Omnipresence, Multilocation, the Real Presence and Time Travel

Alexander R. Pruss
Baylor University

Abstract: A common theistic doctrine is that God is omnipresent—present everywhere. Many Christians hold that Christ's body is wholly present where the Eucharistic species is. Since the Eucharistic species is present in many places at a time, it seems to follow that Christ's body is multilocated. There are a number of reports from the Christian tradition of particular saints being present in two places at once. By making use of the notion of internal time coming from considerations of time travel, we will offer a unified account of what such claims could mean.

1. Introduction

Can a man hide himself in secret places so that I cannot see him?
says the LORD. Do I not fill heaven and earth? says the LORD.
        - Jeremiah 23:24, RSV

According to the Western monotheistic tradition, God is present everywhere. But God as such (i.e., apart from something like the Incarnation) does not have spatial parts. He does not fill the universe by having one part of him in the Andromeda Galaxy and another in our Solar System, but is *wholly* present in every region of space. But what does that mean?

Moreover, many Christians hold that Christ's body is really present in the Eucharist. Thus, if the Eucharist is simultaneously being celebrated in Toronto and Rio de Janeiro, Christ is simultaneously present in Toronto and in Rio de Janeiro. Furthermore, *pace* Leibniz (1989, 197) who speculated that the bread and wine became new parts of Christ, the standard view is that in a case like that, Christ is *wholly* present in Toronto and *wholly* present in Rio de Janeiro. Again, we can ask what such a claim means.[1]

Finally, a number of saints are reported to have been present in more than one place at once (Heath 2011). For instance, St. Alphonsus Liguori appeared to enter a trance-like state for a significant period of time, and afterwards reported

---

[1] This paper departs from views like those of Aquinas on which the Eucharist is present but not *locally* present (*Summa Theologica* III, 76, 5). See Pruss (2009) Section 2.3, for a defense of the suggestion that Aquinas' metaphysics of the Eucharist should, *pace* Aquinas, be seen as committing Aquinas to multipresence.

having been in Rome at the side of the dying Pope Clement XIV, which was apparently confirmed by witnesses who had spoken to him there. It is reported that St. Martin de Porres, bearing gifts, visited his sister at her house and resolved a domestic argument there, while working in his monastery's infirmary. And in the 20th century, there are many reports of St. Pio of Pietrelcina being present in two places at once, apparently often looking distracted at the original location. In all these cases of saints, there is an original location of the individual, and then the individual appears to be active at a second, "remote" location. If these reports are reliable, a plausible interpretation is that some persons, in order to do God's work, were made wholly present in multiple disjoint places at once.

But this is not the only interpretation even on the hypothesis that the reports are reliable. One alternate interpretation is that the individual was wholly present only at the original location, but was capable of miraculous action at a distance and God combined this with a miraculous apparition at the remote location. Another is that God created additional body parts sufficient normally to make up a whole human body at the remote location, so that the individual's body at the time was scattered between two spatially disconnected regions, and had two heads, four legs and four arms, half of which was then annihilated on return. On this interpretation, we don't have bilocation but a doubling of bulk. Finally, it could be that God ensured a miraculous apparition at the original location and transported the individual to the remote location, and then back again.

The question of what it would mean for an individual to be simultaneously wholly present in disjoint locations is an interesting one. If it turns out that no sense can be assigned to such claims, then this creates problems for traditional Christian doctrine in the case of omnipresence and the Eucharist. One might also be motivated to investigate multipresence by thinking about the apparently coherent idea of time travel.[2] For if I had a time machine, I could be simultaneously wholly present in two disjoint locations, simply by going back to a time where I already existed, and ensuring I am not overlapping my original location there.

The purpose of this paper is to offer an account of multilocation in terms of being wholly present, and then an account of being wholly present, in such a way that the theological and science-fictional cases can be made sense of.

