Time and consciousness

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What is it for a mental representation to be conscious? It is a familiar Cartesian doctrine that being conscious is part of what it is for a state or a representation to be mental. Since being conscious is part of being mental, not only are all mental states conscious; being conscious must be an intrinsic property of mental states. A state's being intrinsically conscious captures the idea that, as Descartes put it, we are immediately conscious of all mental states; nothing mediates between a mental state and our being conscious of it. Given these Cartesian assumptions, there is no room for the brain (or mind) to reinterpret or revise the way I am conscious of my mental states, since my being conscious of them is intrinsic to the states themselves. Once a mental state exists, its very nature fixes what my being conscious of that state can tell me about it. Because being conscious of mental states is immediate and is intrinsic to the states, what it tells us about our mental states is not only the final draft on that subject, but the only draft.

All this has consequences for subjective temporal succession. Suppose first see event a and then event b. If being conscious is intrinsic to every mental state, both cases of seeing will, at the exact moment they occur, be conscious states; simultaneously with seeing each event I will be conscious that I do. I will be conscious of seeing a, and then conscious of seeing b. Consciously perceiving temporal succession between a and b involves representing the subjective temporal succession of two events simply by way of the objective temporal succession of our representations of those events.

If mental states were all conscious, being conscious might well be an intrinsic property of those states. But it's widely recognized that many mental states are not conscious. That they are not would be hard to explain if being conscious were an intrinsic property of mental states. So we must reject the idea that being conscious is an intrinsic property of mental states.

The one thing that's uncontroversial about a mental state's being conscious is that it involves one's being conscious of that state in some way or other. Let us call our being conscious of our conscious states the relevant way transitive consciousness, since it's a case of being conscious of something. If being conscious is an intrinsic property of mental states, our being transitively conscious of those states will also be extrinsic to them. A mental state will be distinct from our being transitively conscious of it.

The idea that mental states are distinct from our transitive consciousness of them fits well with D & K's Multiple Drafts model. When we are conscious of something, we are conscious of it under certain aspects and not others; we represent the thing we are conscious of in certain ways, and not others. So it is with our being conscious of our mental states. Being transitively conscious of a mental state means representing that state in a certain way, and how we represent it will determine what sort of state we think we're in. [See also Searle: "Consciousness, Explanatory Inversion, and Cognitive Science" BBS 13(4) 1990.]

How we represent the things we are conscious of, moreover, can change over time, and there is no reason why this too should not happen with our transitive consciousness of our mental states. Our being transitively conscious of our mental states involves representing them in certain ways. These representations can change, and as they do, corresponding changes will occur in what mental states we seem to be in. In effect, we'll have a series of drafts about the contents of our minds. Since how transitive consciousness represents our mental states is distinct from those states, these changes need involve no shift in the nature of the mental states themselves; all that has to change is the character that our transitive consciousness of those states represents them as having. Moreover, we will not consciously notice these changes, since it is only in virtue of how our transitive consciousness of our mental states represents them that we are conscious of those states at all. The latest draft will seem, for the purposes of consciousness, to be the only draft. Things would be different if our transitive consciousness of our mental states were intrinsic to those states. How we are transitively conscious of them would then be part of their nature. Our transitive consciousness would occur simultaneously with the state, and the way our transitive consciousness represents the state could not change without a change in the very nature of the state itself. But apart from discredited doctrines about having infallible or exhaustive access to our mental states, we have no reason to think that our transitive consciousness of our mental states is intrinsic to them.

Let us turn again to subjective temporal succession. Consciously perceiving a temporal succession between a and b involves representing my perception of temporal succession in a particular way. Since my transitive consciousness of that perception is extrinsic to it, nothing about my perception of a and b fixes the way I represent my perception of their temporal relations. In particular, the objective temporal succession of my perceptions of a and b cannot fix how my transitive consciousness of my perception represents that perception of temporal succession.

Moreover, the way my transitive consciousness represents that perception can change over time. The way my transitive consciousness of my perceptions represents them determines what perceptions I seem to have; so the latest transitive consciousness will seem to be the only one I've ever had. This is so even when I am perceiving temporal succession. So if the way I represent my perception of temporal succession changes, it will seem that that is the only way I ever perceived things. This is just what is needed to explain the cutaneous rabbit and the phi phenomenon.

According to the foregoing model, one's transitive consciousness of one's mental states is distinct from those states and can change independently of them. And it is this transitive consciousness of one's mental states that determines what one takes those states to be. Is this model Stalinesque or Orwellian? For the Stalinesque theorist, perceiving something fixes my memories, but I can edit my perceptions; for the Orwellian, I can eradicate the effect of my initial perception by rewriting my memories. If by "perception" we mean conscious perception, the model I have put forth may look Stalinesque. A conscious perception is a perception plus the transitive consciousness of it; so the brain can edit my conscious perception by altering how
my transitive consciousness represents the perception. But
given the latest version of my transitive consciousness, my
conscious perception may well fix subsequent memories.

We might instead mean by "perception" just the non-
conscious perceptual state, apart from any transitive conscious-
ness of it. The foregoing model may then seem Orwellian.
Without transitive consciousness, perceptions don't by them-
selves determine subsequent memories, since memories will
follow the way my transitive consciousness of my perceptions
represents them. The model I have proposed gives us no reason
to think we can edit these nonconscious perceptual states. But
if we can edit our transitive consciousness of our perceptions,
surely we can alter our memories of them.

