

Endurance and Time Travel



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Abstract

Suppose that you travel back in time to talk to your younger self in order to tell her that she (you) should have done some things in her (your) life differently. Of course, you will not be able to make this plan work, we know that from the many versions of ‘the grandfather paradox’ that populate the philosophical literature about time travel. What will be my centre of interest in this paper is the conversation between you and . . . you – i.e. the older you that travelled back in time and the younger you, when you first meet. As we shall see, given this situation, endurantists will have to endorse a strange consequence of their view: *you* will turn out to be a *universal* while your *properties* will turn out to be *particulars*.

My neighbour Cyrano who has a big nose has suffered mockery from his classmates when he was at school, and this continued to bother him his entire adult life as well. At the age of 70, he discovers how to build a time machine to travel into the past and immediately decides to go there, meet his 10 years old younger self, and take him to the future in a super-equipped ultra-modern hospital in order for him to undergo plastic surgery before going back in time again to live a happy small-nosed life. Thus, he steps in his time machine, goes 60 years back in time, and prepares himself to meet his younger self.

Cyrano of course will *not* be able to make his plan work, we know that from the many versions of ‘the grandfather paradox’ that populate the philosophical literature about time travel – something, somehow, will prevent him from changing the course of history (see especially [3]). But this is not the issue that I am interested in here; rather what will be my centre of interest in this paper is the conversation between Cyrano and . . . Cyrano – i.e. the older Cyrano that travelled back in time and the 10 years old young Cyrano, when they first meet. As we shall see, given

this situation, endurantists will have to endorse a strange consequence of their view: *Cyrano* will turn out to be a *universal* while his *properties* will turn out to be *particulars*. This is, of course, not a knock-down argument against endurance, since some may be ready to embrace this conclusion – but perhaps not very many.

A theory of objects and their having of properties has to accommodate the claim that two objects can have the same property – indeed, this is the basic intuition that is a starting point for the metaphysical debate about objects and properties. Some theories do it by accepting that properties had by different objects are literally and numerically the very same, other views do it by denying that the properties are numerically and literally the same. Both competitors, though, agree on two basic points: firstly, there is a relevant sense in which two objects can ‘share the same property’ (even if it is only, say, in virtue of them being exactly similar tropes instead of being universals), and secondly, the objects themselves, being objects and not properties, are *not* ‘shareable’. Such is indeed the basic distinction between objects and properties. The concept of ‘being shareable’ is close to the one of ‘being multiply locatable’: (immanent) universals are shared by different objects in virtue of being multiply located where these objects are located, while tropes are not literally shared by different objects, since they are not multiply located. Thus, one can raise the issue at hand by asking: *Is there an entity such that it can be in two places at once?* There are various answers to this question. Friends of (immanent¹) universals *à la* Armstrong say that properties can but objects (being particulars) cannot, nominalists or friends of trope theory say that neither properties nor objects can, while friends of a bundle theory that appeals to universals (*à la* Hawthorne) say that both can. In this paper, I will be interested in the last remaining option: the one that says that properties cannot be multiply located but that objects can. Is there such a view? The basic intuition says that properties seem to be able to be in two places at once, but that objects are not. Is there a view that says the opposite? The claim of my paper is that *endurantism* is such a view.

To start with, I will be interested now in parallel claims about ‘multiple location’ in *time*. The *endurantist* view claims that objects persist through time by being wholly multiply located at different *times*. Thus, *Cyrano* exists at a time t_1 , and exists there wholly (contrarily to having

¹Platonic universals are not considered here because, since they are unlocated, they cannot be multiply located, consequently, the question of whether they are in one place or two places simply does not arise.

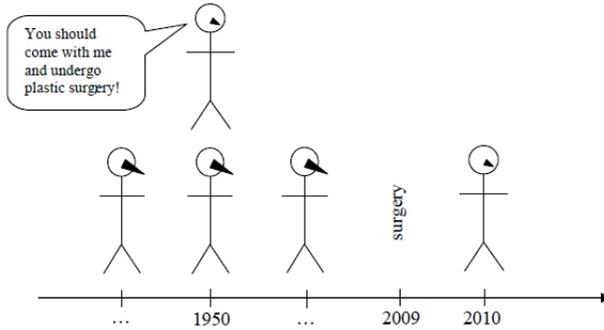
a temporal part there, as perdurantists would say), and the same goes for all times at which he exists. Furthermore, Cyrano at t_1 is numerically identical to Cyrano at t_2 : “both Cyranos” are one and the same numerically identical object. Under such a view, Cyrano’s persistence through time is *not* analogous to the way he persists through space: he ‘persists through’ space by having different spatial *parts* at different spatial locations (so, he ‘perdures’ through space), while he persists through time by being wholly present at different temporal locations.