I am taking spatial *locations* as basic for purposes of this paper, remaining fairly neutral on what they are ontologically speaking. One could think of a location as a region of space or of a spacelike hypersurface, or as a set of spatial points, or as an *ens rationis* defined by spatial relationships, or as a part of the ether, or as a subset of an abstract mathematical manifold representing space. I will assume that one location can be a *sub-location* of another region- I will suppose that the sub-location relation satisfies the following axioms of extensional mereology:

---

[2] Of course, incoherent presentations of time travel are common in science fiction. The typical incoherence is in talk of "changing the past", which implies that first some proposition describing what happened at some time t_1 in the past was true and it was later made false. But a proposition solely about what happened at some past time cannot change in truth value. However, such incoherence can be avoided. See, for instance, Lewis (1976, 145–152).

(1)   Reflexivity: L is a sub-location of L.
(2)   Transitivity: if L_1 is a sub-location of L_2 and L_2 is a sub-location of L_3, then L_1 is a sub-location of L_3.
(3)   Anti-symmetry: if L_1 is a sub-location of L_2 and L_2 is a sub-location of L_1, then $L_1=L_2$.

I will say that a sub-location L_1 of L_2 is *proper* provided that $L_1 \neq L_2$, as well as that two locations *overlap* provided that there exists a location that is a sub-location of both, and that they are *disjoint* when there is no location that is a sub-location of both.

The basic relation that I will work with is *being present in* a location. Since this notion is basic to this paper, I will not define it, but will give a few remarks that should help to ostensively pick it out. If I have a foot in my office and a foot in the hallway, I am present in both my office and the hallway. I am present in a location if and only if any of me is present there. If I am present in a location L, then I am present in any location that L is a sub-location of.

While the notion of being present in a location is basic for this paper, it is worth spelling out a few metaphysical theories that could be plugged in that are compatible with the position being defended. Locations could be taken to be regions of concrete space, and then *being present in* would be a fundamental relation (this might be the case for endurantist theories). Or one might take as the fundamental notion *being exactly located in R*, where R is a region of spacetime, and then say that x is present in a location L at a time T, provided that the region defined by L on the spacelike hyperplane corresponding to the time T overlaps with R (this would be compatible with perdurantism and other four-dimensional worm theories). Alternately, one could take as fundamental the occupation relation between an object and a location, take locations to be sets of points, and say that an object is present in a location provided that it occupies at least one point of that location.

2. Multilocation and omnipresence

We can easily give a sufficient condition for multilocation using the intuitive notion of being "wholly present" in a location, which we will analyze later. Intuitively, I am now wholly present in my office[3] (or, more precisely, in the location of my office), and I am also wholly present in the building that the office is in. But if I stuck my arm out into the hallway, I would be only partly present in my office, as well as being partly present in the hallway. However, I would still be wholly present in the building. Then:

(4) x is multilocated at time T if there are two disjoint locations, L_1 and L_2, such that at T, x is wholly present in L_1 and wholly present in L_2.

---

[3] There may be some vagueness here due to quantum-level indeterminacy of my location—maybe the wavefunctions of my particles are non-zero throughout the universe, and to get the result that I am wholly present in my office, we would need to institute some vague or arbitrary cutoff on the wavefunction. I will ignore such complications.

But the above condition is not necessary. Two bosons, unlike two fermions, can share exactly the same location. Suppose that tomorrow I will travel back in time, and then very gently touch the shoulder of my paper-writing self, in such a way that a boson from my time-traveling self is co-located with a boson from my paper-writing self. In that case, surely, I am multilocated, although I am not wholly present at two disjoint locations, but only at two slightly overlapping locations.

Fortunately, by making use of the notion of being present at a location in addition to the notion of being wholly present at a location we can give a necessary and sufficient condition:

(5) x is multilocated at time T if and only if there are two disjoint locations, L_1 and L_2, such that at T, x is wholly present in L_1 and present in L_2.

Since it is a criterion of adequacy on an account of being wholly present in a location that one is present wherever one is wholly present, if I am simultaneously wholly present in two or more disjoint locations, it follows that I am multilocated by (5).

Say that an object is present *outside L* provided that it is present in some location disjoint from L. Then (5) says that an object is multilocated if and only if it is wholly present in some location that the object is also present outside of.

An interesting test case to consider is this. A boson could not only overlap its old self after time travel, as in our earlier example, but could entirely overlap its old self, with its time-travelling future self being exactly where the old self was. It would be a stretch to call that a case of multilocation, since the boson would have only one location, though the boson would be in it twice over. And (5) correctly rules this not to be a case of multilocation.

