# Three Medieval Aristotelians on Numerical Identity and Time

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### Abstract

Aquinas, Ockham, and Burdan all claim that a person can be numerically identical over time, despite changes in size, shape, and color. How can we reconcile this with the Indiscernibility of Identicals, the principle that numerical identity implies indiscernibility? I believe that these philosophers link identity over time to substantial form, rather than indiscernibility. For them, identity over time does not imply indiscernibility. They would thus reject the Indiscernibility of Identicals, perhaps in favor of a principle restricted to indiscernibility at a time.

## 1  Introduction

There are at least two different puzzles about a person's identity over time. To help distinguish them, let's focus on a particular person: Peter. The first puzzle is about what's necessary and sufficient for Peter's identity over time, in particular why he can survive some changes, but not others. For example, why he can survive a suntan and a haircut, but perhaps not the destruction of his body, the erasure of his memories, or the transformation of his personality. This puzzle often relies on intuitions about the kinds of changes Peter can survive.

The second puzzle is about how it's possible for *anything*, including Peter, to survive even the *slightest* change, even a suntan or haircut. Unlike the first puzzle, this puzzle relies on the Indiscernibility of Identicals, a principle that many contemporary philosophers regard as an obvious truth (e.g., Sider 2007, p.4), if not a logical truth (e.g., Tarski 1994, p.50). For reasons that I'll introduce later, let's formulate it:

   A. If $x$ and $y$ are numerically identical, and $x$ instantiated a property at a time, there is no time at which $y$ instantiated a contrary property.

Here's the puzzle: Suppose that Peter woke up pale in the morning, and went to sleep brown at night, thanks to a long day outside. Let *Morning Peter* be the person who was white, and let *Night Peter* be the person who

was brown. The following two claims seem mutually inconsistent with the Indiscernibility of Identicals:

B. Morning Peter instantiated whiteness in the morning, and Night Peter instantiated a contrary property at night (namely: brownness).

C. Morning Peter and Night Peter are numerically identical.

Which claim, if any, should we reject? Almost all contemporary philosophers would reject either the discernibility or identity of Morning Peter and Night Peter. That is, they would reject either (B) or (C).[1] As we'll see, rejecting either of these claims would have profound implications for our understanding of objects and their properties. For this reason, contemporary philosophers have spent a lot of time discussing this second puzzle.

It might therefore be surprising to learn that Aquinas, Ockham, and Buridan never address it. They just address the first puzzle. This might be especially surprising given that they seem committed to the discernibility and identity of Morning Peter and Night Peter. Here are some representative passages:

> [T]he human body, over one's lifetime, does not always have the same parts materially... Materially, the parts come and go, and this does not prevent a human being from being numerically one from the beginning of his life until the end [as long as his intellective soul is the same]. (Aquinas, *Summa Contra Gentiles*, Book IV, Question 81, Par 4157; Trans. Pasnau 2011, p.691)

> [Despite changes in their matter] someone is certainly said to be numerically the same human being, because the intellective soul, which is a simple form, remains in the whole and in each part (Ockham, *Quaestiones in Quartum Librum Sententiarum*, Book IV, Distincton 13; Trans. Pasnau 2011, p.694)

> [S]peaking unconditionally and without qualification, a human being remains the same from the start of his life up to the end, because we are accustomed to denominate a thing unconditionally and without qualification on the basis of its most principal

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[1]For surveys, see Loux 1998, Ch 6, Haslanger 2003, Wasserman 2006, Kurtz 2006, and Sider 2007.

> part [namely: the intellective soul] (Buridan, *Quaestiones super libros De generatione et corruptione Aristotelis*, Book I, Question 13; Trans. Pasnau 2011, p.697).

According to Aquinas, Ockham, and Buridan, a person is numerically identical over time, even if his matter changes, so long as his intellective soul remains. This seems to imply that Morning Peter and Night Peter are numerically identical, even if Morning Peter was white and Night Peter was then brown, so long as Peter's intellectual soul remains. Thus, this seems to commit them to (B) and (C). But Aquinas, Ockham, and Buridan also don't seem to regard their claims as even superficially puzzling. For example, they don't consider anything like the contemporary proposals that we'll discuss for denying either the discernibility or identity of Morning Peter and Night Peter. Instead, they move on to the next topic.

I think the best explanation is that the Indiscernibility of Identicals didn't seem true to them, and thus there didn't seem to be a further puzzle. I'll argue for this conclusion by listing the shortcomings of the other explanations.

