Endurance and Indiscernibility

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Objects persist. Objects last over time. The computer I use today is the same computer I used yesterday. Some philosophers think objects last over time by having temporal parts. According to such philosophers, any three-dimensional thing one sees at one time is not the same three-dimensional thing one sees at the next; rather, each three-dimensional thing is a momentarily existing entity. Some collections of three-dimensional things compose four-dimensional wholes. A four-dimensional whole lasts over time in virtue of having different (three-dimensional) temporal parts at different times. This sort of lasting or persisting is called "perduring".

The sort of lasting which I think accords with our ordinary way of thinking is called "enduring".[1] An enduring object is, presumably, a three-dimensional object, but the number of spatial dimensions (three) is not essential to the endurantist ontology.[2] What is essential is that an enduring object has no temporal parts. What more can be said about endurance? An enduring object is usually defined as one that is "wholly present" at each time at which it exists. "Being wholly present" is often taken to amount to simply not having temporal parts. Enduring, it would seem, just is lasting over time, but not by way of temporal parts.

I think an account of endurance can be provided that says more than that enduring objects are not perduring objects. Such an account would focus on the claim:

> (I) An enduring object which exists at one time is identical to itself existing at another.

One way to see the force of (I) is to focus on the primary objection to an ontology of enduring objects. This objection rests on the fact that identity entails indiscernibility. If

some object O, which exists at t and is F, persists until t*, at which time it is not F, then it would seem that there is a property that O at t has but O at t* lacks; therefore, O at t and O at t* are not indiscernible. But if O at t and O at t* are not indiscernible they are not identical. The endurantist is committed to their identity. Therefore, the critic of endurance claims, endurance combined with change results in contradiction.

The seriousness of the problem can be seen by noting that it would arise even if, as a matter of contingent fact, persisting objects did not undergo change—because it seems that endurance, combined with the indiscernibility of identicals, makes change of persisting objects <u>impossible</u>. But surely it is possible that persisting objects change. This is the problem of indiscernibility and change over time.

For many, the major motivation for accepting an ontology of perduring objects is that it avoids this problem. How does it do this? Doesn't the perdurantist agree that change is possible, and that a persisting object O can, at one time, be F, and at another, not F? Yes she does. But what this really amounts to, she says, is that O is a four-dimensional object with one part that is F and another that is not F. So there is one important sense in which there is no <u>one</u> thing that is F and not F—or else the perdurantist would be in the same position with respect to change and the indiscernibility of identicals as the endurantist. Rather, one thing is F, another is not F, and they compose a third thing which is, derivatively, F and not F. The <u>derivative</u> nature of a perduring object's exemplifying properties[3] is not trivial, for it is what enables a perdurantist to sidestep the problems issuing from the indiscernibility of identicals and change. The reason the objection from indiscernibility appears to be a problem for the endurantist, however, is that enduring objects directly, non-derivatively exemplify properties.

A perduring object exemplifies properties derivatively; likewise, it exists at different times derivatively—it does so by having parts at those times. An enduring object, by contrast, directly and non-derivatively exists at different times. If an object

endures from t to t* then, in the most straightforward manner possible, there is one object at t, at t*, and all the times in between. This is how (I) is to be understood.

The focus of this paper is relatively limited. I will not explain what change is or how it occurs. I will not explain how change is possible, if this means anything more than showing that change in an enduring object does not result in absurdity. I will not argue for the truth of the endurance ontology. I will, however, spell out more carefully than, I think, has been done before what exactly the claim that an object endures amounts to. I will also show that the most widely accepted problem with an ontology of enduring objects can be solved—or, more accurately, I will show that on the proper understanding of (I) this "problem" never arises, and thus never needs to be solved. Finally, I will attempt to provide a positive characterization of "being wholly present".

I will begin by restating "the problem" (as I shall refer to the apparent conflict between change, indiscernibility, and endurance).[4] Then I will briefly survey the major solutions that endurantists have proposed, provide desiderata that I think a solution to the problem should satisfy, note how each of the rival accounts fails to satisfy one or more of these desiderata, and propose a solution that does satisfy all of the desiderata, showing it to be distinct from, and superior to, it competitors.

I. The Problem and Some "Solutions"

Consider some examples of how the problem is most directly and forcefully presented: "Phillip is drunk and Phillip is sober would be absurd, did not time make the Phillip of this morning another Phillip than the Phillip of last night?"[5]; "The plant of last month had no flowers. The plant today has flowers. The plant today and the plant of last month do not share all the same properties..."; or "Assume the endurantist claim that O at t is identical with O at t*, but O at t is bent and O at t* is not bent, therefore...".

Let's take this last example and make the reasoning as explicit as possible:

(1) O at t is identical with O at t* [assume for reductio]

(2) O at t is bent [premise]

(3) O at t* is not bent [premise]

(4) If O at t is identical with O at t*, then O at t is F if and only if O at t* is F [indiscernibility of identicals]

(5) O at t is bent and is not bent. RAA [(1), (2), (3), (4)] .

Solution I: All properties are really relations to times. According to this solution, (2) and (3) should be understood as stating, respectively, that O stands in the bent at relation to t, and that O does not stand in this relation to t*; the proper conclusion of the above argument, then, is not (5), but merely that O stands in the bent at relation to t but not to t*.[6] A similar approach is to claim that all properties are really time-indexed, and the above argument, when read correctly, shows only that O is bent-at-t, and not bent-at-t*. (These two approaches are, for our purposes, similar enough to be placed together under the name 'Solution I'.) If properties are relations to times, or time-indexed, nothing contradictory is forced upon the endurantist. But, it seems that, for instance, an object's shape (its being bent) is neither a relation to a time, nor a time-indexed property, and so Solution I seems to many implausible. It would be nice to solve the problem without doing violence to our intuitions about apparently intrinsic features of an object such as its shape. So the first desideratum of any solution to the problem is:

> (i) A solution should allow for the exemplification of non-time-indexed and non-relational properties like being bent.