We can now give an easy account of omnipresence in terms of being wholly located in a region, following Hudson (2009):

(6) x is omnipresent at time T if and only if at T, for every location L, x is wholly present in L.

Taking being present at a location as primitive, our main remaining task is to account for being *wholly* present in a location in terms of being *present* in that location.

3. Being wholly present

A natural suggestion is:

(7)   An object x is wholly present in location L at time T if and only if at T, x is present in L and x is not present outside L.[4]

---

[4] Hud Hudson offered me a suggestion that, under plausible assumptions, is equivalent to this.

However, (7) rules out multilocation by fiat, by ensuring that an object is never present outside a location that it is wholly present in.

The problem with (7) is that rather than capturing the idea that *all of x is in L*, it captures the idea that *x* is *exclusively* in *L* (Hudson (2009) calls this being "entirely" in *L*). *Being wholly present* and *being exclusively present* are different, and if we are not to beg the question against multilocation, we should not identify the concepts. Instead, we should capture the idea that *all of x is in L*.

One might start to capture the idea that all of *x* is in *L* by saying that all the parts of *x* are in *L*. But perhaps the *parts* of *x* are not all of *x*. After all, in addition to having *parts*, an object could have other kinds of locatable features, such as *tropes* or *functional subsystems*. Thus, a watermelon might have the trope of *being greenly skinned*, with this trope located where the watermelon's skin is. And my brain may have a *deductive inference subsystem*, which should not be identified with any *part* of the brain—indeed, the exact same parts of the brain that constitute the deductive inference subsystem might constitute another subsystem. Moreover, it is a question under dispute in contemporary metaphysics whether there can be extended simples[5]—objects that take up an extended region of space but have no parts. Suppose that there can be, and suppose further that we have an extended simple cube that is rough on one face and smooth on the others (without reifying the faces as parts). It is plausible to say that the *roughness* of this cube is a trope that is present in a proper sub-location of the region occupied by the cube. This roughness will count as a *feature*. Moreover, there are some metaphysicians who object to objects having proper parts, but who might be amenable to objects having other kinds of locatable features such as tropes. Thus, while I will assume that parts always count as features, I will also leave it open whether there are other kinds of features as well. Note that every object has itself as a feature, since every object is its own improper part.

Now observe that an object can gain or lose features over time, and it is not required for being right now wholly present in *L* that those features that it has at *other* times be present in *L*. For this reason we cannot simply define being wholly present in *L* as having all of one's intrinsic features in *L*, unless we are presentists and think that past or future features do not exist. Thus our initial attempt is:

(8)   An object *x* is wholly present in *L* at *T* if and only if *x* exists at *T* and every intrinsic feature that *x* has at *T* is present in *L* at *T*.

This is a relatively simple and elegant account, and it is compatible with multipresence, since it does not rule out the possibility that one or more intrinsic features are present outside *L* in addition to these same features being present in *L*. One of the reasons for the restriction to *intrinsic* features is that extrinsic features— such as *x*'s being thought about by *y*—might be located outside of *x*. (Another reason is that this will help with the case of the Eucharist later on.)

Unfortunately, the right hand side of (8) does not seem to provide a necessary condition for being wholly present. Suppose that I am now in room 200,

---

[5] See, e.g., McDaniel (2009, 325-331).

and that my cells count as intrinsic features of me (if not, the example can be modified). Tomorrow, I gain a new cell *C*, and travel back to the present time, and enter the disjoint room 201. Then it is false that I am wholly present in room 200, because *C* is an intrinsic feature that I have *now* (since I now have it in room 201) and yet it is not present in room 200. On this account, whether I am now wholly present in room 200 depends on whether I am going to gain a cell and time travel back to the present, and that is mistaken. Similarly, if I now have a cell *D* that will die tomorrow before I enter the time machine and travel back to room 201 at present, then it is false that I am now wholly present in room 201.

Fortunately, we can fix both the sufficiency and necessity problems when we reflect on the principle of non-contradiction for time-varying predicates as formulated in an expressly temporal fashion:

(9)   It is not possible that an object is *F* at *T* and non-*F* at *T*.

