In §4, I introduce a further issue, namely whether retentions can occur in the absence of prior experience of the retained contents. Many contemporary

retentionalists insist they can. However, it is striking to note that Husserl (historically, the most influential retentionalist) denies that possibility. In §5, I suggest that appreciating Husserl's version of retentionalism threatens to subvert Dainton's distinction between retentional and extensional models. More importantly, it helps pinpoint what is really at issue between theorists of temporal experience, namely whether the temporal structure of experience itself is implicated in explaining our consciousness of time.

### **1. Motivating Memory**

One source of the idea that temporal experience essentially depends on memory begins with the Kantian principle that a mere succession of experiences is insufficient for an experience of succession. Or as James puts it in his celebrated discussion of time consciousness: "*A succession of feelings, in and of itself, is not a feeling of succession.*" (1980: 628-629; likewise, Husserl 1991: 12-13) If this principle is read simply as saying that *some* successions of experiences do not compose experiences of succession, it is beyond reproach. Successions of experiences enjoyed by *different subjects* do not compose experiences of succession. Even within a subject, not all successive experiences compose experiences of succession. If, early this morning, I hear a robin's tuneful warble, and, late this evening, a nightingale's strident *jug jug jug*, I will not thereby enjoy an experience of these sounds as successive.

In this light, we might ask: when do successive experiences compose experiences of succession?<sup>ii</sup> A natural suggestion is that successive experiences compose experiences of succession when a single subject enjoys them close enough together in time. This suggestion is firmly and widely dismissed in the literature. Temporal proximity is widely held to be obviously insufficient for experiences to compose an experience of succession.<sup>iii</sup> Instead, it is

commonly insisted that experiences of succession must somehow involve a *unified* apprehension of the successive elements. On this point, James quotes Volkmann who, he suggests, “has expressed the matter admirably”:

successive ideas are not yet the idea of succession ... If idea A follows idea B, consciousness simply exchanges one for another ... if A and B are to be represented *as occurring in succession* they must be *simultaneously represented* (1875: §87, cited in James 1890: 629).

Notice here how Volkmann is here, in effect, denying that successive experiences *ever* compose an experience of succession. Instead, the requirement that an experience of succession demands the *unification* of the successive elements is taken to require that the elements be presented *at one and the same moment*. This widespread commitment has subsequently been labelled the *Principle of Simultaneous Awareness* or PSA (Miller 1984: 109). Another important early proponent is Lotze who writes: “In order for this comparison in which *b* is known as later to occur, it is surely again necessary that the two representations *a* and *b* be the absolutely simultaneous objects of a knowing that puts them in relation and that embraces them quite indivisibly in a single indivisible act” (1879: 294, cited by Husserl 1991: 21).<sup>iv</sup> Again we find here a denial that successive experience ever composes experience of succession.

The PSA helps us understand why memory might be thought an essential requirement for temporal experience. Consider an experience of two sounds. For these two sounds to be experienced as successive, they must—according to the PSA—be experienced together and so simultaneously. But, one might think, they cannot both be *heard* simultaneously, for then

we would hear the two notes as “a chord of simultaneous tones, or rather a disharmonious tangle of sound” (Husserl 1991: 11), or as Brough nicely puts it (in his introduction to Husserl 1991: xxxv) as an “instantaneous tonal porridge”. It must instead be that, when we hear the later sound, the earlier sound is simultaneously presented *in memory*.

A view of this kind—call it the traditional memory theory—can be found in Reid who holds that “the motion of a body, which is a successive change of place, could not be observed by the senses alone without the aid of memory” (1785: 326). What happens in Reid’s view is this: “We see the present place of the body; we remember the successive advance it made to that place: The first can then only give us a conception of motion, when joined to the last.” (ibid: 327) Husserl finds a related view in Brentano’s early work on temporal experience. Interestingly, Husserl notes: “As a consequence of his theory, Brentano comes to deny the perception of succession and change” (1991: 14). Arguably the same is true for Reid who observes “that if we speak strictly and philosophically, no kind of succession can be an object either of the senses, or of consciousness” (1785: 325-6). Reid however does seem to think that we are *aware* of succession, it is just that this awareness is not strictly speaking *perceptual* (see Falkenstein 2017: 48-9).

## **2. Problems for the Traditional Memory Theory**

The traditional memory theory faces serious difficulties. One difficulty is local to theories which think of memory as distinguished from perception only in causal origin, as apparently Brentano once did (1874/1973: 316; quoted in Miller 1984: 105). On this view, it is hard to see how a satisfactory solution has been offered to the tonal porridge objection above, since on such a view there will be no *intrinsic, phenomenological* difference between a case of

simultaneously hearing two sounds, and a case of hearing one whilst remembering another. However, we need not endorse this way of thinking of the relation between perception and memory. For example, we might follow Martin in holding that episodic memory is “the representational recall of. . . an experiential encounter” (2001: 270) with a particular event or object, whereas perception involves the genuine presentation of such particulars to the mind. In this way, we can insist on a phenomenological difference between simultaneously hearing A and B, and simultaneously remembering A whilst hearing B.<sup>v</sup>

A more recent and general criticism of the traditional memory theory is offered by Tye (see also Lockwood 1989).