This desideratum is, obviously, not satisfied by Solution I.

Solution II: According to adverbialism, the way an object has a property (but not the property itself) is modified by a time.[7] The adverbialist says that (2) and (3) amount to, respectively, O is bent in a tly way and O is not bent in a t*ly way; if so, then the correct conclusion to draw from the above argument is, obviously, that O is bent in a tly way and is not bent in a t*ly way. But this conclusion is consistent, and adverbialism saves endurance from contradiction, only if it is possible that an object exemplify complementary properties, such as being bent and being not bent. This is possible, says

that adverbialist, for in addition to claiming that all property exemplification is modified by a time, she makes the further (plausible) claim that contradiction arises only when the complementary properties are exemplified in the same way (e.g., tly). It would, however, be an advantage of a solution to the problem if it did not force one to deny that exemplifying complementary properties was impossible. Such a move is revisionary, and although revision is not to be avoided at any cost, if it can be avoided for free, it should. So the second desideratum is:

> (ii) A solution should deny that it is possible for an object to exemplify complementary properties (e.g., being bent and being not bent).

Solution I seeks to avoid the problem by denying that real change of the sort that seems to cause contradiction can occur (objects cannot lose properties like being bent-at-t or cease to stand in the bent at relation to t). Likewise with adverbialism: If I have an intrinsic property in any way, then the fact that I have that property, in that way, can never change. Once tly bent, always tly bent. The possibility of such change is, I think, something worth preserving. Another desideratum not met by either Solution I or II is:

> (iii) A solution to the problem should allow for genuine change of the sort found when an object exemplifies a property at one time in one way and lacks it at another in the same way.

An example of what would satisfy (iii) would be an object's having a property simpliciter ('simpliciter' modifies 'having') at one time, and lacking it simpliciter at another (e.g., I may be bent simpliciter now, and fail to be bent simpliciter later). As we shall see below, the having simpliciter of properties is something the adverbialist cannot accept.

What are we to make of esoteric properties like is bent in a tly way (or, for short, is-tly bent)? The obvious answer: Analyze them in terms of the more basic ones that we already understand—for instance, to be-tly bent just is to be bent when time t is present. But this obvious answer is not open to the adverbialist. Why not? If the adverbialist could analyze being-tly F in terms of being F simpliciter and the time at which F is exemplified, then an object could at one time be F simpliciter (since this would be an

"ingredient" of its being-tly F), and at another time be not F simpliciter (since this would be an "ingredient" of its being-t*ly not F). But if an object can at one time be F simpliciter, and at another be not F simpliciter, then we have the seeming contradiction the adverbialist was hoping to do away with (and if there is no contradiction in being F at one time, and not F at another, then there is no need to embrace adverbialism in the first place). So with adverbialism, there cannot be any having simpliciter of properties.[8] But I think that if I have a property now, it follows that I simply have it. Not only is this plausible in its own right, but if we deny this, we sacrifice the possibility of analyzing properties like tly bent in terms that are understood before one comes to adverbialism.

A similar ailment afflicts Solution I. One cannot, obviously, analyze a property like being bent-at-t, or standing in the bent at relation to t, in terms of being bent at some time t if one has abolished being bent along with all other non-time-indexed and non-relational properties. So proponents of Solutions I and II must take oddities like being-tly bent and being bent-at-t as primitive, and go on to analyze our everyday properties, such as being bent, in terms of the technical ones they have introduced. But, if we are to understand the properties these philosophers introduce, this seems to have things backwards. So a fourth desideratum is:

> (iv) Any solution to the problem should, if it makes use of any properties like being-tly F or being F at a time, analyze these in terms of everyday properties like being F simpliciter.

Solution III: Defenders of the view that one ought to "take tense seriously" hold that the difference in tense between the propositions O **was** F and O **is** not F mirrors some real difference in the world—this difference is why O **was** F and O **is** not F are not contradictory.[9] According to this position, if we assume that t is a past time, then premise (2) of the above argument should rewritten to say that O was bent; if t* is present, then (3) says that O is not bent. Given this rewriting, all appearance of contradiction evaporates. But the exact way in which the above argument has gone wrong in still not clear—because it isn't clear that this rewriting captures all that (2) and

(3) mean to say (this might not be a problem if all they mean to say is false—but that's not clear, either). Where, in this rewriting of (2) and (3), did 't' and 't*' go? A translation of (2) and (3) which takes tense seriously should, presumably, make room somewhere for the times mentioned in (2) and (3). After all, the reason (2) and (3) supposedly need to be rewritten is that they fail to be sensitive to tense, not that they make explicit mention of times.

What should someone, who both takes tense seriously and wants to rewrite (2) and (3), do with 't' and 't*'? For the sake of simplicity, let's restrict our attention to (2), and assume that t is a past time. For reasons soon to become apparent, one cannot rewrite (2) as 'O at t was bent', allowing 'O at t' to function just like 'O'. Nor should (2) be recast as 'O was bent at t', for it is not O's being bent at t, but O's being bent, that is of concern here. Nor does it seem that (2) should be rewritten, 'at t, O was bent', for, presumably, O was bent is true now, whereas, at t, O is bent was true.