In cases of time travel, it seems we have a violation of this. Suppose that right now I am happy, and tomorrow I become miserable, travel back to this time, and even that doesn't cheer me up. Then it seems that right now I am happy and right now I am non-happy, which sure sounds like a contradiction.

There is a simple way to resolve this problem and that is to introduce the notion of *internal time*, following David Lewis (1976).[6] As I enter a time machine, I might say: "In a minute, I will be in the Mesozoic." What I mean is that in one *internal* minute, I will be in the Mesozoic. In time travel, internal and external time come apart, just as in Special Relativity two twins' internal times can come apart when one of them travels to alpha-Centauri and back at near-light speed, and arrives only aged by a day while her twin on earth aged by eight years. In cases of time travel, or of travel at relativistic velocities, internal time is measured by internal clocks, such as the resonances of atoms in the object or the aging of the body, and we can say that the traveling twin had only one day of internal time during the same interval of external earth-time during which her stay-at-home twin had eight years of internal time.

Our temporalized principle of non-contradiction then becomes:

(10) It is not possible that an object is *F* at internal time *t* and is non-*F* at internal time *t*.

And now there is no problem with my miserable future self time-traveling to the present. At the present internal time I am happy, and then in one internal day I will be miserable. I am not both happy and non-happy at the same *internal* time, but only at the same *external* time. An internal time can be *at* an external time. If in a minute I will travel to ten years ago, and *t* is the present internal time and *T* is the present external time, then *t* is at *T* and the internal time *t** that is equal to *t* plus

---

[6] Lewis (1976) uses the term "personal time" instead of "internal time". However, if time travel is possible, non-persons such as oak trees and cats could also travel in time, and so "internal time" is preferable.

one internal minute is at the external time T^* which is equal to T minus ten external years ago.

Given the notion of internal time, we can see that our counterexamples to (8) fail when we reinterpret the times in them to be internal.

(11) x is wholly present in L at internal time t if and only if x exists at t and every intrinsic feature that x has at t is present in L at t.

For if I am now in room 200, and I am going to gain a cell C tomorrow and time travel back to room 201 at the present external time, then there are two relevant internal times, t_0 and t_1, and one external time, T, which is the external present. Both internal times are at external time T. At t_0 I am in room 200 and at t_1 in room 201. The cell C is an intrinsic feature of me at t_1 but not at t_0, and so it is not required that it be present in room 200 at t_0 in order that I be wholly present in room 200 at t_0.

However, our definition of multilocation requires the notion of being wholly present at an *external* time T. For we want to be able to say that in the above time travel scenario, I am multilocated at the *external* time T. A simple solution defining being wholly present in a location at an external time in terms of being wholly present in a location at an internal time is:

(12) x is wholly present in L at external time T if and only if x has an internal time t such that (a) t is at T and (b) x is wholly present in L at t.

There is, however, a special problem in the case of beings that have no internal time. Traditionally, God is taken to be atemporal. If this meant that God is not present at any external time, it would be difficult to reconcile that with the divine omnipresence, since space and time appear to be so intimately related that it is impossible to be present in space without being present at some time or other. It is better to take divine atemporality to mean that God is *internally* atemporal—that he has no internal times. God's inner life, which Boethius so vividly and famously describes in Book V of the *Consolations of Philosophy*, is ever wholly possessed and lacks any before-and-after. It would be good if our account of omnipresence did not require rejecting the claim that God is internally atemporal.

Fortunately, in the case of an internally atemporal being, the most serious problem with (8), that of gaining or losing intrinsic features, disappears. We can thus make use of (8) by modifying (12) as follows:

(13) x is wholly present in L at external time T if and only if either (i) x is internally atemporal and every intrinsic feature of x is present in L at T or (ii) x has an internal time t such that (a) t is at T and (b) x is wholly present in L at t.

We could also verbally retain (12) if we stipulate that an internally atemporal being has one internal time, "eternity", and that x is F at eternity, where x is an internally atemporal being, if and only if x is F *simpliciter*.