Consider ... hearing the sequence of musical notes, do, re, mi, in rapid succession. [According to the memory theory] ... first, one experiences do; then one experiences re in conjunction with a short-term phenomenal memory of having just heard do; then finally one has an experience of mi, along with a short-term phenomenal memory of having just heard re.

Patently, however, this won't do. One has an experience of do *followed* by re *followed* by mi; and this experienced temporal sequence has not been explained. It does not help to add that when one experiences mi, one has a short-term phenomenal memory of having just heard do followed by re. For one can only remember having just heard do followed by re, if one has experienced do followed by re; and it is precisely this experience of succession, of do's being followed by re, that the appeal to memory is supposed to explain. Moreover, no account at all has been offered of the experience of re followed by mi. (Tye 2003: 87-8)

Though superficially convincing, on reflection it is unclear how forceful Tye's argument really is. Let us begin with the simple case of hearing two notes: *do* followed by *re*. The memory theorist's account of this experience is, as Tye says, the following: one first experiences *do*, then one experiences *re* in conjunction with a short-term phenomenal memory of having just heard *do*. In the case where one hears three notes, one's experience unfolds further: one next experiences *mi* in conjunction with a short-term phenomenal memory of having just heard *re*, and further in conjunction (we might add) with a short-term phenomenal memory of having just had a short-term phenomenal memory of having just heard *do*. Tye objects: "one can only remember having just heard *do* followed by *re*, if one has experienced *do* followed by *re*; and it is precisely this experience of succession, of *do*'s being followed by *re*, that the appeal to memory is supposed to explain". But one *has* experienced *do* followed by *re*, and this *was* explained—by appeal to our having an experience of *do* followed by an experience of *re* in conjunction with a short-term phenomenal memory of having just heard *do*. Tye further objects that "no account at all has been offered of the experience of *re* followed by *mi*". But, again, an account *has* been given in terms of hearing *re*, and then hearing *mi* in conjunction with a short-term phenomenal memory of having just heard *re*.

A simpler objection ultimately undoes the traditional memory theory. This objection is that the theory cannot distinguish between perceiving succession and merely perceiving *that* succession has occurred. As Broad famously notes, "to see a second-hand moving is quite a different thing from 'seeing' that an hour-hand has moved" (1923: 351; also Locke 1690/1975: II.xiv.11; Russell 1927: 281; Dainton 2008b: 619–21; Hoerl 2017: 174). Likewise, to hear a succession of sounds as such is a quite different thing from hearing *that* a succession of sounds has occurred. Yet it is obscure what resources the traditional memory

theory has to mark the distinction. For, plainly, I can see the present position of the hour-hand whilst simultaneously recalling its earlier position, without yet enjoying an experience of those positions as successive. Likewise, I can hear a sound whilst recalling some earlier sound, without yet being aware of those sounds as successive. When one sees the present position of an hour-hand and recalls its different earlier position, one is thereby in a position to know change has occurred. In such a case we talk of seeing *that* change has occurred, where this means knowing or being in a position to know, on a perceptual basis, a certain fact about change. The difficulty for the memory theory is that none of this suffices for *seeing change* (i.e. the event or process of change itself).

The standard response to this concern is to distinguish two forms of memory, one variously called *primary, elementary, or fresh memory, or retention*; the other *secondary memory or recollection*. Perceiving change is then said to require the involvement of primary memory, whereas secondary memory at most affords knowledge that change has occurred. On this primary form of memory James comments:

what elementary memory makes us aware of is the *just* past. The objects we feel in this directly intuited past differ from properly recollected objects. An object which is recollected ... is one which has been absent from consciousness altogether, and now revives anew. It is brought back, recalled, fished up, so to speak, from a reservoir in which ... it lay buried and lost from view. But an object of primary memory is not thus brought back; it never was lost; its date was never cut off in consciousness from that of the immediately present moment. In fact it comes to us as belonging to the rearward portion of the present space of time, and not to the genuine past. (1890: 646-7)<sup>vi</sup>

Before exploring this alleged form of memory further, it is worth pausing to consider the path we have taken and how our two memory theories relate to the now standard way of carving up the contemporary landscape of positions due to Dainton.

