

no suitable precise object lurking for  $H$  to be. It is not hard to see why the vague-objects theorist has an easier time than a no-vague-objects theorist. The talk of sharpenings designed to tie the requirement of definite identity, *de re*, to the no-vague-objects view simply is not available to underpin the claim of aoristic flaccidity.

So the ontology of the vague language itself must be admitted to contain *vague objects* unless one were to attempt, absurdly, to try to combine the view that the names  $a$  and  $b$ , above, denote directly — i.e., they each denote *a single thing* — with the view that it can be true, *de dicto*, that the boundaries of  $H$  are not precisely determined although the single thing which  $a$  and  $b$  both name is nonetheless precise. For *which* of the numerous sharpenings of the 'part-whole' relational expression with respect to  $H$  gives us our privileged precise object, and if none of these then what other kind of precise object might be appealed to here in order to preserve the no-vague-objects view? This shows, I think, why we should regard the vague-objects view not only as deserving our respect (rather than instant dismissal), but also as available to Evans, [4] notwithstanding.

Evans favoured a Fregean interpretational semantics *in harmony* with a direct or homophonic approach. For a precise-objects-only approach to work, it would be necessary to see him as favouring the view that *apparently direct*, vagueness-reflecting reference to ordinary, fuzzy macroscopic objects whose distinctness, as objects of some kind, is not in question is *really* the aoristically indirect "reference" which is all that the Lewis framework can countenance. Yet this is incompatible *both* with the best understanding — applied to names — of homophonically interpreted expressions as *latching directly* onto the objects in the world they refer to *and* with the desire — natural enough to a Fregean — to see singular sentences and singular thoughts as both, in some direct sense, meaningfully *singular*.<sup>4</sup>

Monash University,  
Clayton, Victoria 3168,  
Australia

#### REFERENCES

- [1] D. M. Armstrong, *A Materialist Theory of the Mind* (London: Routledge and Kegan Paul, 1968).
- [2] J. A. Burgess, *Vagueness and the Theory of Meaning*, Oxford D.Phil. thesis, 1980.
- [3] J. A. Burgess and I. L. Humberstone, 'Natural Deduction Rules for a Logic of Vagueness', *Erkenntnis* 27 (1987) 197–229.
- [4] Gareth Evans, 'Can There Be Vague Objects?', *Analysis* 38 (1978) 208.

<sup>4</sup> I should like to thank Michaelis Michael, Aubrey Townsend, Anonymous and, especially, Lloyd Humberstone for helpful discussions of these issues.

- [5] Gareth Evans, 'Semantic Structure and Logical Form', in *Truth and Meaning*, edited by Gareth Evans and John McDowell (Oxford: Oxford University Press, 1976), pp. 199–222.
- [6] Gareth Evans, *Varieties of Reference* (Oxford: Oxford University Press, 1982).
- [7] Kit Fine, 'Vagueness, Truth and Logic', *Synthese* 30 (1975) 265–300.
- [8] David Lewis, 'General Semantics' in his *Philosophical Papers*, Vol. I (New York: Oxford University Press, 1983), pp. 189–229.
- [9] David Lewis, *Counterfactuals* (Oxford: Basil Blackwell, 1973).
- [10] David Lewis, 'Vague Identity: Evans Misunderstood', *Analysis* 48 (1988) 128–30.
- [11] David Wiggins, 'On Singling out an Object Determinately', in *Subject, Thought and Context*, edited by Philip Pettit and John McDowell (Oxford: Oxford University Press, 1986), pp. 169–80.

*Analysis* 49:30 (June 1989), 119–125.

#### ENDURANCE AND TEMPORARY INTRINSICS

By SALLY HASLANGER

**I**N a number of places David Lewis has argued that the problem of temporary intrinsics rules out the possibility that objects endure through change.<sup>1</sup> Lewis maintains that to account for temporary intrinsics we should say that objects do not endure through change, but rather perdure.<sup>2</sup> I disagree; Lewis's arguments do not demonstrate that an endurance theory cannot accommodate temporary intrinsics.

The problem of temporary intrinsics is this: ordinary objects persist through changes in their intrinsic properties, i.e. those properties which an object has in virtue of the way *it* is, independently of anything else. To use Lewis's example, 'when I sit I'm bent, when I stand, I'm straight'. But an object cannot have incompatible properties. So how is intrinsic change possible?

Lewis initially outlines three solutions to this problem, of which he favours the third. The first is the view that properties are really relations to times; the second is the view that only the present exists; the third is the doctrine of temporal parts. It is important to note that Lewis's solution, like the others he mentions, requires a trade off in our intuitions about intrinsic change. Although on his view it is true that there are persisting objects (the perdurers), and it is also true that properties such as shape are genuinely intrinsic (to the stages), there is nothing such that it persists through a change in *its* intrinsic properties. The intrinsic properties of the stages are not properties of the perdurer. The perdurer itself is not simply bent and then straight; if it were we'd be left with the

<sup>1</sup> Most recently Lewis argues this in [4]; and in [3] pp. 203–205.

