# Review of André Gallois, *Occasions of Identity*[*]

(Oxford: Oxford University Press, 1998.)

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André Gallois's *Occasions of Identity* injects a refreshing new perspective into an old debate. Actually, what is new is the advocacy of the perspective: Gallois takes up a view that many consider a non-starter, and shows this reaction to be premature.

The debate is over the right way to understand the traditional puzzles involving two things being in the same place at the same time; the perspective is that identity can hold temporarily (and contingently). Suppose an amoeba, name it AMOEBA, divides in two. One of the resultant amoebas, POND, lives in a pond; the other, SLIDE, is examined on a slide in a laboratory. Does AMOEBA survive this process, and if so, does it survive as POND or SLIDE? If we stipulate that POND and SLIDE are symmetrically related to AMOEBA then it seems arbitrary to identify AMOEBA with exactly one of POND and SLIDE. But we cannot identify AMOEBA with each, for then by the transitivity and symmetry of identity we would wrongly identify POND and SLIDE. We are left with the conclusion that AMOEBA is identical to neither. But this seems wrong too; surely fission does not result in death. So just what does happen to AMOEBA?

How to respond to this and related cases (involving statues and their constituting hunks of matter, cats and their undetached parts, and so on) has been much discussed.[1] There are many proposals, each with distinctive strengths and weaknesses. To these Gallois adds his own, which runs as follows. After division, there are two amoebas, POND and SLIDE, each of which existed before division. But it does not follow that there were two amoebas *before* division. Though POND and SLIDE are numerically distinct after division, they were numerically identical before division. The identity relation can hold temporarily, or *occasionally*, as Gallois puts it.

My sense is that this sort of claim is regarded by most metaphysicians as downright wacky. And yet there is something very natural about it. Why distinguish POND and SLIDE today because they will differ tomorrow? I suspect the "wackiness" reaction has two sources, one based on Leibniz's Law,

[*]Thanks to Tamar Gendler, John Hawthorne, Trenton Merricks and Dean Zimmerman.

[1]See chapter 5 of my forthcoming *Four-Dimensionalism*.

the other unacknowledged.

Leibniz's Law says that identical things share all their properties. But, where $t_2$ is some time after division, POND is in a pond at $t_2$, whereas SLIDE is not. Hence, even before division it would seem that POND and SLIDE are numerically distinct, for only POND has the property *being in a pond at* $t_2$. Since Leibniz's Law is constitutive of identity, the occasional identity theory is incoherent.

Years ago, George Myro (1986) so defended occasional identities. His response to the Leibniz's Law argument was to restrict Leibniz's Law so as not to encompass properties like *being in a pond at* $t_2$. But if POND and SLIDE share a mere subset of their properties before division, it is hard to believe that the relation between them then is truly a kind of *identity*. Gallois's exciting contribution is that the occasional identity theorist can allow Leibniz's Law to encompass *all* properties, even time-indexed ones. It must still be qualified to times:

$LL_t$: If $x$ and $y$ are identical at $t$, then if at $t$: $\phi x$, then at $t$: $\phi y$

Quotational and other non-extensional constructions must presumably be banned from $\phi$, but $\phi$ *is* allowed to contain constructions like 'at $t$, $x$ is F'.

Gallois claims:

i) POND and SLIDE are identical at $t_1$

ii) at $t_2$: POND is in a pond

iii) it is not the case that at $t_2$: SLIDE is in a pond

Are these claims consistent with $LL_t$? Given i), $LL_t$ requires that POND and SLIDE share the same properties at $t_1$. Claims ii) and iii) do not *directly* come in conflict with this requirement, for they concern POND and SLIDE's properties at $t_2$. The conflict only arises if we assume the following:

**Transfer principle** for any $t$, $t'$, [at $t$: $\phi$] iff [at $t'$: at $t$: $\phi$]

The transfer principle says that claims about what is true at a time do not change; in a sentence with *two* temporal qualifiers "at $t^*$: at $t$: $\phi$", the first qualifier "at $t^*$" is redundant. Given the transfer principle, it follows from ii) and iii) that:

ii′) at $t_1$: at $t_2$: POND is in a pond

iii′) it is not the case that at $t_1$: at $t_2$: SLIDE is in a pond

These claims do indeed contradict the conjunction of $\mathrm{LL}_t$ and i) (the claim that POND and SLIDE are identical at $t_1$). Accordingly, Gallois rejects the transfer principle.[2]

My chief complaint about the book involves issues in the philosophy of time, issues which Gallois does not address. Gallois's claims, particularly the denial of the transfer principle, look much more plausible on an "A-theory" of time. Probably many of his would-be supporters would be dismayed to be committed to the infamous A-theory; moreover, Gallois writes as if he accepts the "B-theory".