II. The Need for an Endurantist Semantics of 'O at t'

The solution to this puzzle—the role of time in claims like (2) if tense is taken seriously—can be found by focusing on expressions of the form 'O at t.' I will argue, in fact, that the problem (supposed contradiction arising from endurance, change, and the indiscernibility of identicals) disappears if we take tense seriously, but that taking tense seriously can adequately handle the problem only when coupled with a semantics for expressions like 'O at t'. That a semantics for such expressions is intimately related to the problem is not immediately obvious, but, I will argue, it is in fact true.

An endurantist semantics for expressions like 'O at t' will not only show how the endurantist should read (2) and (3), but it will highlight a central disagreement between endurantists and perdurantists. Perdurance could be understood (at least in part) as a proposal for how to understand expressions like 'O at t'. The perdurantist thinks 'O at t' refers to the part of O existing at t, and 'O at t*' to a different part of O existing at t*. Similarly, 'Phillip of last night' refers to the temporal part of Phillip that existed last

night, and 'Phillip of this morning' refers to a different temporal part that existed this morning. The endurantist of course rejects this understanding of expressions like 'O at t', but what has she to offer in its place? An endurance account which lacks a semantics for 'O at t' and other such expressions is incomplete. One might claim that expressions such as 'O at t' (and claims like (2) and (3)) lend themselves all too easily to a perdurance interpretation, and do nothing but cause confusion when introduced within an ontology of enduring objects. One might insist, therefore, that we should simply drop such expressions—and perhaps also insist that there is no smooth translation of (2) and (3) acceptable to the endurantist.

I think this would be a mistake. First of all, we are stuck with such expressions. They find their way into discussions of lasting and identity over time regardless of the ontology (if any) assumed. They figure prominently in objections to endurance. Showing exactly how perdurantists and endurantists differ in their use of such expressions might prevent perdurantists and endurantists from talking past each other. A defense of endurance against the problem, and discussions of lasting and identity over time in general, would benefit from an endurantist semantics for expressions like 'O at t'. Presently, there is no adequate account of how the endurantist should take such expressions.

So the endurantist should have a semantics for 'O at t' and its like because they are here to stay, and, unexplained, will produce confusion. But there is a much more important reason the endurantist should not dismiss these expressions: Speaking about the very heart of endurance involves making claims like 'Phillip of last night is identical with Phillip of this morning' or 'O at t is identical with O at t*'. Providing a semantics for expressions such as 'O at t' is not a matter of fine-tuning one's account of endurance, nor is it merely a matter of explaining how certain objections to endurance are best understood. It is rather a matter of explaining what the most basic, fundamental claims of endurance amount to. Not even a first approximation of the endurantist's views can be

made without stressing claims like 'O at t is identical with O at t*'. But that claim cannot be fully grasped without knowing what to make of expressions like 'O at t'.

Statements like 'O at t is identical with O at t*' also, of course, appear in formulations of the problem as what is assumed for reductio, so let us add as another desideratum:

> (v) A solution to the problem should provide a semantics for expressions of the form 'O at t'.

Noting the tensed nature of predication doesn't give us a semantics for expressions like 'Phillip of last night' and 'O at t'. So Solution III, as it stands, is at best incomplete. Solutions I and II fare even worse with respect to the fifth desideratum. If O at t is bent amounts to either O is-tly bent, or O is bent-at-t, there seems no room left for an O at t to be bent , identical with an O at t*, or anything else.

How should the endurantist take expressions like 'Phillip of last night', 'The plant of last month', and in general, 'O at t'?[10] Presumably, 'O at t' is a referring expression of some sort (this is the best way to make sense of claims like 'O at t is F' or 'O at t is identical with O at t*'). To what, on the endurantist ontology, do expressions like 'O at t' refer? If O at t is identical with O at t*, then, obviously, the endurantist cannot concede that terms like 'O at t' and 'O at t*' refer to different objects (such as temporal parts). The best candidate for 'O at t' to name is, of course, O. Supposing O at t and O at t* are identical, the best candidate for what is named by 'O at t*' is also O. I don't know of any other possibilities for what is named by 'O at t', given an endurance ontology. One might propose creative candidates like <O,t> (the ordered pair consisting of the object O and the time t). But assuming, as we have been in our examples, that the referent of 'O at t' is the sort of thing that can have a bent shape, an ordered pair is a poor candidate. (And, more obviously, <O,t> is clearly distinct from <O, t*>, so such referents would not allow the endurantist's central claim to be true.)

Supposing terms like 'O at t' to refer to objects such as O, we should ask a further question. How do they refer? They cannot be (Kripkean) names, predicating no properties of the objects they refer to. If they were such names, claims like 'O at t is F' and 'O at t* is F' would, even if t and t* were different times, express the same proposition. Furthermore, there would be no difference between claims of "diachronic identity" and claims of identity which make no reference to time—i.e., there would be no difference in content between claims like 'O at t is identical with O at t*' and 'O is identical with O'.[11] Similarly, a claim of "synchronic" identity like 'O at t is identical with O at t' would simply be a straightforward identity claim with the same name on both sides of the 'is identical with'. If expressions like 'O at t' are taken to be (Kripkean) names, claims of synchronic identity and claims of diachronic identity turn out to have the same content as claims of identity which make no use at all of temporal indices.