This conclusion should interest contemporary metaphysicians as well as historians of philosophy. Some contemporary metaphysicians believe that numerical identity is so straightforward that there can be *no* intelligible disagreements about it. As Lewis puts it, "identity is utterly simple and unproblematic" (Lewis 1986; see also Hawthorne 2003, p.99) These philosophers grant that there can be intelligible disagreements about which things are numerically identical, at least when those things are described in ways that don't indicate whether they're identical. For example, there can be an intelligible disagreement about whether the tallest man in the room is identical to the heaviest man in the room. But these aren't disagreements about numerical identity itself. There's a helpful contrast with beauty, truth, justice, and God. There are not only disagreements about which items are beautiful, which claims are true, which laws are just, and whether God exists, but also about the nature of beauty, truth, justice, and God. Many contemporary metaphysicians believe that numerical identity is different, in that we can disagree only about which things are identical, not about identity itself. My interpretation of Aquinas, Ockham, and Buridan challenges this belief, because, if I'm right, they disagree with contemporary metaphysicians not only about identity itself, but about one of the principles that's said to be obviously true.

I'm focusing on Aquinas, Ockham, and Buridan because they are three of the most prominent medieval Aristotelians. I'm not focusing on Scotus, despite his equal prominence, because his views on properties (as *universals*) and individuation (as involving *haecceities*) make it hard to group him together with the others at several key junctures in my argument. I'll return to him at end of the paper, because there's especially compelling textual evidence that he'd reject the Indiscernibility of Indenticals, in part because of his views about properties and individuation. While I believe that my conclusion extends to most other philosophers working in this tradition, that's too ambitious a claim to establish here.

I'm not the first person to suggest that at least some medieval Aristotelians would reject the Indiscernibility of Identicals. In a brief discussion, Stump (2003, p.44–46) suggests that Aquinas would reject it, due to his theory of change. While I agree with Stump, her discussion is far too brief. For example, she doesn't offer any arguments or anticipate any objections. For her, it's a peripheral issue.[2]

Before I develop my arguments (Sections 4-6), it will be helpful to consider what Aristotle says about this and related topics, in part to distinguish the Indiscernibility of Identicals from two related principles (Section 2). It will also be helpful to clarify our formulation of the Indiscernibility of Identicals, and explain why it might seem like an obvious truth to so many contemporary philosophers (Section 3).

## 2   Aristotle

Aristotle writes in the *Categories*:

> It seems most distinctive of substance that what is numerically
> one and the same is able to receive contraries... For example,
> an individual man – one and the same – becomes pale at one

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[2]Given how Brower (2010, fn 4; 2014, p.91–100) interprets Aquinas, we would expect Aquinas to reject the Indiscernibility of Identicals. As Brower interprets Aquinas, as long as an object has the same essential properties (in Brower's terminology: the same *primary* properties), there can be changes in its inessential properties (in Brower's terminology: changes in its *derivative* properties). This seems to entail that Aquinas would reject the Indiscernibility of Identicals in favor of a principle about essential properties, such as (A4). However, Brower doesn't address Aquinas's attitude toward the Indiscernibility of Identicals.

> time and dark at another, and hot and cold, and bad and good.
> (*Categories*, Ch 5, 4a10-11 and 18-21; Trans. Ackrill in Aristotle
> 1984a, p.7; see also *Physics*, Bk 1, 190a32-b16)

Interpreting Aristotle is always tricky business. But one *could* interpret Aristotle as saying that it's distinctive of an individual substance, such as Peter, to be numerically identical over time, despite instantiating different properties at different times.[3] In the *Categories*, Aristotle doesn't say in virtue of what Night Peter would be the same substance as Morning Peter, rather than a numerically distinct substance. That is, he doesn't respond to the first puzzle. But one *could* interpret him as saying in the *Metaphysics* that forms are individual, so that substance $x$ and substance $y$ are numerically identical if and only if they have the same form.[4] In that case, it would be natural to expect Aristotle to say that a substance is numerically identical over time, despite instantiating different properties, in virtue of its form. What is Peter's form? In both the *Metaphysics* and *De Anima* he seems to say that the from of a human being is his soul, and that it differs from the souls of animals and plants that it gives him intellectual powers (*De Anima*, Bk 2, 412a18-26, 414a29-415a12; see also *Metaphysics* Zeta, Ch 10, 1035b14-18). In that case, it would be natural to expect Aristotle to say that Peter is identical over time, despite instantiating different properties, so long as his intellective soul remains. And this seems to be how Aquinas, Ockham, and Buridan interpret him, given what they say in the passages above.