Since objects like Cyrano change over time, and since they are numerically identical while existing at different times, this raises a problem raised by David Lewis (cf. [5, pp.202–205]): at t_1 Cyrano has a big nose, but say that he then decides to undergo plastic surgery (at a later time t_4) and thus he has a small nose at time t_5 . Under the endurantist hypothesis, this means that one and the same (numerically identical) person exists entirely at t_1 and t_5 and has the two incompatible properties of having a big nose and having a small nose.

To face this *prima facie* theoretical worry, and to avoid a contradiction, endurantism typically comes in various forms that provide an answer to this challenge: *indexicalism* (see Van Inwagen in [7]) or alternatively *adverbialism* (see Johnston in [2], Lowe in [6], Haslanger in [1]). Let us start with the indexicalist strategy. Under this view, Cyrano does *not* have incompatible properties, because instead of having properties like “having a big nose” he always and only has *time-indexed* properties like “having-a-big-nose-at- t_1 ” and “having-a-small-nose-at- t_5 ” which are compatible and do not threaten to generate a contradiction.

Here is a first reason to be dissatisfied with this endurantist account. Suppose we accept indexicalism. At t_1 , Cyrano has a big nose. At t_2 , he has a big nose. At t_3 , he still has a big nose. And so on. The intuitive thing to say here is clearly that Cyrano *keeps* having a property for an amount of time – but the indexicalist endurantist actually cannot allow for that. Following indexicalism, at any time during the interval $t_1 - t_3$, Cyrano has to *lose* all of his properties and *gain new ones*: he first has the property “having-a-big-nose-at- t_1 ”, then the property “having-a-big-nose-at- t_2 ”, then the property “having-a-big-nose-at- t_3 ”, and so on. Since Cyrano cannot simply (simpliciter) have the property of having a big nose, he has to change his properties all the time – he *cannot* stay the same. And since there is no such property as “having a big nose” under indexicalism, the endurantist does not have the theoretical tools to be able to say that all these time-indexed properties have ‘something in common’. Thus, they just are completely different properties. Let us

picture now what happens when Cyrano goes back in time to talk to his younger self. When he is 69 years old (in 2010), he actually does undergo the surgery but he quickly realizes that it is somehow late and that he should have done it when he was 10 years old. So, in 2011, when he is 70 years old, he travels 60 years back in time and, while having a small nose himself, he meets his 10 years old younger self in 1951 who still has a big nose.



When facing such a scenario, the objector makes her point: under the endurantist-indexicalist view, Cyrano has the properties “having-a-big-nose-in-1951” and “having-a-small-nose-in-1951” which are contradictory! But this appearance of contradiction is easily solved by claiming that all properties are always *space-time*-indexed, since of course “having-a-big-nose-at- l_1 -in-1951” and “having-a-small-nose-at- l_2 -in-1951” are not contradictory (where “ l ” stands of course for “spatial location”). The point I want to get to is by now clear: space-time-indexed properties are *tropes*. Under the endurantist-indexicalist hypothesis, there is no room for one property to be multiply located, since any property is *space-time-bound* and cannot be instantiated at different times, and so there simply is no theoretical room for universals (multiply locatable properties). The endurantist has to do something in order to avoid the Lewisian worry about temporary intrinsics (and its analogue arising from the time-travel scenario), but if what she does is to endorse indexicalism, her properties just have to be space-time-bound and non-multiply instantiated, namely, tropes.

Why would any of this be an objection to endurantism? Let us continue to examine the time-travel case. Cyrano goes back to the past and talks to his younger self. What happens in this situation is that Cyrano himself *is multiply located*. He is located at one meter from

himself, he is in two places at once. Identity is transitive and, following endurantism, the Cyrano with a big nose in 1951 is identical to the Cyrano with a small nose in 2011 who is identical to the Cyrano with a small nose in 1951, who is then identical to the Cyrano with the big nose at 1951. The endurantist-indexicalist's world is then such that *objects* like Cyrano are multiply locatable – they are *universals* – while *properties* like “having a big nose” have to be space-time-bound and are not multiply locatable – they are *particulars*.