Although the endurantist must insist that <u>identity</u> is the only relation involved, she must acknowledge that there is a difference between claims which advertise themselves as claims about identity over time and those which advertise themselves as claims about either identity at a time or identity without any mention of time. The failure to distinguish such differences can be seen to be a problem <u>especially</u> for the endurantist, since a collapse of the distinction makes it unclear what one could mean by (I). Such a collapse, caused by taking terms like 'O at t' as purely referring, would force (I) to be read as claiming merely that an enduring object is identical with itself (it makes this claim by using something like the following two names for an enduring object: 'the object existing at one time' and 'the object existing at some other time'). But this claim does nothing to set the endurantist apart from perdurantists or anyone else. So the endurantist needs claims of "diachronic" identity to have a different content than claims like 'O is identical with O'. The sixth desideratum is:

> (vi) A solution should (while affirming that the identity involved in diachronic and synchronic identity is indeed identity) be able to draw a principled distinction between claims of diachronic identity (e.g., 'O at t is

identical with O at t*'), synchronic identity (e.g., 'O at t is identical with O at t'), and identity simpliciter (e.g., 'O is identical with O').

One more observation about Solutions I and II needs to be made: these solutions are not "contained in" an account of endurance itself. For instance, one could understand what the endurantist claims about identity over time without believing either that all properties are time-indexed or relations to times (Solution I), or that all property exemplification is done in a t-ly manner (Solution II). And although I defend a solution that takes tense seriously, Solution III as it stands is not an obvious result of the fact that objects endure. An account of endurance that required no added solution to the problem would lessen one's theoretical commitments. One would then be committed to only an account of endurance, rather than to both an account of endurance, and a further solution to the problem. I will add, as the final desideratum:

(vii) A solution should follow directly from an account of endurance.

I have provided a number of desiderata that a solution to the problem of indiscernibility and endurance should meet. Any solution that satisfies (i) through (iv) is able to solve the problem from within an endurance ontology without making a number of problematic and/or revisionary claims; satisfying (v) provides one with an indispensable tool for making claims of identity; satisfying (vi) allows one to acknowledge a difference between claims involving identity that intuitively seem very different; and meeting the seventh desideratum, as we have just noted, keeps one's theoretical commitments to a minimum.

If no solution could be given that meets all seven of the desiderata, perhaps the correct move (for the endurantist) would be to reject one or more of them rather than reject endurance. But it would be nice if the endurantist could have it all. And she can.

III. The Proper Understanding of 'O at t'.

The endurantist claims that sentences of the form 'O at t is identical with O at t*' can be true, where the identity involved is indeed identity, and t and t* are distinct times.

How then are we to understand expressions like 'O at t' and 'O at t*', or expressions like 'Phillip of last night' and 'Phillip of this morning'? For the endurantist, the only reasonable candidate for 'O at t' and 'O at t*' to refer to is O. Likewise, if 'Phillip of last night' refers to anything, it refers to Phillip.

If we treat 'O at t' (and other expressions of this form) as a definite description, then we should ask what, besides its referent, does 'O at t' add to a sentence in which it occurs. Presumably, whatever is added must involve time. I suggest that 'O at t' picks out the object that is such that it is O and exists at t.[12] 'O at t' has a function similar to, say, a definite description like 'chain-smoking Marian'. 'Chain-smoking Marian' refers to the object that is Marian and is chain-smoking.[13]

Understanding terms like 'O at t' as definite descriptions allows us to fulfill the fifth desideratum. 'O at t is identical with O at t*' and 'O at t is identical with O at t' amount to different claims—even though they both say of a thing that it is self-identical. The former claim, the assertion of "diachronic" identity, entails that O exists at both t and t*. The latter entails only that O exists at t. And a claim like 'O is identical with O' would tell us simply that O is identical with itself, but not tell us at which times it exists.[14]

Claims like 'Phillip of last night is identical with Mr. Smith of this morning' are no more problematic than claims like 'Phillip of last night is identical with Phillip of this morning.' The former asserts that Phillip and Mr. Smith are identical, and that that man (Phillip) existed last night and this morning. More generally, 'O at t is identical with O* at t*' amounts to the claim that O is identical with O* (and, of course, is self-identical) and exists at t and t*. The discussion to follow will, however, be less cumbersome if the examples are restricted to claims that make use of one name (e.g., 'O') and not two (e.g., 'O' and 'O*').

My account of diachronic and synchronic identity can be made independent of any claims about identity as a "relation": For instance, 'O at t is identical with O at t*' can be read 'There is one object, O, and that object exists at t and t*'. Similarly 'O at t is

identical with O at t' could be read as 'There is one object, O, and it exists at t'. These reformulations are equivalent to their counterparts made in terms of the relation is identical with. Stating the identity claims in terms of there being "one object" makes even clearer my claim that there is no difference in the fact of identity between diachronic and synchronic identity.

IV. Existing and Existing at t and Being Bent and Being Bent at t

I have introduced the property of existing at a time. Existing at a time is different than, but defined in terms of, existing. I exist at some time t if and only if I exist (existed, will exist) when t is (was, will be) present. This is different from simply existing, for I could exist, but not exist at t. Substitute '1492' for 't'. Although it is true that I exist, it is false that I exist at 1492. This is because when 1492 was present, I did not exist. By contrast, I exist at 1983, because when 1983 was present, I existed. (Furthermore, I exist at, hopefully, 2003; but I do not exist at, unfortunately, 2103.) Because existing at a time is analyzed in terms of existing simpliciter, existing at a time cannot purport to replace existing simpliciter.