Earlier I mentioned a suspected second source of the common distrust of the occasional identity view, beyond that it appears to violate Leibniz's Law. What I suspect is that most philosophers implicitly presuppose a B-theory of time, and sense its tension with occasional identity. I do not say that occasional identity is straightforwardly inconsistent with the B-theory, only that there is a tension.

The B-theory of time (also called the tenseless theory of time) includes two components: *eternalism*, according to which past and future objects are just as real as present objects, and the *reducibility of tense*, the claim that utterances of tensed sentences can be given tenseless truth conditions. The A-theory, by contrast, holds that tense is an irreducible feature of reality. This is clearest on the version of the A-theory known as presentism, which includes the claim that only currently existing objects and events are real in addition to the claim that tense is irreducible.

Gallois seems to presuppose a B-theory, at least the eternalist component. He freely quantifies over past and future objects, and he indexes property instantiation to times, which is unnecessary if presentism is true.[3] But Gallois's rejection of the transfer principle would seem to mesh best with an A-theory.

The B-theorist's central claim is that reality may be given an unchanging tenseless description. In B-theories that reject temporal parts, this is done by atemporally quantifying over all the objects that ever exist, and saying what properties they have *at*, or *relative to*, various times. On Gallois's preferred version of this (p. 38), instantiation is a three-place relation, holding, for example, between a thing, the property *being hot*, and a time. While claims about property instantiation are usually taken to *constitute* change (to change is

[2] See chapter 3, e.g., p. 90.

[3] Cf. Merricks (1994); Hinchliff (1996).

to have a property at one time and an incompatible property at another time), for the B-theorist such claims do not themselves change in truth value. If it is ever true that $x$ is hot *at* time $t$, then it is always true that $x$ is hot at $t$. This is at the core of the B-theorist's claim that reality is fundamentally tenseless. Thus, by rejecting the transfer principle, Gallois must reject the B-theory. Change in facts about properties being instantiated at times cannot be accounted for in the usual B-theoretic way; presumably some A-theoretic account must be given.

Were Gallois to accept the B-theory, he would face further problems. The B-theorist says that reality can be given a complete tenseless description, and has the picture that reality is a "block universe" on which an atemporal perspective is fundamental. Considered from this atemporal perspective, there are differences between POND and SLIDE, for POND is in a pond at $t_2$, whereas SLIDE is not. Given this difference, how can they be identical? Gallois counters that Leibniz's Law must be relativized to times; but if the atemporal perspective of the B-theorist is granted, there seem to be differences *simpliciter*, as opposed to differences *at* one time or another, between POND and SLIDE; this in turn generates pressure to claim that they are distinct *simpliciter*.

Gallois must presumably insist that it just does not make sense to ask whether objects are identical *simpliciter*. (It would be otiose to call SLIDE and POND identical *at* various times while admitting that there is such a relation as identity *simpliciter* in which SLIDE and POND do *not* stand.) But it is hard for a B-theorist to reject identity *simpliciter*. In the world of the B-theorist, there exist, atemporally, dinosaurs and computers. True, the computer is located *here* (in time) and the dinosaur is located *there* (at an earlier time), but each can be the value of a bound variable from the atemporal perspective. But then, can we not ask whether they are identical? The Quinean dogma of "no entity without identity" might be modified here to read: no atemporal quantification without atemporal identity. Otherwise, it is hard to understand the nature of atemporal quantification: the variables would range atemporally over a class of things to which questions of identity cannot be atemporally applied. Gallois allows us to ask with respect to various times whether the objects are identical then; but we have the class before us *simpliciter*, and yet cannot ask whether this member is the same, *simpliciter*, as that. Once the atemporal quantification and atemporal perspective are granted, atemporal identity seems to come along in their wake.

A B-theoretic account of time, then, is in tension with Gallois's thesis of occasional identity. Though I cannot argue this here, I believe the occasional

identity thesis can be coherently combined with presentism.[4] But this news is only partially good for Gallois, since there are good independent reasons to reject presentism, and indeed the A-theory in general.[5]

Gallois has given an unpopular view an ingenious and careful defense. The style of the book could be more user-friendly: the prose is choppy, there are many numbered sentences and principles to track, and guidance as to the "big picture" is sometimes scarce. But a diligent reader's efforts will be repaid: the book is intelligent, original and challenging, a real contribution to the literature on persistence over time.

## References


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[4] See chapter 5 of *Four-Dimensionalism*.

[5] I discuss some of these in chapter two of *Four-Dimensionalism*.