The deeper issue, however, is whether whatever revising
does take place should count as an alteration of memories or of
initial perceptions. Here the foregoing model resists easy clas-
ification. The brain edits our conscious perceptions by changing
the way our transitive consciousness of those perceptions re-
resents them. This can happen earlier or later. The Stalinesque
theorist thinks we edit our perceptions, while the Orwellian
maintains that we rewrite our memories. So the brain's revising
of our transitive consciousness of our perceptions will seem
more Stalinesque the earlier it happens, and more Orwellian
the later it happens. The line between Stalinesque and Or-
wellian, as D & K insist, arbitrary. Since the revising of our
transitive consciousness can happen earlier or later, at small
time scales we won't be able to draw a principled line between
what's "not yet observed" and what's "already observed."

If being conscious were intrinsic to mental states, it would be
natural to fix the time each mental state occurs by the time at
which it becomes conscious. Can we do that with those mental
states that are conscious, even though being conscious is not an
intrinsic property of them? We could not reliably fix compara-
tive timing this way, since there is no single place in the brain at
which the transitive consciousness of every mental state occurs.
Still, we might be able to draw a nonarbitrary distinction
between rewriting memories and editing conscious per-
ceptions.

This move is unavailable. Our transitive consciousness of a
perception can be revised; so which transitive consciousness
should count for purposes of timing? Is it the first, which fixes
when the perception initially become conscious? Or the last,
after which no more changes occur in the way our transitive
consciousness of the perception represents it? Or should we
pick the time, possibly between first and last, at which the
way our transitive consciousness represents the perception
becomes relatively stable? Since there is no principled answer
to these questions, we cannot time mental states by reference to
the time of their being conscious.

Finally, are Dennett and Kinsbourne right that there is no
"fact of the matter about exactly when (in 'absolute' time . . . ) a
conscious experience happens" (sect. 3.1, para. 12)? That de-
pends on what we mean. We have no reason to doubt that we
can fix the time of whatever mental state we're conscious of,
independently of our transitive consciousness of it. But the
brain can revise the way our transitive consciousness of any
experience represents that experience, and each successive
transitive consciousness is subjectively no less authoritative
than the preceding ones. So if by "conscious experience" we
mean the experience plus our transitive consciousness of it,
there is indeed no fact of the matter about its timing.

NOTES
1. Mind-body dualism plays no role in this line of thinking, as Kant in
effect showed, the felt need to postulate mental unity is independent of
such dualism.
2. For more on why being conscious is not an intrinsic property, see
3. Perhaps, as Dennett & Kinsbourne suggest, in order to find the
best temporal fit among the contents of the representations of those
events (sect. 2.1, para. 8).

Commentary/Dennett & Kinsbourne: Time and the observer

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One gets the impression that Dennett and Kinsbourne (D & K) are
busily nailing the last few licks into a big Out of Business
sign stretched across the Cartesian Theater. However, upon
closer inspection the sign discloses a far less definitive message:
Closed for Remodeling – Reopening Soon as Cinema 1-2-Many
of the Mind.
The stated goal of D & K's target article is to expose and
dismantle the Cartesian Theater. Although we agree with much of
their diagnosis, in particular their central conclusion that the
neural events subserving conscious experience are spatially and
temporally distributed and that there is no single "where" and
no single "when" to look for them in the brain, we have serious
reservations about the Multiple Drafts model proposed as an
alternative. The Multiple Drafts model not only fails to close the
 Cartesian Theater as D & K intend, it retains and multiplies
some of the deficiencies of that model by replicating the major
mysteries of conscious experience across an indefinite number
of ill-characterized Multiple Drafts. In effect, D & K are
replacing the single Cartesian stage with a multi-screen Cinema
1-2-Many of the Mind.
The major virtues of the Multiple Drafts model are what it says
about what conscious experience is not: (a) that there is no
simple "where and when of consciousness in the brain and
(b) the temporal properties of conscious experience need not
 correspond with the temporal properties of the neural events
that mediate conscious experience. However, when it comes to
proposing what conscious experience is, the Multiple Drafts
model is decidedly silent about a number of key issues:
1. Why do some neural processes constitute "drafts" having
content that can contribute to conscious experience while others
do not?
2. How do the various layers of D & K's mental palimpsest
interact, compete, and gain primacy to produce the sense of a
(quasi-) coherent series of perceptions, intentions, and actions
that characterize our interaction with the world?
3. What constitutes "editorial revision" and who/what does
the revising?
4. How is the metaphor of a "draft" an improvement over the
metaphor of a theater in dispelling the "infinite regress of too-
powerful homunculi"?

D & K are, of course, not alone in having a less than
satisfactory account of conscious experience and its relationship
to the brain. The chasm between the subjective and the objec-
tive has stumped thinkers since Descartes and we confess to
finding ourselves in exactly the same muddle. So what are
would-be theater-goers to do for entertainment in the faced of
D & K's "Out of Business" sign? Are we to concede that the "where
and when of consciousness in the brain" are totally outside the
bounds of science-as-usual? Not quite, for there are directions to
proceed in which considerable progress, albeit somewhat indi-
crect, can be made.

One promising direction to proceed is down. Although inves-
tigations of the brain do not address the subjective-objective
relationship head-on, any attempt to characterize this relation-
ship will benefit from a more thorough understanding of either
the subjective or objective component taken separately. Neuro-
cience has only begun to scratch the surface of the deep
mysteries of the brain and we are convinced that science-as-
usual will reveal that many puzzling phenomena, including
some of the temporal paradoxes that D & K view as particularly
problematic, are understandable consequences of neural struc-
ture and function. Just as visual spatial illusions have been
treated as discrepancies between the subjective and objective

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