### **3. Dainton's Trichotomy of Models: Cinematic, Retentional and Extensional**

Dainton influentially carves up the landscape of positions regarding temporal awareness in terms of three distinct models (see esp. Dainton 2000, 2017b). First there are “cinematic models” according to which change experience is analysable into a sequence of instantaneous or near-instantaneous sensory atoms, each individually bereft of dynamic content.<sup>vii</sup> Second, there are “retentional models”. On such models whilst experiences of change can be analysed into a sequence of instantaneous or near-instantaneous sensory atoms, these atoms *do* possess temporally extended contents (i.e. they individually present goings on over a period of time as such). Finally, there are “extensional models” according to which “our episodes of experiencing are themselves temporally extended, and are thus able to incorporate change and persistence in a quite straightforward way” (Dainton 2017b).

How do the traditional and refined memory theories introduced above relate to this three-part framework? It is natural to think of the traditional memory theory as a form of cinematic theory. Notice that the cinematic theorist, as Dainton is thinking of her, grants that we are aware of change. (She is not in his terminology an “anti-realist”.) To accommodate this, whilst cleaving to her claim that change experience can be analysed into a series of atoms each individually lacking temporal content, the cinematic theorist has unsurprisingly looked to memory (see the discussion of Reid above, and, for a contemporary defence, Chuard 2011, 2017).



It is equally natural to think of the refined memory theory as a form of retentionalism. Primary memory, after all, is not conceived of as a separate act but as contributing to the content of a complex perceptual episode. It should be recognized, however, that many contemporary retentionalists make no mention of memory in their accounts. Indeed, some explicitly deny it any role. Instead, they simply attribute representational contents which concern extended periods of time to experiences. And further, in deliberate contrast to extensionalism, deny that the intrinsic temporal features of experience have any direct explanatory connection to their conscious character. Content does all the work. In this light, should we consider the primary memory theory as simply one form of retentionalism, or is memory in fact implicit in all such accounts?

Consider Lee (2014) who defends a view he calls “atomism”. Lee’s view is arguably a form of retentionalism, but Lee resists that label because he denies that memory or retention plays any part in his view which simply appeals to temporally-extended contents to make sense of temporal experience. Furthermore, Lee (2014: 6) gives four reasons for thinking that we should eschew talk of retention or memory. First, he suggests that the contents of temporal experience need not be tensed at all (i.e. represent events as past, present and future as opposed to simply standing in B-theoretic relations of earlier or later-than; see Hoerl 2009). Second, he thinks temporal experience “might involve just one kind of conscious perceptual experience, not differentiated between ‘retention’ and ‘perception’”. Third, he thinks that temporal experience need not retain “contents from immediately past experiences”. That is, “a temporally extended content could include—perhaps exclusively—information about events that were not presented in any previous experiences”. Finally, he notes the plausible

involvement of prediction, and so presumably of forward-looking contents in temporal experience.

It is unclear how serious the second and last of these concerns are. The primary memory theorist conceives of retentional awareness as an aspect of a single kind of perceptual state (it is for Husserl, for example, a “dependent moment” of a perceptual act<sup>viii</sup>). Thus they need not disagree that temporal experience involves “just one kind” of perceptual experience, albeit one with multiple aspects. The retentional theorist may equally include forward-looking aspects as amongst these different aspects. Indeed, Husserl’s account of temporal consciousness involves a *three-fold* intentionality, comprising retention, *now*-awareness and (forward-looking) protention. Temporal experience may then count all-at-once as a form of memory, and of perception, and of anticipation.

What about Lee’s objections that the contents of experience might be tenseless, and that temporal contents might include aspects which have not featured in any earlier experience? Do these tell against the involvement of memory? In making that claim, Lee implicitly invokes two constraints on what it is for a state to count as a state of memory. A past-awareness constraint, viz. that memory states must present their content as past. And a previous awareness constraint, viz. that (perceptual) memory states must have contents which have previously figured in perceptual awareness.

In earlier work I have suggested, following Martin 2001, that the fundamental unifying feature common to all forms of memory is that they are all ways of preserving past psychological success. Secondary memory or recollection is plausibly thought of as the

preservation of past apprehension or acquaintance (or more precisely, the preservation of an associated ability). Primary memory, however, is, in James' words "not thus brought back; it never was lost; its date was never cut off in consciousness from that of the immediately present moment. ... it comes to us as belonging to the rearward portion of the present space of time, and not to the genuine past" (1890: 646-7). Consider awareness of two notes *do* and *re*. Suppose one hears *re* in a different manner depending on whether one hears it as part of a succession or not. We might then suppose that hearing *re* involves primary memory insofar as it involves hearing *re* in a particular way, namely as succeeding on from *do*. This modification of one's manner of awareness plausibly counts as a form in which a psychological success (namely awareness of *do*) can be preserved. Moreover, in itself, it does not commit us to the idea that *do* is presented *as past* as opposed simply to *re* being heard as succeeding on from *do*.