Our official account of being wholly present is now given by (11), which says what it is to be wholly present in a location at an internal time, and (13), which extends this to external times.

In our definitions (5) and (6) of multilocation and omnipresence, we should take the time T to be external. If God is internally atemporal, then the account of God's omnipresence given by (6) and (13) will be equivalent to Hudson's (2009). Moreover, if God is so utterly simple that he has no proper parts and no intrinsic features distinct from himself, then God's omnipresence comes down to his simply being present in every region at every external time.

It is also worth noting that if the theory of relativity is correct, then external times need to be taken to be relative to a reference frame. Thus, an external time might be an ordered pair of a time and a frame, or it might simply be a maximally space-like hypersurface. It is not clear whether internal times need to be relativized to a reference frame. Perhaps they do, but I leave the elaboration of such complications to future research.

In worlds where there is no time, one can formulate parallel notions of being wholly present simply by stipulating a single all-inclusive time, or by dropping relevant time indices. Our account is, however, specialized to worlds like ours that have a space-*time*.

4. The Mismatched Halves Problem and bifurcation of internal time

Go back to (8), which defined being wholly present in L at an external time T in terms of having every one of one's intrinsic features present in L at T. There seems to be a second problem with this definition. Suppose that because of time travel, I am multilocated in rooms 200 and 201, but I am lucky enough that I have exactly the same intrinsic features in each room, and I am standing in an exactly similar pose. Let L_{200} be the location occupied by the left half of my body in room 200. Let R_{201} be the location occupied by the right half of my body in room 201. Suppose, as is plausible that there is a location, M, consisting of the fusion of L_{200} with R_{201} (i.e., a location M that overlaps all and only those locations that overlap either L_{200} or R_{201}).[7] Then every intrinsic feature that I now have is present in M, but it is implausible to say that I am wholly located in M as (8) would have it. This is the Mismatched Halves Problem (MHP): M is made of mismatched halves, and so I shouldn't count as wholly located in it.

Now, this version of the MHP disappears when we make use of internal times as in (11) and (13). For in the time travel case, there is no single *internal* time t at T such that I have parts in both rooms at t. For I am at T at two different internal times. At the first one, I am exclusively in room 200, and at the second I am

---

[7] I am following Varzi (2012). I do not assume that all locations have fusions. But very plausibly two *adjacent* locations—ones with no space in between—can have fusions, and we can imagine that L_{200} and R_{201} are adjacent. Perhaps there is a hole in the wall between the rooms, and my left hand as found in room 200 extends to touch my right hand as found in room 201.

exclusively in 201. But then at neither time am I wholly located in M, since at the first internal time, M fails to contain my right half—at that *internal* time that right half is exclusively in room 200—while at the second internal time, M fails to contain my left half.

The MHP does not come up in the case of divine omnipresence, since God *entends* in space, where x entends in L provided that x is wholly present in every sub-location of L (Hudson 2009). Thus God is wholly present in every location, even ones like M.

The MHP is also not a problem in the case of the Eucharist, since one can simply say, with the Catholic Church, that Christ's body entends in the location of the Eucharistic species (where I use "Eucharistic species" to denote the appearance of bread or of wine, leaving unanalyzed the ontology of this appearance). Thus, it will not be a problem that Christ is wholly present in the region formed as the fusion of the left half of the location of one Eucharistic species and the right half of the location of the other, since he is already held to be wholly present in each half-location, and thus *a fortiori* in their fusion (if one is wholly present in a sub-location, one is wholly present in the larger location). Likewise, if we consider the region M formed by the left half, L_E, of the location of one Eucharistic species and the right half, R_H, of the heavenly location of Christ's body, Christ will be wholly present in M, but again that is not surprising since he is wholly present in L_E, which is a sub-location of M.

But the MHP could arise in the stories about the saints if these are interpreted as stories of bilocation, since in those stories there is no time travel, and hence it seems there is only one internal time corresponding to the external time. Take the location L_0 occupied by the left half of the body of St. Alphonsus in the original location and the location R_1 occupied by the right half of his body in the remote location, and let M be the fusion of these two locations.[8] Every part of St. Alphonsus, whether at the relevant external time or the relevant internal time is present in M, then. But it does not seem right to say that St. Alphonsus is present in M.