<sup>2</sup> I follow Lewis's terminology here; see [3], p. 202.

original problem. The perdurer has properties which are significantly correlated with these, e.g. the property of having a part which is bent (and one which is straight), but these properties involve a relation between the perdurer and one of its momentary parts. Even if one were to hold that a perdurer's relations to its distinct parts are intrinsic (which is not obviously correct), at any rate such properties of the perdurer are not temporary. So what persists is not what has the relevant temporary intrinsic. Like the other 'solutions', Lewis must say that it is not possible for an object to persist through a change in *its* intrinsic properties. So why are we forced to make Lewis's compromise?

I have argued elsewhere for the importance of maintaining endurance in an account of change to accommodate the idea that the past (causally) constrains the present (see [1]). If one is concerned to preserve endurance, there are at least two options which hold some appeal. The first is to bite the bullet and deny that there are temporary *intrinsic*s, i.e. treat all temporary properties as relational. I will not discuss this option here. The second is to develop what Lewis calls the 'adverbial' variant of the first alternative in such a way that it avoids the problems he indicates (see [4] p. 65, fn. 1). I prefer this second option, and will sketch some ways to carry it out.

The intuitive idea behind the so-called 'adverbial' option is that objects have properties at times, and that time should modify this 'having', rather than the subject or the property. Lewis interprets this in terms of a commitment to a three-place instantiation relation which takes objects, properties, and times as arguments. He rightly points out that this interpretation of the view still treats intrinsic properties as relational; and raises the further question, 'what does standing in some relation to straightness have to do with just plain being straight?' (in [4] p. 66, fn. 1).

I think the right response here is to deny that the intuitions underlying the 'adverbial' account need commit one to the three-place instantiation relation. Along these lines, E. J. Lowe, in his response to Lewis, suggests that we should take the account to claim that '*a*'s having a bent shape *obtains* at *t* while *a*'s having a straight shape *obtains* at *t*' ([5] p. 75). He also remarks that, 'a thing's *being shaped* itself stands in relation to times, not that a thing's being shaped is partly a matter of *that thing's* standing in relations to times' ([5] p. 75).

In developing the idea that objects have properties at times, we may note that there are a variety of semantical options one might take in spelling out the role of temporal elements in propositions.<sup>3</sup>

<sup>3</sup>For simplicity, I am considering only simple propositions which contain no explicit temporal operators. The problems become much more complex when we consider sentences embedded within temporal (and other) operators and the function of temporal indexicals. See, e.g., D. Kaplan [2], and M. Richard [6].

Reviewing a number of these semantical options facilitates a discussion of the ontological options suggested by the semantics. For the purposes of responding to Lewis, the endurance theorist may remain agnostic about which of the options is semantically superior; and at this point, the endurance theorist may even remain agnostic about the details of the ontology. The goal is simply to show that there are some ways of developing the idea that objects have properties at times without falling prey to Lewis's objections.

Lowe's comments suggest two ways to incorporate temporal elements into one's semantics: the first is to leave temporal elements out of propositions and instead to evaluate propositions with respect to times (just as one evaluates propositions with respect to worlds); the second is to include temporal elements in the proposition without incorporating them into the semantical value of the predicate (or the subject). Treating time as part of the circumstances of evaluation (as in the first suggestion) offers a temporalist view of propositions such that propositions can change truth-value from time to time; treating time as an additional constituent of the proposition (perhaps not explicit in the sentence expressing the proposition but determined via the context of utterance) offers eternalist propositions. On neither view is the property of the object construed as a relation to a time (though, of course, there may be some propositions which do concern a relation between a property and a time); and on neither view have we reified a distinct instantiation relation.<sup>4</sup>

One might complain, however, that none of the options I have indicated avoids commitment to a three-place instantiation relation which holds between an object, a property, and a time; so we have not been given a model which demonstrates how we might construe temporary predications without relying on such a relation. For example, consider the option of accepting temporal propositions which are evaluated with respect to times. On this view, the temporal proposition that Lewis is bent is true at some times and not others. We may note that given that at some time *t*, the proposition that Lewis is bent is true, there is a three-place relation between Lewis, bentness, and a time *t*, such that the proposition that Lewis is bent holds at *t*. In spite of the fact that this temporalist account does not employ a *primitive* three-place instantiation relation, nevertheless, we may define an analogous three-place relation within the temporalist framework. Therefore, the commitment to such a relation remains.<sup>5</sup>

But does the recognition of this defined three-place instantiation relation demonstrate that we must construe the relation

<sup>4</sup>There are other options. See, e.g., Nathan Salmon's treatment of time as a component of the 'information value' of the predicate in an eternalist proposition in [7] Ch. 2.