It's worth mentioning three other principles that Aristotle might accept, even if he would reject the Indiscernibility of Identicals, because of his view about identity over time. First, he might accept a principle that's restricted to indiscernibility *at a time*:

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[3]This interpretation could be resisted on two grounds. First, it could be denied that "numerically one and the same" means numerical identity. In support of this interpretation, consider that he elsewhere says that Callias and Socrates are the "same in being"(*Metaphysics* Zeta, Ch 8, 1034a5-9), and he's presumably not saying that they're numerically identical. See also Peramatzis 2014. A challenge for this interpretation is to explain passages like, "we call a thing the same if it is one both in formula and in number, e.g. you are one with yourself both in form and in matter" (*Metaphysics* Iota, Ch 3, 1054b3-13). Second, it could be insisted that he's talking about what's distinctive of a secondary substance, or universal. A challenge for this interpretation is to explain why he says that the relevant kind of substance is pale at one time, dark at another.

[4]This is how Irwin 1988, Ch 12 and Frede and Patzig 1988, Ch 8 interpret him. For overviews of this topic, see Gill 2005, Sec 3 and Cohen 2016, Sec 10.

A2. If $x$ and $y$ are numerically identical, and $x$ instantiates a property at a time, then $y$ doesn't instantiate a contrary property at that time.

This principle allows Morning Peter and Night Peter to be numerically identical, even though they instantiated contrary properties, because they didn't instantiate those properties at the same time. Morning Peter was white in the morning, not at night.

There is evidence that Aristotle accepts this principle. He says that the most certain of all principles is that "the same attribute cannot *at the same time* belong and not belong to the same subject in the same respect" and that this implies that "it is impossible that contrary attributes should belong *at the same time* to the same subject" (*Metaphysics* Gamma, Ch 4, 1005b19–20 and 26–27, Trans. Ross in 1984b, p.46, emphasis added). He thus seems to accept a principle that links identity at a time to indiscernibility at a time.

Second, Aristotle might still accept an unrestricted principle that's about predicates, rather than properties:

A3. If $x$ and $y$ are numerically identical, then $x$ satisfies a predicate if and only if $y$ satisfies that predicate.

According to this principle, if Morning Peter and Night Peter are numerically identical, then Morning Peter satisfies the predicate 'was white in the morning' if and only if Night Peter satisfies the predicate 'was white in the morning'. Or, equivalently, 'Morning Peter was white in the morning' is true if and only if 'Night Peter was white in the morning' is also true.

There is evidence that Aristotle would accept this principle. He says that when things are identical, "all that is predicated of the one should be predicated also of the other" (*Topics*, Bk 7, 152b27–8).

Third, Aristotle might still accept a principle that's restricted to a thing's *essential* properties:

A4. If $x$ and $y$ are numerically identical, and $x$ instantiated an *essential* property at a time, there is no time at which $y$ instantiated a contrary property.

This principle allows Morning Peter and Night Peter to be numerically identical, even though they instantiated contrary properties, because moving and resting aren't among their essential properties. In contrast, if humanity is an

essential property of Peter, he can't be identical to a dog, rock, or anything else that isn't human.

There is evidence that Aristotle would accept this principle. 'Essential property' is our word for his *to ti ên einai*, more literally "what it is to be that thing." It's unclear what it would mean for a thing to fail to satisfy "what it is to be Peter" and yet still be Peter.

As we'll see, Aquinas, Ockham, and Buridan would accept all three of these principles. Some contemporary philosophers will think that anyone who accepts the first two principles, (A2) and (A3), should also accept the Indiscernibility of Identicals. I'll return to this issue later (Section 6). I'll argue that, given their other commitments, Aquinas, Ockham, and Buridan wouldn't regard these principles as motivation for the Indiscernibility of Identicals.

# 3   Indiscernibility of Identicals

Here again is our formulation of the principle:

   A. If $x$ and $y$ are numerically identical, and $x$ instantiated a property at a time, there is no time at which $y$ instantiated a contrary property.