Reconstructing his argument, it may nonetheless seem that Lee is right to find an inconsistency between the following three claims:

- (i) Temporal experience essentially involves memory.
- (ii) Memory essentially involves the preservation of past psychological success.
- (iii) Temporal experience can occur independently of the preservation of past psychological success.

In the above example, for example, it would surely be problematic to claim that an awareness of *re* as succeeding on from *do* counted as a form of memory if *do* had never been heard. However, the tension might seem to be straight-forwardly resolved by weakening claim (i) to

read: temporal experience essentially involves memory *or apparent memory*. This weakened claim is arguably sufficient to constitute a genuine memory theory, and might seem capable of accommodating the kind of case which Lee has in mind where one has an experience with temporal extended contents despite no such contents appearing in any earlier experience. For all Lee says, then, there are grounds for thinking that some form of memory is involved in all variants of the class of models which Dainton calls retentional.

Lee's discussion raises an interesting question, however, namely whether we should in fact admit the possibility (as Lee does) of courses of experience where one set of extended contents bears no relation to previous experiential contents. As I now discuss, this possibility is precisely rejected by Husserl in his own discussion of primary memory. Its exploration serves to raise a doubt about the distinctness of retentional and extensional accounts. It also reveals what is, I suggest, fundamentally at issue between different theorists of temporal awareness.

#### **4. Retention and Prior Awareness**

In discussing primary memory, a dominant concern of Husserl's is to distinguish primary memory from any form of weak or faded perception.

The reverberation of a violin tone is precisely a feeble present violin tone and is absolutely different from the retention of the loud tone that has just passed. The echoing itself and after-images of any sort left behind by the stronger data of sensation, far from having to be ascribed necessarily to the essence of retention, have nothing at all to do with it. (1991: 33)

Husserl is also explicit that retention is not to be thought of in terms of representation or phantasy (i.e. imagination).<sup>ix</sup> Husserl also embraces the Jamesian idea that retention does not involve a new act of consciousness. Rather, “primary memory ... extends the *now*-consciousness” (47). Indeed, he offers a Jamesian metaphor to illustrate, characterizing “primary memory or retention as a comet’s tail that attaches itself to the perception of the moment” (37).

However, focussing on such negative points, some critics have complained: “Husserl tells us what retention is not, and what it does, but provides no explanation as to how it accomplishes this.” (Dainton 2000: 156) Can Husserl answer this objection? We began with a question about when a succession of experiences composes an experiences of succession. It might be thought that we have lost track of this thought. Indeed, as we saw, theorists from Lotze and Volkman through to Lee (and likewise other retentionalists such as Tye 2003 and Grush 2005, 2007) embrace the idea that we could have an experience of succession without a succession of experiences at all. All we need is a single episode with suitable contents representing goings on over a stretch of time as such, and quite irrespective of its own temporal structure (be it momentary or otherwise). On such a conception there is no obvious reason to deny that such experiences can occur entirely in independence, or indeed in isolation, from one another. Indeed, various theorists take this as a positive virtue. For it provides the freedom for the past directed contents of later experiences to revise how things were original presented in the light of new information, a thought made particular use of by Grush and Tye in discussing postdictive phenomena.<sup>x</sup>

The same might appear true for Husserl. That is, it might at first seem that all Husserl requires for an experience of succession is a single episode which has both *now*-awareness and retentional awareness as aspects. Yet this is not Husserl's view. Husserl holds that there is an "epistemic" distinction between primary and secondary memory (1991: §22). In particular, he holds that retentional consciousness is "absolutely certain", writing: "If I am originally conscious of a temporal succession, there is no doubt that a temporal succession has taken place and is taking place." (51) Husserl is clear here that he does not mean that there can be no illusions or hallucinations in respect of temporal perception. He acknowledges the possibility that "no [objective] reality corresponds" to the appearances in question (51-2). What he means is that awareness of a temporal succession *guarantees* that a succession of appearances (i.e. experiences) has occurred, be these veridical or otherwise (ibid., see also 35). On this view experience of succession *does* require successive experience, for there is a constitutive connection between one's current experience (here in particular its retentional component) and one's past experience. *One could not be experiencing the way one presently is, were one not to have experienced a certain way in the past.*<sup>xi</sup>

On Husserl's view then it is not after all possible simply to have isolated acts of temporal awareness. Nor, it is possible to have the kind of revisions which Lee and Grush propose. What appear to be imposed are certain coherence constraints on the way that experience can unfold over time.<sup>xii</sup> In this way, Husserl's conception of retention is not well-captured simply in terms of the contemporary thought that contents do all the work. Instead, for him, explaining temporal experience requires appeal to the idea of a sequence of experiences unfolding over time and standing in complex relations to one another. This is further brought out by the fact that, for Husserl, momentary phases of awareness are considered abstractions

from an on-going flow of experience, and not independent, self-contained episodes. As Husserl puts it:

This continuity [of constantly changing modes of temporal orientation] forms an inseparable unity, inseparable into extended sections that could exist by themselves and inseparable into phases that could exist by themselves, into points of the continuity. The parts that we single out by abstraction can exist only in the whole running-off; and this is equally true of the phases, the points that belong to the running-off continuity. (1991: 29).