One way out of this problem is simply to deny that one can have multilocation in cases other than time travel or entending. One would then have to say that the bilocation stories, interpreted as bilocation stories, describe impossible situations, and hence the stories must be interpreted otherwise or dismissed. Since the stories *seem* to be coherent, however, there is a cost to this approach.

Alternately, one could simply bite the bullet. Yes, it is counterintuitive to suppose that St. Alphonsus is wholly present in M. But the idea of being present in two places at one time, and especially at one *internal* time, is sufficiently odd that we should not balk at this.

But there is another speculative move. To motivate this move, consider this possibility. Perhaps the saint in one of the locations loses a cell C due to a scratch, but retains C in the other location. Then it seems that at the same time he does and

---

[8] If arbitrary fusions do not exist, but only ones of adjacent locations (cf. note 7), note that if such saintly bilocation is possible, it will surely also be possible to be bilocated in two adjacent regions, and the problem will happen for those theoretical cases.

does not have C. Recall that we resolved such problems in the case of time travel by distinguishing external from internal time. Maybe here, too, we can say we have two different internal times.

To motivate this further, suppose that at the remote location, the saint boards a very fast space-ship and makes a round-trip to alpha-Centauri, while at the original location he stays put. It seems that just as in the case of the twin paradox we posited different internal time sequences in the twins, here, too, we will need to distinguish different internal times for the same reason. The saint will age more at the original location than at the remote locations where he is speedily traveling.

This suggests that one way to get a case of bilocation without time travel proper and without entending is that the individual's internal time sequence bifurcates in such a way that it is no longer totally ordered under the later-than relation. When the bilocation comes to an end and is replaced with unilocation, there are now two possibilities. It could either be that one of the internal time sequences comes to an end—a kind of "local death"—or, better, that the two time sequences could join back together. In the latter scenario, we will have an internal time t_0, which then bifurcates into internal times t_1 and t_1^*, which are then followed respectively by internal times t_2 and t_2^*, and then we have an internal time t_3 that follows both t_2 and t_2^*, as in Figure 1.
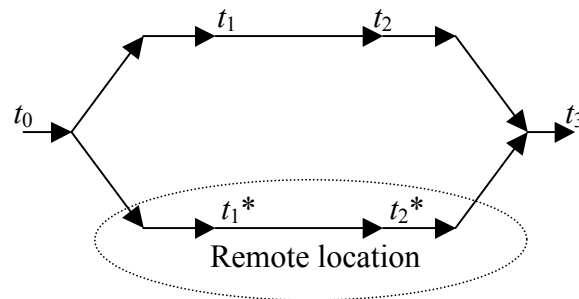

Figure 1: Bilocation with bifurcating internal time.

If we use "$u<v$" to abbreviate "u is earlier than v", then we will have $t_0<t_1<t_2<t_3$ and $t_0<t_1^*<t_2^*<t_3$, but there are no earlier-than, later-than, or simultaneous-with relations between times on the different branches, say, t_1 and t_2^*. The internal time sequence will be partially ordered ($<$ will be a transitive relation such that we never have $u<u$) but not totally ordered. There will be a well-defined answer to the question of how much internal time has passed between t_0 and t_1^*, say, but there will not be a well-defined answer to the question of how much internal time has passed between t_0 and t_3, because to get a well-defined answer we need to ask whether we are asking about how much internal time has passed along the t_0–t_1–t_2–t_3 temporal path or the t_0–t_1^*–t_2^*–t_3 temporal path. Once such specification is made, there will, of course, be an answer. For the same reason, unless one further specifies which path counts, there will be no well-defined answer as to the saint's age.

Bilocation with bifurcating local times allows for having different intrinsic features at the two locations—we might call this "robust bilocation"—and also allows for relativistic time effects. It furthermore avoids the MHP.

Of course, there is going to be a question of what God would do when the two internal timelines are miraculously brought together—how the memories would be put back together and what would happen in regard to any gained or lost body parts. But that is not a problem for the metaphysics of bilocation. It is worth noting that most of the reported cases of bilocation appear to involve the saint being unconscious or at least distracted at the original location. It could be that this is in order to reduce the amount of confusing memories being formed along the two bifurcating lines of internal time.