There are two notions at the center of this principle: property and instantiation. These notions are sometimes understood narrowly, so that denying that properties exist outside of space and time (as *universals*) is enough to deny that there are properties, and denying that properties can be instantiated by more than one object is enough to deny that properties are instantiated. But let's understand these notions as broadly as possible, so that it's trivial that Peter's whiteness is a property of Peter, and that Peter instantiates that property. This will give us a framework general enough to accommodate other views, including views that imply that motions, shapes, colors, etc., exist only at some times and locations (as *tropes*), and are instantiated by at most one object. For example, it will accommodate the view that Peter's whiteness exists only on Peter's skin, and only while Peter is white.

This isn't a canonical formulation of the Indiscernibility of Identicals. Here's a more canonical formulation:[5]

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[5]Perhaps an even more canonical formulation is:

   A6. If $x$ and $y$ are numerically identical, $x$ instantiates a property if and only if $y$

A5. If $x$ and $y$ are numerically identical, $x$ instantiates a property if and only if $y$ does not instantiate a contrary property.

So formulated, this principle is ambiguous, in part because it doesn't say anything about time. Disambiguated in one way, it is equivalent to a principle mentioned above, in our discussion of Aristotle:

A2. If $x$ and $y$ are numerically identical, and $x$ instantiates a property *at a time*, then $y$ doesn't instantiate a contrary property *at that time*.

Disambiguated in this way, the Indiscernibility of Identicals doesn't give rise to a puzzle about identity over time, because it's no longer inconsistent with the identity and discernibility of Morning Peter and Night Peter, i.e., (B) and (C) (see Hofweber 2009, p.294–6).

I don't think it's worth arguing about how the canonical formulation should be disambiguated. For our purposes, what's important is that most contemporary philosophers think that there is a puzzle about identity over time, and that what they call the Indiscernibility of Identicals gives rise to it. These philosophers must have in mind a principle that is equivalent to (or at least sufficient for) the formulation of the principle we're working with. For our purposes, it's better to use a formulation that unambiguously captures the principle that these contemporary philosophers have in mind, because we're trying to establish that Aquinas, Ockham, and Buridan would reject that principle. More generally, for our purposes, 'Indiscernibility of Identicals' is just a convenient label for the principle responsible for the puzzle of identity over time. Those who would prefer to reserve this label for another principle, such as (A2), aren't really disagreeing with us.[6]

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instantiates that property

This is the formulation people use when integrating the Indiscernibility of Identicals into Leibninz's Law. For our purposes, there isn't an important difference between these formulations. If $y$ instantiates a property that's contrary to $x$'s property, it doesn't also instantiate $x$'s property, in virtue of the meaning of 'contrary'. If there's a difference between these formulation, our formulation is weaker, and thus harder to reject. I prefer (A5) because formulating the principle in terms of contrary properties makes it easier to grasp the puzzle about identity over time.

[6]Pasnau might be an example. In his discussion of a different puzzle about identity over time (2011, Ch 29), he uses the label 'Indiscernibility of Identicals' for a principle about material parts, rather than properties (p.697). Let's restate the puzzle using our familiar example:

A7. If $x$ and $y$ are numerically identical, and $x$ has a material part at a time, there is

There aren't many contemporary philosophers who would reject the Indiscernibility of Identicals, even when it is formulated in this way; I'm only aware of five: Myro 1986, Baxter 1999, Hansson 2007, Rychter 2009, and Hofweber 2009. As reported in the introduction, most regard it as an obvious truth, if not a definitional truth.

To understand why, let's consider eternalism, a popular view about time. According to eternalists, times are like locations. Just as minerals exist below us in the ground and clouds exist above us in the sky, eternalists claim that our ancestors exist before us in the seventeenth century and our decedents exist after us in the twenty-second century. Eternalists describe reality as four-dimensional, with things distributed across all four dimensions, including the fourth, temporal dimension. If you ask an eternalist what exists in the most expansive sense of 'exists', they will list objects that exist in the past, present, and future. According to them, terms like 'past', 'present',

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   no time at which $y$ lacks that part.

B7. Morning Peter has a material part that Night Peter lacked (perhaps: a drop of liquid that he later perspired).

C7. Morning Peter and Night Peter are numerically identical.