<sup>5</sup>I owe this objection to David Lewis.

between an object and its properties as problematically relational? I think not. The danger of a three-place instantiation relation is that it invites us to treat objects as related to their properties as individuals are related to other individuals; this would be undesirable. But note that the three-place relation indicated above, viz., the relation between an object  $a$ , property  $F$ , and time  $t$ , such that the proposition that  $a$  is  $F$  holds at  $t$ , is a relation defined partly in terms of a more basic notion of  $a$ 's being  $F$ , i.e., of an object instantiating its properties. Even if we grant that the three-place relation is an instantiation relation, the primary instantiation of the property  $F$  by the object  $a$ , need not be construed relationally. Lewis is bent by instantiating bentness, and this instantiation holds at some times and not others. The fact that we can further define a three-place relation between the object, the property, and the time, need not commit us to treating the basic notion of an object's instantiating its properties as relational. Thus, at least one of the options offers a genuine alternative that Lewis has not addressed. This response suggests a strategy which we might also employ in defending other options.

The question remains, however, whether any of these options make metaphysical sense. Lewis thinks that they don't; his worry is that a temporary predication (of whatever sort) does not adequately capture the connection between an object and its intrinsic properties. We can find the basis for his concern about the adverbial variants by considering his argument against the original proposal that properties are 'really' relations to times. He writes,

Imagine trying to draw a picture of two different times  $t_1$  when I sit, and  $t_2$  when I stand. You draw two circles, overlapping because I exist at both times so you want to draw me in the intersection. But then you have to draw me bent and also straight, which you can't do; and if *per impossible* you could, you still wouldn't have done anything to connect the bentness to  $t_1$  and the straightness to  $t_2$  instead of vice versa. What to do? The first solution says to draw the circles overlapping, draw me in the intersection as a mere dot or shapeless blob, draw a line labelled 'bent-at' from me to the  $t_1$  circle and a line labelled 'straight-at' to the  $t_2$  circle. A queer way to draw a shape! ([4] p. 67.)

Presumably, to capture the adverbial variant, Lewis would draw two circles overlapping; himself a dot or shapeless blob in the intersection. But this time, bentness and straightness would be abstract entities outside the circles, and the picture would include two branched lines labelled 'instantiates at', one linking himself, bentness, and the  $t_1$  circle, and the other linking himself, straightness, and the  $t_2$  circle. Like the original picture, this is a 'queer way to draw a shape'.

The argument seems to be this: if the enduring thing has a particular shape, e.g. bent, then to say that *it* (the enduring thing) is straight results in contradiction. Instead, we must say that the

shapeless thing has shape by being related to bentness or straightness (at times) — or alternatively is related to times by a 'bent-at' or 'straight at' relation. Given this model, we find ourselves committed to a modified substratum (modified because it may have some permanent intrinsics, and so needn't be a bare substratum), combined with a relational conception of temporary intrinsic predication. Such a relational conception of predication fails to treat the properties in question as genuinely intrinsic; e.g. standing in some relation to shape is not the same as being shaped.

There are three crucial premisses in this argument. The first is that the enduring thing has no shape intrinsically; the second is that if the enduring thing has no shape intrinsically, then it has shapes by standing in some relation to them; the third is that a relational conception of having shape is unacceptable. I will focus on the first premiss.

On Lewis's view, there is some way that a temporal part can be shaped, e.g. bent, that is not available to an enduring thing. But why not? Why can't the endurance theorist simply insist that the enduring thing is bent in just the same way that the temporal part is bent, except that the enduring thing is not bent in this way throughout its existence? In other words, why must we represent the enduring object as 'a shapeless blob'?

Lewis suggests that if the enduring thing is bent at one time and straight at another, then it must have these shapes extrinsically and not intrinsically.<sup>6</sup> It is because shape is only extrinsic to the enduring thing that it is properly represented as 'shapeless'. But why must we say that temporary properties are extrinsic? Admittedly, if we say that the enduring thing is intrinsically both bent and straight, this results in contradiction. However, there is no contradiction in saying that it is intrinsically bent at one time and intrinsically straight at another. Moreover, if we take seriously the proposals mentioned above, we are fully entitled to make this claim; as we saw, one need not construe an object's having a property at a time either in terms of its standing in relation to a time, or in terms of its standing in a temporarily relativized instantiation relation to the property in question. To assume that an enduring object's temporary properties must be extrinsic is to assume what is at stake in the debate with the ('adverbial') endurance theorist.