Existing is not the only thing that an object does at a time; it also exemplifies properties.[15] Just as I exist at t if and only if when t is (was, will be) present, I exist (existed, will exist), so I have the property being bent at t if and only if I am (was, will be) bent when t is (was, will be) present.[16] (For stylistic reasons, I will generally drop the '(was, will be)', although it is to be understood.) As existing at a time is analyzed in terms of existing, so being bent at a time is analyzed in terms of being bent.[17] Unlike the adverbialist, any properties I introduce, such as being bent at a time, are analyzed in terms of familiar properties, such as being bent. My account, therefore, not only admits of non-relational and non-time-indexed properties (unlike Solution I), but relies on them.

My exemplifying being F at t doesn't imply I exemplify being F, for t may not be present. My being F at t, therefore, is compatible with my being not F. For example, when 1985 was present I had the property believes Reagan is President. Therefore, I

have the property <u>believes Reagan is president at 1985</u>. But this does not imply that, I, or any part of me, or anything else has the property <u>believes Reagan is president</u>. I used to have the property; I no longer have it. (So on my analysis real change of properties is possible; properties can be gained and lost.) If this were presented as a slogan, the slogan would be: The only properties an object has are the properties it has now.[18]

(The parallel between possible worlds and times might clarify the point. I say that the fact that I am eighty-feet tall and strikingly attractive in some possible world does not imply that I, or any part of me, or anything else <u>is</u> eighty-feet tall and strikingly attractive. Rather, this is how I <u>would have</u> been, had things gone (very) differently. A similar point applies, I say, to having properties at times.)

When do I have the property <u>being bent at t</u>? If I ever exemplify that property, I exemplify it at all times. That is, no matter what time is present, so long as I exemplify any property, I exemplify the property <u>being bent at t</u>. This is because whenever I exist it is true that, when t is present, I am bent. And if it is true at t both that I exist at t* and that I exist at t**, I can sensibly say that I exist at different times (i.e., t* and t**) <u>at the same time</u> (i.e., at t). Moreover, for any t* at which I have any property whatsoever, if I am bent at t I have the property <u>being bent at t at t*</u>; this sort of multiplying of properties can go on endlessly. But there is nothing vicious about this.[19]

V. The Solution

Let us return to the problem:

(1) O at t is identical with O at t* [assume for reductio]

(2) O at t is bent [premise]

(3) O at t* is not bent [premise]

(4) If O at t is identical with O at t*, then O at t is F if and only if O at t* is F [indiscernibility of identicals]

(5) O at t is bent and is not bent. RAA [(1), (2), (3), (4)]

(1) tells us that 'O at t' and 'O at t*' refer to the same object. Given our semantics for these terms, (1) means that O is identical with O, there is only one object in question, and that object exists at t and exists at t*.

There are two ways to read (2) through (4). The argument fails on each of these readings. The most natural reading of (2) is that, at t, O exists and has the property <u>being bent</u>. In other words, when t is present, O (exists and) is bent. Reading (3) in like manner, we see that when t* is present, O is not bent. If we treat 'O is F at t' as formally analogous to 'O is bent at t', then (4) means that if O exists at t and t*, then <u>when t is present, O is F</u> if and only if <u>when t* is present, O is F</u>. (1) through (4), thus understood, result in contradiction. But (4), on this reading, is not justified by the principle that identicals are indiscernible. Rather, (4) makes the much stronger claim that O is F if and only if O is F at all times at which it exists. This obviously makes change impossible, but there is no reason the endurantist should accept (4) thus understood.

(4) can be read in such a way as to be justified by the indiscernibility of identicals. We could reasonably take (4) to amount to:

> (4*) If O at t is identical with O at t*, then the object referred to by 'O at t' is F if and only if the object referred to by 'O at t*' is F.[20]

If we then read (2) and (3) in the way we read (4), we get

> (2*) The object referred to by 'O at t' is bent
>
> (3*) The object referred to by 'O at t*' is not bent

which, combined with (4*), produces the contradiction

> (5*) The object referred to by 'O at t' and 'O at t*' is bent and is not bent.

But this argument is unsound. For it cannot be the case that (2*) and (3*) are both true—even if one is an endurantist. Given our assumption (1), (2*) and (3*) could both be true only if there were one object which is bent (a claim entailed by (2*)) and not bent (a claim entailed by (3*)). But no object can be both bent and not bent, so, either (2*) is false or (3*) is false; therefore, the argument is unsound. (This can be more clearly seen

by reflecting on the fact that (2*) and (3*) would not change in truth value if the word 'now' were added to the end of each). It is important to stress that the endurantist's rejection of the possibility of both (2*) and (3*) being true is not a rejection of change—(2*)'s being false, for instance, is consistent with the claim that, at t, O is bent (and, at t*, not bent) .

Nothing contradictory follows from the fact than an enduring object can be bent at one time, and not bent at another. The "solution" to the problem is that there is no problem to be solved.[21]

One assumption that my discussion of "the problem" makes is that if t and t* are different times, they are not both present (because my being bent at t and not bent at t*, combined with the fact that both t and t* are present, would result in contradiction). Only one time is present, and all the rest are not present.[22] But one might object that one time is present can mean no more than one time is present at a time. But all times are present at a time (e.g., 1903 is present at 1903). So, the objection goes, being present does nothing to privilege one time above another.