Some medieval Aristotelians (e.g., Ockham) are committed to mereological essentialism, the view that a thing's material parts are essential to it (Normore 2006; Pasnau 2011, p.682–684, 689–692). As Pasnau points out, these philosophers can't reject (A7). While Pasnau concludes that these philosophers can't reject the Indiscernibility of Identicals, that's just because he's using 'Indiscernibility of Identicals' as a label for (A7). Mereological essentialists can still reject (A), so long as they allow that a thing's properties can change while its material parts remain the same. Ockham and Buridan both allow for this possibility. And, of course, those who aren't committed to mereological essentialism (e.g., Aquinas) can reject (A7) as well as (A).

 Notably, Pasnau elsewhere seems to use 'Indiscernibility of Identicals' as a label for a principle about properties, rather than material parts. For example, he says that "Descartes's argument for a distinction between the wax and its properties, as I understand it, is grounded in the indiscernibility of identicals: that if two things are in fact the same thing, they must have the same properties"(2011, p.139; see also p.143 and 274). Similarly, he says that, "Things are identical when they are in fact not multiple things at all, but are just one thing. This is the identity of the equal sign, the identity that licenses the indiscernibility of identicals, which is to say that things are identical only if they share all the same features"(Pasnau 2014, p.62). In personal correspondence, Pasnau suggests that he's describing a principle that might not entail (A). Given the way he uses this principle, I'm not sure what other principle he might be describing. One of the secondary goals of this paper is to demonstrate that it's always important to clarify what one means by 'Indiscernibility of Identicals'.

and 'future' indicate when something exists in relation to when we exist, just as terms like 'here' and 'there' indicate where something exists in relation to where we exist. These terms don't indicate which objects exist and which objects don't exist.

For an eternalist, the puzzle of identity over time is that our reasons for thinking that objects at different *locations* are non-identical also seem like reasons for thinking that objects at different *times* are non-identical. Let *Downstairs Peter* be a pale person who is downstairs, and let *Upstairs Peter* be a tanned person who is simultaneously upstairs. One reason for thinking that Downstairs Peter isn't identical to Upstairs Peter is that Downstairs Peter instantiates *whiteness* and Upstairs Peter instantiates *brownness*. This might not be the only reason for thinking that Downstairs Peter isn't identical to Upstairs Peter. But it seems like a sufficient reason. From an eternalist perspective, the puzzle of identity over time is that we seem to have just as good a reason to think that Morning Peter isn't identical to Night Peter, namely that Morning Peter instantiated *whiteness* and Night Peter instantiated *brownness*. This seems like just as good a reason, because, from an eternalist perspective, variation across reality's three spatial dimensions is relevantly like variation across its fourth, temporal dimension. For the eternalist, if the mere fact that Downstairs Peter and Upstairs Peter have different colors is enough to establish that they are distinct people, the mere fact that Morning Peter and Night Peter had different colors is enough to establish that they are distinct people. Similarly, if the mere fact that Downstairs Peter and Upstairs Peter are in different locations is enough to establish that they are distinct people, the mere fact that Morning Peter and Night Peter are at different times is enough to establish that they are distinct people.

This isn't the only view about time. The main alternative is presentism, the view that objects exist only in the present. I'll say more about presentism later, and why the Indiscernibility of Identicals might seem obviously true to presentists. For now, I just wanted to give one of the reasons why so many contemporary philosophers regard this principle as obviously true.

# 4   Alternative Explanations

Aquinas, Ockham, and Buridan all seem committed to the identity and discernibility of Morning Peter and Night Peter. But they don't seem to regard their claims as even superficially puzzling. Why not?

I think that the best explanation is that the Indiscernibility of Identicals didn't seem true to them, and thus that didn't think their commitments were inconsistent. In this section, I'll consider two alternative explanations, and argue that they are less likely.

The first alternative is that they didn't notice the puzzle, or dishonestly chose to ignore it. This is possible, but unlikely. To start, the Indiscernibility of Identicals would have occurred to them, given that they were deeply interested in the logical and metaphysical conditions necessary for identity and change. Also, because they would accept the similar principle that links identity at a time to indiscernibility at a time, it's especially unlikely that the unrestricted principle wouldn't have occurred to them. Moreover, if it did occur to them, and if it seemed obviously true to them, they would have noticed the puzzle. After all, the puzzle is completely straightforward, and, as I just said, the medieval Aristotelians were deeply interested in the logical and metaphysical conditions necessary for identity and change. Finally, medieval Aristotelians were committed to identifying and resolving problems internal to Aristotle's philosophy. It's thus hard to believe that they noticed the puzzle, but dishonestly chose to ignore it; it would have been out of character.