These elements in Husserl's account, which following Hoerl (2013a) we might call "externalist", are also arguably found in O'Shaughnessy's richly suggestive discussion in which he argues that in temporal experience "present experience must both unite with and depend upon past experience". He continues:

This means that the past must in some sense be co-present with the present, and such a co-presence is a mode of remembering. Doubtless it is a developmentally early form of memory, to be supplemented later by additional less primitive ways of relating to one's past, notably cognitive modes. What in effect we are concerned with here is the tendency on the part of experience and its given objects to unite across time to form determinate wholes. (2000: 56)

Here O'Shaughnessy suggests that our awareness of change (in his view, essential to all conscious experience) involves a constitutive dependence of present experience on recently past experience. Furthermore, this—we are told—suffices for such present experience to count as a primitive form of memory (see Phillips 2010: 193-4). Of course, this returns us to

the idea of primary memory as distinct from recollection. It also provokes a question as to how retentionalism so-conceived really differs from extensionalism. This is the topic of the next and final section.

## 5. Extensionalism

Extensionalism was introduced above as the view that “our episodes of experiencing are themselves temporally extended, and are thus able to incorporate change and persistence in a quite straightforward way” (Dainton 2017b). But how is extensionalism so conceived supposed to contrast with cinematic and retentional models? Lee is not alone in complaining here that Dainton’s definition is in fact “a claim that (...) all parties to the debate ... can and should accept” (2014: 3). For Lee this is because he thinks it “very plausible” both that “*all* experiences are realized by extended physical processes” (5) and further that “experiences have the *same* timing as their realizers” (3). Consequently, it is equally true that on his exclusively content-focused, atomist view, “our episodes of experiencing are themselves temporally extended”.

What Lee misses here is the word “thus” in Dainton’s definition. (See Hoerl 2013a: 397.) For on Lee’s atomism there is no direct explanatory connection between experience’s temporal extension and its content. In contrast, Dainton precisely holds that there is such a connection. Recall our starting point: the idea that a successions of experiences is not (at least in itself) an experience of succession. Dainton’s extensionalist agrees that any model of temporal experience which works only with momentary apprehensions is unsustainable, no matter how closely one packs the experiences. And he agrees for the familiar sounding reason that “the required synthesis or combination is entirely lacking” (Dainton 2008b: 623). However,



Dainton does not unpack this unity requirement in terms of the PSA (the requirement, recall, that for us to enjoy an experience of succession, the successive elements must be presented *at one and the same moment*). Instead, he invokes a “phenomenal binding principle”, the principle that awareness of change requires “each brief phase of a stream of consciousness [to be] *phenomenally bound* to the adjacent (co-streamal) phases” (2000: 129). This binding requires adjacent co-streamal phases to be co-conscious. Co-consciousness, for Dainton, is a “primitive experiential relationship” (131) which also holds between our experiences both at times and across time. Dainton’s extensionalism thus not only involves the denial that the unity required for experience of succession should be conceived of in terms of simultaneity.<sup>xiii</sup> It also appeals essentially to relations holding between phases of experience occurring at different times. As a result, Dainton keeps hold of the claim that experiences of succession require successions of experiences, ones properly co-conscious with one another.<sup>xiv</sup> Here is a point of real disagreement with Lee’s atomist.

At this juncture, I suggest we find the most fundamental divide between theorists of temporal consciousness. This divide turns on whether a theorist sees the unfolding of experience itself as having explanatory bearing on the possibility of temporal experience. On the one side of this divide are those for whom experiences of succession do not involve successive experiences at all. Traditional such views hold that temporal experiences are instantaneous events which nonetheless present us with temporally-extended goings on. Contemporary such views, like Lee’s, hold that temporal experiences are brief-lived events whose intrinsic temporal structure is irrelevant to their phenomenal character which is determined solely by their temporally-extended contents. On the other side of the divide are those who insist that it is only *because* our experience is a process which unfolds in time that it can acquaint us with the temporal structure of reality as it does.