This is not a good objection. Being present is a property that only one time has (although others had it and still others will have it). It is perfectly intelligible to say "December, 1993 is present, but May 1903 is not". This is not to deny the further claim that only one time can be present at a time: when t is present, no other time is present except for t. Also, every time is present at itself. These claims are no more problematic than the claims that, although only one world is actual, every world is actual in itself (if a world were actual, that world would be actual), and only one world is actual in each world (if Beta were actual, only Beta would be actual).[23] It is also true that only one time is present now. But this just means that only one time is presently present, which is a redundant way of saying that one time is present. (Compare: Beta is actually actual.)

VI. Being Wholly Present

I think the following captures much of the intuitive content of the phrase "being wholly present".

(II) An object O is wholly present if and only if all of O's parts exist.

Enduring objects are wholly present at each time at which they exist. Again, for any enduring object O, at any time at which O exists, it is true, at that time, that O is wholly present. Suppose an enduring object O exists at t. If t is present, it follows that all of O's parts exist. If t is not present, however, there may be parts of O at t that do not exist. But this doesn't mean that O has a part that doesn't exist —i.e., that O is not wholly present. Why not? Because O can have P as a part at t without having P as a part. This is just an instance of the more general point, explained above, that O is F at t does not entail that O is F.

Mereological essentialism is the doctrine that whatever is a part of O at any time at which O exists is a part of O at every time at which O exists.[24] This entails that P is a part of O at t if and only if P is a part of O. The claim that enduring objects are wholly present at each time at which they exist does not entail this, and therefore does not commit one to mereological essentialism.[25] And for the same reasons that "the problem" is not a problem, the fact that O endures from t to t*, and has P as a part at t, but not at t*, does not violate the indiscernibility of identicals.

A perduring object is not wholly present at each time at which it exists. Assume O is a four-dimensional object that existed in the past, and exists now. O has a past temporal part P that does not exist now. Thus O is not wholly present. Why can't the perdurantist say that O is wholly present in virtue of the fact that, although O had P as a part, O now does not have P as a part? In other words, why can't the perdurantist buy the claim that O is wholly present for the price of saying that the only parts O has (as opposed to the parts it had or will have) are the ones that exist now? She cannot do this because if O has only the parts that exist now, then O has all and only the parts its present time-slice has. But then O collapses into its present slice—they are, for instance, the

same size—and O therefore turns out to be a non-persisting temporal part, and not a persisting object. Or conversely, if the perdurantist demands that, no matter what, O be a persisting entity, we get the conclusion that a three-dimensional thing persists. (This collapse of what persists into what exists at the moment is, of course, exactly what the endurantist wants.) Perhaps the perdurantist could re-interpret (II) by ignoring, or changing, the tense involved, and then claim that perduring objects are, given this new interpretation, "wholly present". But this would not amount to their being wholly present according to (II) as I have presented it.

VII. The Seventh Desideratum

I argued that, given the proper understanding of what endurance amounts to, "the problem" disappears. This is because the heart of the endurantist's ontology is expressed by claims like 'O at t is identical with O at t*'. Explaining this claim involves explaining expressions like 'O at t', which in turn involves an account of existing at a time, and its relation to existing. If we take properties like being bent at a time and being bent to be relevantly analogous to existing at a time and existing, we have the resources to show that "the problem" disappears.

Other ways of dealing with the problem, I claimed, were inferior because rather than show the problem dissolves given the right understanding of endurance, they instead seem to think the problem requires a positive solution. It is as if they concede that if there is endurance, there is the problem—but they can solve it. I claim that if there is endurance, there simply is no problem. So my account satisfies the desideratum that a solution:

(vii) A solution should follow directly from an account of endurance.

But one might argue that defenders of Solutions I or II could follow a strategy similar to mine (although in fact they do not). The adverbialist might first note that claims of endurance commit one to expressions like 'O at t', which in turn commit one to existing at a time. Existing at t, the adverbialist might say, is to tly exemplify existing.

The adverbialist could treat other properties analogously—being bent at t, for instance, is to tly exemplify being bent. The defender of Solution I could follow a similar strategy, with the result that existing at t would be standing in the existing at relation to t (or having the time indexed property existing-at-t.). If this is right, then Solutions I and II could be presented in such a way as to satisfy the seventh desideratum (making enough changes along these lines to Solution III, of course, simply results in the view I defend here).

But if this is to work for, say, the adverbialist, then she must be committed to the claim that existing at a time and being bent at a time are alike in the relevant ways. But, as we saw earlier, she cannot hold that being bent at a time is analyzed in terms of, or allow the possibility of, an object's being bent simpliciter. Being bent is always exemplified in a manner modified by a time. So if the adverbialist wants to take my strategy to get to her conclusion, she has to assert that objects do not exist simpliciter, but rather exist tly. Likewise, if the defender of Solution I were to take this strategy seriously, he would have to assert that objects do not simply exist, but stand in the exists at relation to times (or exemplify the time indexed exists-at-t).

I think it is an advantage of my account that it can satisfy the seventh desideratum, while also affirming that objects simply exist.

VIII. Conclusion

The central aim of this paper was to provide a clear understanding of what endurance amounts to. This involved providing a semantics for terms like 'O at t'.

Reconsider (I):

> (I) An enduring object [O] which exists at one time [t] is identical to itself [O] existing at another [t*].

So the object existing at one time is identical with itself existing at another. What are we to make of the expressions 'object existing at one time' and 'object existing at another' or expressions like 'O at t' and 'O at t*'? 'O at t' refers to the object that is O and exists at

t; it adds the fact that O exists at t to any sentence in which it occurs. So (I) amounts to the claim that an enduring object, O, is identical with O, and exemplifies both existing at t and existing at t*, where t and t* are distinct times. We have seen how this leads to a solution that satisfies the seventh desideratum. How does it fare with respect to the first six?