Let me put this in more positive terms. Consider the idea of an intrinsic property. Lewis suggests that a property is intrinsic iff the object has the property in virtue of the way *it* is independently of anything else. An endurance theorist will demand a temporally sensitive construal of this condition, e.g. that a property is (at a time) intrinsic iff the object has (at that time) the property in

<sup>6</sup>This pattern of inference has a venerable history. Some find it in Aristotle's comments about prime matter (e.g., see *Metaphysics* VII:3), and it is clearly linked to the arguments which some have used to argue for bare substrata.

virtue of the way *it* is (at that time), independently of anything else. On this revised condition, Lewis is intrinsically bent (at one time) and intrinsically straight (at another).<sup>7</sup> One might deny this interpretation of the condition and insist on a temporally insensitive construal of intrinsic properties, yet in doing so one fails to address the endurance theorist's position.

Lewis might complain, however, that the ontology of the endurance picture remains mysterious. Suppose we want to describe the enduring subject of predication in a way which captures how it is throughout its existence. The endurance theorist is likely to claim that such a description will involve a characterization of it as having different properties at different times. But there is still a question about how it is, abstracted from its changing history, i.e. abstracted from its variation from time to time. We cannot describe the enduring object in these terms as simply bent or straight; so it could only be shapeless. But how can this shapeless thing be the subject of the relevant shape predications?

The endurance theorist's response is to point out that although a description of the enduring object which abstracts from its changing history does not include a particular shape as part of that description (though it may include 'being shaped' since this description applies throughout its changes), such a description is incomplete; most importantly, it doesn't include all of the intrinsic properties of the object because some of the intrinsic properties of the object are had at some times and not at others. Returning to Lewis's diagram, we might say that it is not surprising that the 'shapeless blob' in the intersection of the circles seems incomplete, for to take the exercise as adequately characterizing the enduring object is to assume that we can draw how the enduring thing intrinsically is, once and for all. But if some of its properties, e.g. shape, are temporary intrinsics, this is not possible. The endurance theorist denies that the description which characterizes the object 'timelessly' is the description which captures all of the intrinsic properties of the object. The enduring object is bent and then straight; it is not a shapeless blob.

There is a sense in which these responses to Lewis's concerns are simply a stubborn resistance to his intuitions about what it is to predicate an intrinsic property of an object. Admittedly, predication is a murky issue, and more work needs to be done in working out a theory of endurance through change. However, the temporal parts theory does not offer a sufficiently compelling account of predication to rule out an account which is consistent

<sup>7</sup> Further, on the endurance theory, a duplicate of an enduring object will also be an enduring object. If the original undergoes change, its duplicate undergoes changes as well. Thus, if an enduring object undergoes a change from being bent to being straight, its duplicate will undergo a change from being bent to being straight, though the change may occur at a different time.

with a commitment to endurance. Although Lewis's concerns are rightly placed on the issue of predication, his argument rests on assumptions which the endurance theorist need not grant. Although the endurance theorist's resistance does not demonstrate that endurance is preferable to perdurance overall, it does offer a response to the charge that the endurist position is metaphysically untenable. That the position is tenable is significant, for it is the endurance theory which allows us to preserve the intuition that there are some objects which persist through a change in their intrinsic properties.<sup>8</sup>

*Princeton University,  
Princeton, NJ 08544, U.S.A.*

#### REFERENCES

- [1] Sally Haslanger, 'Persistence, Change, and Explanation', *Philosophical Studies* (forthcoming, 1989).
- [2] David Kaplan, 'Demonstratives', UCLA typescript, 1977.
- [3] David Lewis, *On the Plurality of Worlds* (Oxford: Basil Blackwell, 1986).
- [4] David Lewis, 'Rearrangement of Particles: A Reply to Lowe', *Analysis* 48 (March 1988) 65-72.
- [5] E. J. Lowe, 'The Problem of Intrinsic Change: Rejoinder to Lewis', *Analysis* 48 (March 1988) 72-7.
- [6] Mark Richard, 'Tenses, Propositions, and Meanings', *Philosophical Studies* 41 (1982) 337-51.
- [7] Nathan Salmon, *Frege's Puzzle* (Cambridge, MA: M.I.T. Press, 1986).

<sup>8</sup> I am grateful to John Broome, Mark Johnston, David Lewis, George Myro, Scott Soames, and Stephen Yablo, for helpful discussions on the issues addressed in this paper.

#### IDENTITY THROUGH TIME AND THE DISCERNIBILITY OF IDENTICALS

By DONALD L. M. BAXTER

ONE of the reasons identity through time is a problem for metaphysicians is that often they force a solely present tense use of the 'is' of identity onto ordinary ways of speaking. Metaphysicians want to ask, say, whether Pittsburgh in 1946 is the same city as Pittsburgh today. But this question assumes that it is appropriate to use a present tense 'is'. That assumption prejudices the answer to the question, by making it hinge on whether Pittsburgh in 1946 exists in the present. If it does then presumably the answer is yes. They are identical. But their identity ceases to be identity