If we divide the landscape in this way, however, theorists who we might initially conceive of as rivals, namely extensionalists such as Dainton, and retentionalists such as Husserl and O'Shaughnessy, do not obviously disagree on substance. All agree that experience of succession requires successive experience and so insist on an explanatory connection between the unfolding temporal structure of experience and its contents. They thereby depart from theorists such as Tye, Grush and Lee who reject this connection. Furthermore, whilst Dainton does not conceive of extensionalism in terms of memory, it is arguable that extensionalism does in fact implicate memory in temporal experience. This is because one can reasonably consider the relation of co-consciousness which Dainton invokes as unifying earlier and later phases of experience as constitutive of a form of memory.<sup>xv</sup> More generally, on extensionalist views, the nature of one's current experience is not independent of past psychological successes (i.e. previous phases of experience). As we saw above, this arguably suffices for memory to be in play.

## **6. Conclusions and Further Issues**

Discussion so far has revealed that, though traditional memory theories are untenable, the idea that memory is involved in all temporal experience can in fact be sustained across the accounts of temporal experience which we have considered in detail. This includes not only Husserl's retentionalism, but contemporary views which deny any role for memory such as Lee's atomism, and also extensionalist views. We have also seen that Dainton's partition of the landscape of positions on temporal experience into three camps masks a deeper and rather different dividing line between theorists. This more fundamental divide concerns whether or not an explanatory connection obtains between the unfolding of experience itself and its

capacity to present us with change and succession. Or put another way: whether experience of succession requires successive experience.

Recognition of this more fundamental divide, prompts various critical issues for future investigation. But above all we need to ask what motivates the thought that there is an explanatory connection between the unfolding of experience itself and its capacity to present us with change and succession. Insofar as there is no such connection between the spatiality of experience (if that notion is even coherent) and its capacity to present us with spatial features, what makes time special (if it is)? Some theorists have proposed that a connection between the temporal structure of experience and the temporal features it presents to us best articulates how experience seems to us on pre-theoretic reflection, and so can rightly be considered the proper starting point for theorizing about experience. See here, in particular, Phillips (2014a, b) on what he calls the naïve view of temporal experience.<sup>xvi</sup> Others have argued for a deep connection between views of temporal experience and views in the metaphysics of perception more generally. In particular, Hoerl (2013b, 2017) and Soteriou (2010, 2013) suggest that the idea of an explanatory connection between the unfolding of experience itself and its capacity to present us with change and succession goes hand-in-glove with relational or naïve realist views of perception. Conversely, they suggest that atomist views such as Lee's, Tye's and Grush's are the product of a more general representationalism about perception. These are important ideas, and merit further serious scrutiny.

## **Bibliography**

Brentano, F. (1874/1973). *Psychology from an Empirical Standpoint*, A. C. Rancurello, D. B. Terrell, and L. L. McAllister (trans.), Abingdon, UK: Routledge.

Chuard, P. (2011). Temporal experiences and their parts. *Philosophers' Imprint* 11(11): 1–28.

Chuard, P. (2017). The snapshot conception of temporal experiences. In I. Phillips (ed.) *The Routledge Handbook of Philosophy of Temporal Experience*, London: Routledge, pp. 121–132.

Dainton (2000, 2<sup>nd</sup> edition 2006). *Stream of Consciousness: Unity and Continuity in Conscious Experience*. Routledge.

Dainton, B. (2008a). Sensing change. *Philosophical Issues* 18: 362–84.

Dainton, B. (2008b). The experience of time and change. *Philosophy Compass* 3/4: 619–638.

Dainton, B. (2017a). William Stern's *Psychische Präsenzzeit*. In I. Phillips (ed.) *The Routledge Handbook of Philosophy of Temporal Experience*, London: Routledge, pp. 107–118.

Dainton, B. (2017b). Temporal consciousness. *The Stanford Encyclopedia of Philosophy* (Fall 2017 Edition), E. N. Zalta (ed.), <https://plato.stanford.edu/archives/fall2017/entries/consciousness-temporal/>

Dainton, B. (2017c). Bergson on temporal experience and *durée réelle*. In I. Phillips (ed.) *The Routledge Handbook of Philosophy of Temporal Experience*, London: Routledge, pp. 93–106.

Dennett, D. C. and Kinsbourne, K. (1992). Time and the observer: the where and when of consciousness in the brain. *Behavioral and Brain Sciences* 15: 183–200.

Falkenstein, L. (2017). Hume on temporal experience. In I. Phillips (ed.) *The Routledge Handbook of Philosophy of Temporal Experience*, London: Routledge, pp. 42–52.

Foster, J. (1979). In *Self-Defence*. In G. F. Macdonald (ed.) *Perception and Identity*, London: Macmillan.

Foster, J. (1982). *The Case for Idealism*, London: Routledge and Kegan Paul.