Granted, this is a *complicated* story, and one might wonder why God would go to the complications of bilocating a person instead of simply transporting the person to the remote location. This paper takes no stand on the *de facto* question of whether such bilocations have occurred. However, a few remarks might be helpful. First, nothing is *difficult* for God—if it is possible for God to bifurcate internal time and bilocate a person, it is no more difficult for him to do so than for him to transport the person. Second, God might prefer that the saint be able to fulfill ordinary duties at the original location. The case of St. Martin Porres who is reported to have continued working in his monastery infirmary could be like that. Also, St. Pio was a Franciscan friar, and normally one would not expect a friar to leave a monastery for a distant journey without the permission of his superior. A request for permission for miraculous travel might lead to unhealthy merriment on the part of the superior. Of course, God does not need permission from the friar's superior, but because obedience is such an important feature of the life of a friar, God would have some reason to make it possible for the friar to remain at his original location, thus fulfilling the letter of the law (here, one might be reminded of the episode of the temple tax in Matthew 17:24–27). Third, in some cases it might be preferable that the saint not be seen involved in miracles by those close to him or her, for instance because it would embarrass a humble individual[9] or lead to jealousy or humility-endangering adulation by those close to the individual.

5. The Eucharist and being wholly present

There is a difficulty for our account of being wholly present as applied to the Eucharist.[10] The Catholic view is that Christ's body and blood is wholly present in the location of the Eucharistic species. But by (11) this implies that every intrinsic feature of Christ's body and blood is present there as well. However, Christ has a certain height and a certain mass. Thus, it seems, a certain height is present in the host and a certain mass. Now, the height of Christ is several feet and his mass is over

---

[9] This is basically Tim Pawl's suggestion, based on the idea that saints seem to be sometimes embarrassed to be seen involved in miracles.

[10] I am grateful to a referee for bringing this difficulty to my attention, which also led to distinguishing intrinsic features from other features.

a hundred pounds. But how could several feet of height be found in such a small place? And we certainly do not observe such a great mass in the host.

While similar questions can be raised for other features, I will stick to the examples of height and mass as the strategies for response will be representative. In regard to height, just as we have a distinction between internal and external time, we might want to have a distinction between internal and external height. (Indeed, just as Special Relativity leads us to a distinction between internal and external time, it yields a distinction between height understood in the rest frame of the object and height understood relative to an external reference frame.) We could say that only the *internal* height is an *intrinsic* feature—external height is defined relative to one or more other objects. But then there is nothing contradictory about an internal height of several feet being found in a location whose external diameter is an inch. Alternately, one might simply argue that properties like height and shape are all non-intrinsic. (Pruss 2009)

The case of mass is perhaps easier to handle. For we should distinguish mass from the effects of mass. It is the mass of Christ that will be present, but the effects of that mass, such as inertia and weight, need not be present, being extrinsic.

A different solution would be to opt for robust multipresence in the case of the Eucharist, by supposing branching timelines for Christ as in the preceding section. Then one could say that the intrinsic features of Christ vary between heaven and Eucharistic locations on earth, with Christ having less height and mass in the Eucharistic locations. This is not theologically attractive, as it would naturally lead to simply attributing to Christ the size, shape and mass of the Eucharistic species, and that is not what the Christian tradition has done.

A further difficulty for our account of being wholly present is given by the fact that the Council of Trent taught that the *species* of bread and wine persist after the consecration of bread and wine into Christ's body and blood, but the substance of bread and wine no longer exists. While the Latin word *species* could just mean appearance, Catholic tradition tended to take it that the *accidents* of bread and wine persist after the change. Now, accidents are features, and some accidents are intrinsic. So if T is an external time after consecration, there are features of bread that exist at T.

Now, our account (13) requires that if a temporal being x is wholly present at external time T in a location L, then there is an internal time t of x such that x is wholly present in L at t, and our account (11) of being wholly present at internal time t in a location L requires that x exist at t. But if x exists at an internal time t that is at external time T, then x exists at T. In other words, a temporal being x that is wholly present at external time T in L exists at T according to our account. Hence, if the bread and wine do not exist after consecration, they do not count as wholly present in the location L of the host or the cup, respectively, at a time T after consecration, even though every intrinsic feature of bread and wine that exists at T is present in L. The account thus coheres with Catholic teaching at least here.