Accepting the semantics for claims like 'O at t' defended here allows the claim that O at t is identical with O at t* to be distinct from the claim that O is identical with O. So a solution to "the problem" that makes use of this semantics fulfills the desiderata:

> (v) A solution should provide a semantics for expressions of the form 'O at t'
>
> (vi) A solution should (while affirming that the identity involved in diachronic and synchronic identity is indeed identity) be able to draw a principled distinction between claims of diachronic identity (e.g., 'O at t is identical with O at t*'), synchronic identity (e.g., 'O at t is identical with O at t'), and identity simpliciter (e.g., 'O is identical with O').

Explicating 'O at t' and satisfying (v) involves existing at a time. The concepts like existing at a time and being bent at a time, which played such a crucial role in this account, were analyzed entirely in terms of a time's being present and an object's having everyday properties like being bent and existing. This meets the requirement:

> (iv) A solution should, if it makes use of any properties like being-tly F (or being F at a time), analyze these in terms of everyday properties like being F simpliciter.

And since in explaining properties like being bent at a time it makes critical use of the fact that objects can be bent simpliciter, this solution satisfies the desideratum:

> (i) A solution should allow for the exemplification of non-time-indexed and non-relational properties like being bent.

According to the account defended here I might, at t, be bent, but, at some other time, not be bent. But of course I could not be both bent simpliciter and not bent simpliciter, for then a contradiction would result. So the final two desiderata are fulfilled:

> (ii) A solution should deny that it is possible for an object to exemplify complementary properties (e.g., being bent and being not bent).

(iii) A solution should allow for genuine change of the sort found when an object exemplifies a property at one time in one way and lacks it at another in the same way.

Finally, in explaining terms like 'O at t' and showing "the problem" was no problem, we made use of concepts like O is F at t. An instance of this, O has P as a part at t, was used to show the an object's losing parts is consistent with the fact that it is "wholly present" at each time at which it exists. Enduring objects are wholly present at each time at which they exist; perduring objects are not. And being "wholly present," as defended here, amounts to something other than simply not having temporal parts.[26]

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[1]My use of 'persists', perdures' and 'endures' follows the convention introduced by Mark Johnston and David Lewis. See Lewis's On The Plurality of Worlds (Oxford: Blackwell, 1986), 202.

[2]Likewise, perduring entities are not, necessarily, four-dimensional entities. All that matters is that they have one more dimension than space has.

[3]I don't mean to claim that perduring objects exemplify all their properties derivatively. But, in order to avoid the problem from change and indiscernibility, this must be the case with, at least, all their temporary properties.

[4]Those who take this to be a real conflict include: David Lewis On The Plurality of Worlds (Oxford: Blackwell, 1986), 202-204; Michael Jubien Ontology, Modality and the Fallacy of Reference (Cambridge: Cambridge University, 1993), 24-27; D. M. Armstrong "Identity Through Time" in Peter van Inwagen (ed.) Time and Cause: Essays in Honor of Richard Taylor (Dodrecht: D. Reidel, 1980), 68-69; and J.M.E. Moravcsik "The Discernibility of Identicals" Journal of Philosophy 73 (1976): 587-598.

[5]C.S. Peirce quoted in Chisholm's Person and Object (LaSalle Ill, Open Court: 1976), 141.

[6]That properties are relations to times is defended by, among others, Peter van Inwagen. See his "Four-dimensional Objects" Nous 24 (1990): 249-250.

[7]Adverbialism is defended by Sally Haslanger "Endurance and Temporary Intrinsics" Analysis 49 (1989): 119-125, and Mark Johnston "Is There A Problem About Persistence?" Proceedings of the Aristotelian Society, Supp. vol 61 (1987): 107-135.

[8]More cautiously, there can be no having of temporary properties that is having simpliciter.

[9]For example, Roderick Chisholm. See Person and Object (LaSalle Ill, Open Court: 1976), 142.

[10]What I say will also be applicable to expressions which do not explicitly refer to times. Consider, for example, "Baby Johnny is chubby; Big John is thin; the endurantist says Baby Johnny is identical with Big John..." The perdurantist will presumably take 'Baby Johnny' to refer to a certain time slice of John, and therefore to function like an expression of the form 'John at t'. I will assume that endurantists can likewise treat expressions such as 'Baby Johnny' as functioning like some other expression of the form 'John at t' (although in some cases 'Baby Johnny' may add more to the sentence in which it occurs that 'John at t' does).

[11]Maybe Kripkean names predicate a very special kind of property, individual essences, and perhaps different names for the same object express different essences. This is irrelevant to the issue at hand.

[12]It is well known that identity claims made with definite descriptions can be contingently true. For instance, The first presidential candidate to play saxophone on television is identical with the first president elected in the nineties is true. But had Clinton lost the election, it would have been false. Likewise, it may be that 'O at t is identical with O at t*' is only contingently true, for had O existed at t but not t* (which is possible if we assume O is not a necessary existent), the object which existed at t and was O would not

be identical with the object which was identical with O and existed at t*—simply because no object would have fulfilled the latter description. The contingency is a result of the fact that it is not a necessary truth that O exist at t*. Of course someone who thinks that Clinton might have lost the election, or thinks that 'O at t is identical with O at t*' is contingently true, is not thereby forced to deny the necessity of identity. The fact remains that O is identical with O is, if true, necessarily true (or nearly so—it is true in all worlds in which O exists).