Frischhut, A. M. (2014). Diachronic unity and temporal transparency. *Journal of Consciousness Studies* 21(7-8): 34-55.

Grush, R. (2005). Internal models and the construction of time: generalizing from *state* estimation to *trajectory* estimation to address temporal features of perception, including temporal illusions. *Journal of Neural Engineering* 2(3): 209–218.

Grush, R. (2007). Time and experience. In T. Müller (ed.) *Philosophie der Zeit*, Frankfurt: Klosterman, pp. 27–44.

Hoerl, C. (2009). Time and tense in perceptual experience. *Philosophers' Imprint* 9(12): 1–18.

Hoerl, C. (2013a). Husserl, the absolute flow, and temporal experience. *Philosophy and Phenomenological Research* 86: 376–411.

Hoerl, C. (2013b). “A succession of feelings, in and of itself, is not a feeling of succession”. *Mind* 122: 373–417.

Hoerl, C. (2017). Temporal experience and the philosophy of perception. In I. Phillips (ed.) *The Routledge Handbook of Philosophy of Temporal Experience*, London: Routledge, pp. 171-183.

Husserl, E. (1991). *On the Phenomenology of the Consciousness of Internal Time* (1893–1917), J. B. Brough (ed. and trans.), Dordrecht: Kluwer.

James, W. (1890). *The Principles of Psychology*, New York: Dover.

Lee, G. (2014). Temporal Experience and the Temporal Structure of Experience. *Philosophers' Imprint*, 14(1): 1–21.

Locke, J. (1690/1975). *An Essay Concerning Human Understanding*, P. H. Nidditch (ed.) Oxford: Oxford University Press.

Lockwood, M. (1989). *Mind, Brain and the Quantum*, Oxford: Blackwell.

Lotze, R. H. (1879). *Metaphysik*, Leipzig: Hirzel.

Martin, M. G. F. (2001). Out of the past: episodic recall as retained acquaintance. In C. Hoerl and T. McCormack (eds), *Time and Memory*, Oxford: Oxford University Press, pp. 257–84.

Miller, I. (1984). *Husserl, Perception and Temporal Awareness*, MIT: Cambridge, Mass.

O'Shaughnessy, B. (2000). *Consciousness and the world*, Oxford: Clarendon Press.

Phillips, I. (2009). *Experience and Time*. PhD. Thesis, University College London.

Phillips, I. (2010). Perceiving temporal properties. *European Journal of Philosophy* 18(2): 176–202.

Phillips, I. (2011a). Indiscriminability and the experience of change. *The Philosophical Quarterly* 61(245): 808–827.

Phillips, I. (2011b). Perception and iconic memory. *Mind & Language* 26(4): 381–411.

Phillips, I. (2014a). The temporal structure of experience. In V. Arstila and D. Lloyd (eds) *Subjective Time: The Philosophy, Psychology, and Neuroscience of Temporality*, MIT Press, 2014, pp. 139–158.

- Phillips, I. (2014b). Experience of and in time. *Philosophy Compass*. 9(2): 131–144.
- Phillips, I. (2014c). Breaking the silence: motion silencing and experience of change. *Philosophical Studies* 168(3): 693–707.
- Phillips, I. (2017). (ed.) *The Routledge Handbook of Philosophy of Temporal Experience*, London: Routledge.
- Rashbrook-Cooper, O. (2013). An appearance of succession requires a succession of appearances. *Philosophy and Phenomenological Research* 87(3): 584–610. (Originally published under the name “Rashbrook”.)
- Reid, T. (1785). *Essays on the Intellectual Powers of Man*, Edinburgh: J. Bell and G. G. J. & J. Robinson. – check pagination in chapter.
- Russell, B. (1927). *The Analysis of Matter*, London: Kegan Paul, Trench, Trubner & Co. Ltd.
- Soteriou, M. (2010). Perceiving events. *Philosophical Explorations* 13: 223–241.
- Soteriou, M. (2013). *The Mind’s Construction: The Ontology of Mind and Mental Action*, Oxford: Oxford University Press.
- Stern L. (1897/2005). Mental Presence-Time, N. De Warren (trans.). In *The New Yearbook for Phenomenology and Phenomenological Research*, C. Wolfe (ed.), London: College Publications, pp. 205–216.
- Tye, M. (2003). *Consciousness and Persons*, MIT: Cambridge.
- Van Inwagen, P. (1990). *Material Beings*, Ithaca and London: Cornell University Press.
- Volkman, W. F. (1875). *Lehrbuch der Psychologie* (2<sup>nd</sup> ed.), Cöthen: Otto Schulze.
- Watzl, S. (2013). Silencing the experience of change. *Philosophical Studies* 165: 1009–32.

