

This is an excerpt from a report on the Temporal Experience Workshop at the University of Toronto in May of 2013, written by Kevin Connolly, Mike Arsenault, Akiko Frischhut, David Gray, and Enrico Grube, available at http://networksensoryresearch.utoronto.ca/Events_%26_Discussion.html

2. What is the relationship between time as represented in experience, the timing of the experiential act, and the timing of the neural realizer of the experience?

Perceptual experience seems to represent time in a variety of ways. We seem to be perceptually aware of certain temporal properties of things such as durations, simultaneity, and succession, as well as the sensible properties of temporally extended events such as movements, color changes, or melodies.

The first question one might ask is whether such qualities really are represented in perceptual experience, or whether they are only represented downstream of experience, in perceptual beliefs or other cognitive states. Anti-realists about temporal experience take the latter option and claim that experience is a matter of undergoing a succession of “snapshots”, each of which only represents non-temporal features (see Chuard 2011 for a recent defense). Realists, on the other hand, accept the view that perceptual experiences themselves represent temporal properties. Two main realist models of temporal experience can be distinguished, depending on how they view the relationship between temporal properties represented in experience and the timing of experiences themselves (i.e., the vehicles or “acts” of experience).

Extensionalists maintain that experiences do not only represent temporally extended events, but are themselves temporally extended, and that there is an explanatory relationship between these two facts. Minimally, the claim is that the temporal extension of the experience is a necessary condition of the possibility of representing temporally extended properties.

Typically, it is further claimed that the temporal structure of experience matches the apparent temporal structure of the objects of experience, such that, for instance, whenever an experience

apparently presents us with an event of a certain duration, the experience itself persists for a matching amount of time (see e.g. Phillips, forthcoming).

Retentionalist models, on the other hand, reject such claims. These models have often been taken to involve the assumption that, while representing temporally extended events, experiences are themselves strictly momentary events. However, it is open to retentionalists to accept the (empirically plausible) assumption that experiences are extended, while denying that there is an explanatory dependence between the temporal extension of the experience and that of the events represented in experience of the sort maintained by extensionalists.

How could one adjudicate between these two models? Some (e.g. Dainton, 2000) argue for a variety of extensionalism on the basis of broadly phenomenological considerations. But this raises a methodological worry: how can one argue for claims about the relationship between the structure of the vehicles of experience and their contents based on the deliverances of introspection?

Others (e.g. Lee, forthcoming) claim that empirical considerations about how temporal information is processed by the neural realizers of experiences should decide the matter. In his talk, Lee argued that if one is a physicalist about consciousness, one should accept the principle that the timing of experience is identical to the timing of its neural realizers; and that since there is incontrovertible evidence for the temporal extension of the realizers of experience, the only plausible view seems to be that experiences are extended, as well. In Lee (forthcoming), he further argues that this does not entail extensionalism, since there is evidence that suggests that the neural realizers of experience represent temporal properties not by structural resemblance, but in a quasi-simultaneous way.

However, Lee's approach raises a methodological worry as well: how do we know that we have detected the neural realizer of an experience rather than the causal antecedents or consequences of this realizer? Suppose, for instance, that experiences were, in fact, instantaneously realized. This is prima facie compatible with the observation of temporally extended neural events in the causal ancestry of the experience.

Correspondingly, the observation of a quasi-simultaneous representation of temporal properties is compatible with extensionalism if it can be maintained that this representation happens downstream of perceptual experience. Any theorist who wants to argue for a particular temporal shape of experience on the basis of empirical considerations involving the neural events that occur (roughly) simultaneously to the experience needs to give further reasons to prefer one of these options.

References:

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