This result, I submit, is an unpalatable consequence of endurantism-indexicalism. When setting up a desideratum for a theory about what objects and their properties are the central claim was based on the intuition that objects are non-multiply locatable particulars, and properties are shareable and thus at least seem to be able to be multiply locatable. Claiming that properties are, after all, tropes is a revisionary move with respect to the latter point, but if the friend of tropes motivates it well enough and shows that our notion of shareability can be replaced by the one of exact resemblance, then such a move is at least *prima facie* acceptable. But in the case of the indexicalist endurantist, things just seem to go too far: being forced to claim that properties are tropes is one thing, but being forced to say that objects are universals is another, a much heavier and much more revisionary and counter-intuitive move. A way to see this is to consider the endurantist's description of the situation where Cyrano is talking to himself: a bi-located man that is at one meter from himself. I am not even certain that such a claim is properly intelligible – a situation where there is one and the same thing but where “one of them” is talking and the “other” listening . . . In order to better grasp the problem, let us compare such a claim to what the typical perdurantist says: objects persist through time by having temporal parts; Cyrano in 1951 is a different object (a different temporal part) than Cyrano in 2011, and consequently the Cyrano in 1951 who travelled back in time is a different object than the Cyrano in 1951 who still has a big nose. Thus we have one man talking to himself but only in virtue of there being one object (one of his temporal parts) talking to another, where one of these objects is doing the talking and the other is doing the listening.

True enough, endurantism does not have to be combined with indexicalism – it can very well adopt the *adverbialist* strategy. Adverbialism, as a solution to the Lewisian problem of temporary intrinsics suggests *not* to temporally modify the property but the *having* of it. The adverbialist will thus say that “Cyrano has a big nose at t_1 ” is to be analyzed

as “Cyrano has-at- t_1 a big nose” or, more elegantly, “Cyrano has t_1 -ly a big nose” (see for instance [2, p. 129]). According to adverbialism, there is not just the having of a property, there is always *t-ly* having (or having-at-*t*) of a property. A solution to the problem of temporary intrinsics is then readily at hand, since Cyrano has a big nose at t_1 and has a small nose at t_5 , and so he has both the incompatible properties, but it has the former t_1 -ly and the latter t_5 -ly and this is how any threat of a contradiction is easily avoided. But even if we accept this adverbialist strategy, a worry arises. According to this view, since properties like “having a big nose” are not indexed, the adverbialist endurantist is *not* forced to see them as tropes (bound to a particular spatio-temporal location, and non-multiply locatable) – indeed, properties could here very well be universals. But the relation of exemplification cannot, because it has to be space-time indexed (and not only time-indexed, as the time travel scenario shows). Thus, here again, it will turn out to be a trope. Consequently, the relation of exemplification, that is a central piece of metaphysics for the adverbialist, has to be a trope. A friend of adverbialism could then try to defend a mixed view (tropes *and* universals), or simply more naturally say that properties are tropes, since she has to accept the existence of tropes anyway, in the case of the relation of exemplification. The conclusion to be drawn here is then weaker than before: the adverbialist endurantist cannot say that *all* properties and relations are universals, since at least one kind of them has to be a trope. And it is an important one. Indeed, the adverbialist cannot follow those who claim that the relation of exemplification should not be put too much weight on. While it is often claimed that exemplification is not a relation, that it is a “non-relational tie”, that we shouldn’t reify exemplification (cf. [4, pp. 351–355]), that it is a *sui generis* linkage that hooks things up without intermediaries, and so on, the adverbialist cannot follow these recommendations and she has to take exemplification seriously as a relation, since she wants to index it spatio-temporally and insist on it in order to avoid the Lewisian worry about temporary intrinsics.

In the end, the endurantist who endorses adverbialism has two possibilities. First, she can choose to defend a mixed view where some properties are tropes and others are universals, or she can make her view more systematic and accept that since she has to endorse tropes anyway, all properties are tropes. Depending on which option she takes, the adverbialist endurantist can avoid to be forced to say that all properties are particulars, while being forced to say that at least some are. But, *in both cases*, she of course cannot avoid the consequence that objects like

Cyrano are universals. If she goes for the mixed view, the adverbialist endurantist thus claims that *objects* like Cyrano are multiply locatable (they are *universals*) but *some properties* have to be space-time-bound and are not multiply locatable (they are *particulars*) while other properties are *universals*. If the adverbialist goes for the more systematic view, she rather claims that *objects* like Cyrano are multiply locatable (they are *universals*) while *properties* are space-time-bound and are not multiply locatable (they are *particulars*). Consequently, the same objections as before can be drawn, even if they are weaker in the ‘mixed view’ case, and we thus see here that endurantism is a view which says that properties cannot be multiply located while objects, like people, can.

Some endurantists might be ready to bite the bullet. I think that the cost of such a total departure from our intuitions about central features of objects and properties is too big a bullet to bite, especially because endurantism, as typically opposed to perdurantism, is supposed to be the more commonsensical view (at least that’s what defenders of endurantism often claim).

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