[13]We could (following Russell) treat definite descriptions as "incomplete symbols" which do not "have any meaning in isolation, but only in certain contexts". A.N. Whitehead and Bertrand Russell Principia Mathematica 2nd ed. (Cambridge: Cambridge Press, 1925), 66. The appropriate context for such expressions is sentences. 'Chain-smoking Marian' expresses no proposition in isolation, but it adds the fact that Marian is chain-smoking when occurring in the sentence 'Chain-smoking Marian is tall' (that sentence picks out the proposition that Marian is chain-smoking and tall). Why not say that 'Chain-smoking Marian' just means, even in isolation, that Marian is chain-smoking? One reason is that this would entail that 'Chain-smoking Marian' has a truth value. And 'O at t' might function in the same way—contributing the fact that O exists at t to sentences like 'O at t is identical with O at t*'.

[14]In the case of O, is identical with O and is self-identical entail each other. I will therefore move freely between a claim's amounting to the fact that O is identical with O, and O is self-identical. But these are different properties—every object exemplifies self-identity, but only one object, O, exemplifies being identical with O.

[15]There is a parallel here between existing at a time (and having a property at a time) and a time's being present and existing in a world (and having a property in a world) and a world's being actual.

> To say that an object x exists in a world W is to say that if W had been actual, x would have existed...it is the notion of existence simpliciter that is basic; existence-in-W is to be explained in terms of it...Still further, objects have properties in worlds...To say that Socrates has the property of being snubnosed in a world W, is to say that Socrates would have had the property of being snubnosed, had W been actual. Alvin Plantinga, The Nature of Necessity (Oxford: Clarendon Press, 1974), 46-47.

Possible worlds are to be understood here, and throughout this paper, as Plantinga, not Lewis, understands them. Possible worlds are maximal possible states of affairs, or total ways things could have been.

[16]Claims of the form 'when t is present, x is (was, will be) F' might also be written as 'if t is present, then x is F'. The latter locution is, however, misleading, suggesting either a material conditional, subjunctive (counterfactual) conditional, or entailment. Present purposes are adequately served—and areas of deep controversy adequately avoided—if we rely on our intuitive understanding of claims like 'when t is present, x is F', and don't try to analyze such claims in terms of the more familiar (more familiar to philosophers at least) material conditional, subjunctive conditional, or entailment. I think we all understand claims like 'when 2200 is present, I'll be in my grave' or 'when 1983 was present, I was living in Ohio' at least as well as we understand, say, counterfactuals.

[17]How do I characterize being bent at t? Is it time-indexed, or a relation to a time? Something is bent at t if and only if when t is present, it is bent. Whether or not there is more to be said about being bent at t, this is sufficient for the task at hand.

[18]Much of what I say in this paper involves having properties at times. My claim that the only properties an object has are the ones it has now is consistent with the claim that an object O can have a property F at a time t other than the present—just so long as O's having F at some time t means that O now has the property being F at t.

[19]All these claims have analogs in a system of possible worlds. If in world Beta I am short, then I exemplify being short in Beta in every possible world in which I exemplify

any property at all. If the actual world is Alpha, and it is true that were Beta actual I would exist and were Gamma actual I would exist, then I exist in different worlds (at least Alpha, Beta, and Gamma) in the same world (Alpha). Furthermore, I also exist in Beta in Alpha. And so on.

[20]The reason that (4*) is not equivalent to my first reading of (4) issues from the fact that 'O at t' is not a purely referential term. For a similar difference note that The person referred to by 'the man drinking a martini' is not drinking a martini is not equivalent to The man drinking a martini is not drinking a martini. If, on the other hand, we use a purely referring term, like S, then The person referred to by 'S' is bald is true if and only if S is bald is true.

[21]In both readings of the argument, if "O at t is F" was read "at t, O exists and is F", then "O at t is bent" was read "at t, O exists and is bent". Similarly, if "O at t is F" was read as "the object referred to by 'O at t' is F", I read "O at t is bent" as "the object referred to by 'O at t' is bent". I don't insist that sentences involving property variables be read in the same way as those which involve particular properties. But this procedure is the most natural. If one were to read these differently (e.g., taking (2) and (3) as in the first reading, but reading (4) as (4*)), (1) through (4) would still fail to generate a problem for the endurantist.

[22]A different objection supposedly comes from physics. Objection: relativity theory has demonstrated that there is no "absolute present"—and your account relies on an "absolute present". If the interpretation of the Lorentz transformations that generates the Block Universe argument fails, this objection fails. If the Block Universe argument succeeds, however, endurance is ruled out independently of "the problem". So I dismiss this objection not because it doesn't merit attention, but because it raises an objection to endurance that is distinct from "the problem". An adequate response is beyond the scope of this paper.

[23]It might be that more than one world is actual in a single world. This would be so if, for instance, two distinct maximal propositions could be logically equivalent. This is irrelevant to the present discussion.

[24]Strictly speaking, mereological essentialism makes the stronger claim that whatever is a part of O at any time is a part of O at any time <u>and in every world</u>.

[25]Consider again of the analogy between worlds and times. It does not follow from the fact that, necessarily, O exists if and only if O's parts exist, that O has all of its parts necessarily. That is, it does not follow from <u>in every world, O exists if and only if O's parts exist</u> that <u>in every world, O exists if and only if O's parts in every world exist</u>. Likewise, it doesn't follow from <u>at every time, O exists if and only if O's parts exist</u> that <u>at every time, O exists, if and only if its parts at every time exist</u>. I am indebted to Michael Loux for this footnote.

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