It is not sufficient for being wholly present in L at T that every intrinsic feature that one has at T should be present in L. If that were sufficient, then I would have been wholly present in Rome in 45 BC, since, trivially, every intrinsic feature I

had in 45 BC (i.e., none) was present in Rome. Being wholly present in *L* at *T* requires that one exist at *T*.

 Could we say, however, that the bread and wine are *partly* present in *L* at the time *T* after consecration? If a sufficient condition for being partly present in *L* at *T* were that at least one of one's intrinsic features is present in *L* at *T*, the answer would be affirmative. But, plausibly, to be *partly* present in *L* at *T* one needs to have at least one of one's *parts* present in *L* at *T*. And while the accidents of bread and wine, on the traditional interpretation of Catholic teaching, are found in *L* at *T*, the *parts* are not.

6. Final remarks

A being is omnipresent at an external time *T* provided that it is wholly present in every location at *T*. A being is multilocated at *T* provided that it is present in two non-overlapping locations at *T* and wholly present in at least one of them at *T*. We have also given an account of being wholly present in a location at either an internal or an external time.

Our account was formulated in eternalist terms. It is not clear that a presentist can make sense of the idea of internal time as distinct from external time. If she can, she should be able to say all of the above in her own idiom. If not, perhaps her best bet is simply to identify internal times with external times. Once that's done, there is no possibility of time travel, since time travel involves a difference between internal and external times—"In a few seconds [internal time], I will [internal time] be in the distant past [external time]" says the time traveler before activating the machine. Likewise, the bifurcationist story given above about bilocation fails, and the presentist may need to either deny the possibility of multilocation without entending or bite the bullet on the Mismatched Halves Problem. This may put some pressure on a presentist who finds the stories about the saints either credible or at least possible.

Our account made sense of four cases. Two of them are traditional Christian doctrinal commitments: omnipresence and Christ's being really present in the Eucharist. One of them is based on an interpretation of the reports of saints being bilocated. And the last case is wholly imaginary, that of time-travel. If we stuck to the two cases that are traditional Christian theological commitments, and simply denied the possibility of the sort of bilocation apparently involved in the case of these saints and in time travel, we could have left out the distinction between internal and external times, and essentially just defined being wholly present in a region as having all of one's intrinsic features in it (Koons 2005). But it is better if one's definitions not rule such more controversial cases. After all, *prima facie* at least, the idea that a person is in two places at once or travels back in time makes sense. And our account allows it to do so. Moreover, the conceptual possibility of this helps lend some additional credibility to the significant number of reports of saintly bilocation.[11]

Bibliography

Heath, Pamela Rae. 2011. *Mind-Matter Interaction: A Review of Historical Reports, Theory and Research*. McFarland.

Hudson, Hud. 2009. "Omnipresence". In *The Oxford Handbook of Philosophical Theology*, edited by Thomas P. Flint, and Michael Rea. Oxford University Press.

Koons, Robert C. 2005. "On Being in Two Places at the Same Time." Manuscript.

Leibniz, G. W. 1989. *Philosophical Essays*. Translated by Roger Ariew and Daniel Garber. 1st ed. Hackett Publishing Company.

Pruss, Alexander R. 2009. "The Eucharist: Real Presence and Real Absence". In *The Oxford Handbook of Philosophical Theology*, edited by Thomas P. Flint, and Michael Rea. Oxford University Press.

Lewis, David. 1976. "The Paradoxes of Time Travel." *American Philosophical Quarterly* 13(2): 145–152. doi:10.2307/20009616.

McDaniel, Kris. 2009. "Extended Simples and Qualitative Heterogeneity." *The Philosophical Quarterly* 59 (235): 325–331. doi:10.1111/j.1467-9213.2008.589.x.

Varzi, Achille. 2012. "Mereology." In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Winter 2012. http://plato.stanford.edu/archives/win2012/entries/mereology/.