---

<sup>i</sup> Even awareness of an entirely unchanging scene arguably involves awareness of the continual unfolding of experience itself. As O’Shaughnessy writes “Even when experience does not change in type or content it still changes in another respect: it is constantly renewed, a new sector of itself is then and there taking place. This is because experiences are events or processes, and each momentary new element of any given experience is a further happening or occurrence.” (2000: 42) For development and discussion see Soteriou 2013: chpt. 6. Cf. Husserl: “Even the perception of an unchanging object possesses in itself the character of change.” (1991: 239)

<sup>ii</sup> Compare here the so-called Special and General Composition Questions explored in van Inwagen 1990. These focus on the conditions under which objects compose something. The Special Composition Question asks what relations must hold amongst some objects for them to compose *something or other*. The General Composition Question asks rather what relations must hold between a whole and some objects when those objects compose that whole. In the present context we might ask (in line with the General Composition Question): what relations must hold between an experience of succession and some experiences when those experiences compose that experience of succession? Note that if one thinks of the fundamental units of experience as extended stretches as opposed to moments (see note 14), one will abjure the corresponding “Special” Question given its presupposition that one can say when composition occurs independently of facts about the nature of what is composed.

<sup>iii</sup> It is sometimes questioned whether proximity is even necessary. Tye (2003: 106, following Dainton 2000: 131), for instance, imagines he is experiencing a scale *do-re-mi* but “just as I finish I finishing hearing re, God *instantaneously* freezes all my internal physical states as well as all physical processes in my surrounding environment for ... five years ... and then unfreezes them *instantaneously*”. In this case, Tye suggests that I do (presumably, *ceteris paribus*) experience the succession. See below note 12.

<sup>iv</sup> Husserl himself traces the principle back to Herbart. For other citations and critical discussion thereof see Phillips 2010, Hoerl 2013b and Rashbrook-Cooper 2013.

<sup>v</sup> See Phillips 2010: 201, fn. 21. See also note 9.

<sup>vi</sup> The “space of time” here is James’ “specious present”. This is one of a number of occasions on which James construes the specious present in terms of memory.

<sup>vii</sup> See Chuard 2011 and 2017 for recent defence of such a model. For critical discussion see my critique of the “zoëtrope conception” (after James 1890: 200) in Phillips 2011a.

<sup>viii</sup> See here Brough’s introduction to Husserl 1991: §B, esp. xxxix.

<sup>ix</sup> Husserl is here supposing that perception on the one hand, and memory and imagination on the other, involve distinct kinds of conscious acts, the former being a case of presentation, the latter cases of representation. As already mentioned, a contemporary picture which develops this kind of distinction can be found in Martin 2001.

<sup>x</sup> See Grush 2005, 2007 and Tye 2003 for this suggestion; see also Dennett and Kinsbourne 1992. For critical discussion see Dainton 2008a, Hoerl 2013b and Phillips 2014a (also 2011b).

<sup>xi</sup> See Hoerl 2013a for an extended examination of this aspect of Husserl’s view.

<sup>xii</sup> See Phillips 2010. It is a nice question whether putting the thought in terms of coherence constraints allows for the kind of possibility envisaged by Dainton and Tye of a freeze or gap in experience (see above note 3) consistent with the kind of necessity which Husserl has in mind.

<sup>xiii</sup> Dainton inherits this view from Foster 1979, 1982. But, as he discusses in detail in later work (Dainton 2017a), the view probably is first articulated by Stern (1897/2005).

<sup>xiv</sup> An important issue which arises here is how we should conceive of the relations between brief phases of the stream of consciousness. For example, do the phases connected by such relations have independent existence, or are they better thought of as dependent for their existence and nature on the extended stretch of experience of which they are parts? Put another way, what are the fundamental units of experience: moments or extended stretches?

<sup>xv</sup> Might Dainton be open to this suggestion? Consider this passage in a discussion of Bergson who he suggests holds a form of extensionalism. “There is one consideration which could be taken to point in precisely the opposite direction. When attempting to characterize *durée* Bergson often suggests that *memory* is involved. In ... *Duration and Simultaneity* ... he tells us that even in the briefest of physical events there will be “a memory that connects” their earlier and later phases. ... A case can be made, however, for holding that in these contexts Bergson’s “memory” is simply the unifying relation which connects the earlier and later phases of a single episode of *durée*.” (2017c: 104, fn. 10)

<sup>xvi</sup> Phillips embraces a more precise claim about the relation between the temporal structure of experience itself and the temporal goings on it presents to us which he calls naïve inheritance. This is the claim that that for any temporal property apparently presented in experience, our experience itself possesses that temporal property. For critical discussion see Watzl 2013 and Frischhut 2014. For a reply to Watzl, see Phillips 2014c.