The second alternative is that, despite passages that seem to commit Aquinas, Ockham, and Buridan to the identity and discernibility of people over time, they aren't really committed to both claims. This interpretation has a straightforward motivation: As noted in the introduction, most contemporary philosophers think that, if we want to be coherent, we must reject either the identity or discernibility of a person over time. Thus, if we don't want to interpret Aquinas, Ockham, and Buridan as incoherent, it might seems as though we must interpret them as not really committed to one of these claims.

But there are many reasons to think Aquinas, Ockham, and Buridan really are committed to both claims. Let's spend the remainder of this section considering the most prominent contemporary responses to the puzzle: relationism, adverbialism, exdurantism, and perdurantism. Listing the reasons why Aquinas, Ockham, and Buridan wouldn't accept these proposals will not only help establish that they really are committed to the identity and discernibly of people over time, but also help us understand what's behind these commitments.

## 4.1 Relationism

Relationists would deny the indiscernibility of Morning Peter and Night Peter (see Mellor 1998, Ch 8). They would first insist that *whiteness* and *brownness* are relations to times. In that case, to say that someone instantiates *whiteness* is to say that he stands in the *whiteness* relation to a time. They would then insist that Morning Peter and Night Peter stand in the same relations to the same times. In particular, when Morning Peter was walking, he stood in the *whiteness* relation to the morning, and in the *brownness* relation to the night. Likewise, when Night Peter was resting, he stood in the *whiteness* relation to the morning, and in the *brownness* relation to the night. It might help to make a list:

> Morning Peter bears the *whiteness* relation to the morning.
> Morning Peter bears the *brownness* relation to the night.
> Night Peter bears the *whiteness* relation to the morning.
> Night Peter bears the *brownness* relation to the night.

Relationists would conclude that Morning Peter and Night Peter instantiate all the same properties. They would also conclude that these properties aren't contraries. Just as bearing the *taller than* relation to one person is compatible with bearing the *shorter than* relation to another person, bearing *whiteness* relation to the morning is compatible with bearing the *brownness* relation to the night.

Aquinas, Ockham, and Buridan would reject relationism. First, according to relationism, Peter changes by standing in different relations to earlier times and later times, e.g., by standing in the *whiteness* relation to the morning and the *brownness* relation to the night. Because Peter always stands in the same relations to the same times, he always has the same properties.[7] In contrast, according to Aquinas, Ockham, Buridan, and other medieval Aristotelians, Peter changes by gaining or losing properties. Peter is white at one

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[7]To deny this, a relationist would have to say that Peter bears the *whiteness* relation to the morning at some times, but not others. From a logical perspective, I can make sense of this position. But, from a metaphysical perspective, I can't. For an eternalist, that would be like claiming that whether Peter is in his house is somehow relative to another location, e.g., that he's in his house relative to Demascus and not in his bed relative to Paris. I can't make sense of that claim. For a presentist, it's hard to see how relationism can even get going, for the reasons I'm about to introduce.

time, and not white at another time, because he loses the property of being white (see e..g, Aquinas *De Principiis Naturae*; Normore 2009, p.681, 684). Thus, Aquinas, Ockham, and Buridan would reject relationism, because it's incompatible with their understanding of change.

Second, like almost all other medieval Aristotelians, Aquinas, Ockham, and Buridan deny that polyadic relations are things that exist (for a survey, see Brower 2001, esp. Sec 3.1). They insist, however, that properties are things that exist. For example, not only does Peter gain and then lose the property of whiteness, but his whiteness is *created* and then *destroyed*. These authors disagree about whether Peter's whiteness exists in the same sense as Peter (Normore 2009; Pasnau 2011). But they all agree that Peter's whiteness exists. This is built into Aquinas's understanding of Peter's whiteness as a *mode* of Peter, i.e., a way in which Peter exists. It is also built into Ockham's and Buridan's understanding of Peter's whiteness as a *real accident*. Thus, they would reject any proposal that implies that properties are polyadic relations, because while they would say that Peter's whiteness exists, they would deny that his two-place relations exists, including any two-place relation that he bears to the morning. Aquinas, Ockham, and Buridan would reject relationism, because it's incompatible with their understanding of properties and polyadic relations.

Third, like almost all other medieval Aristotelians, Aquinas, Ockham, and Buridan accept presentism, the view that objects exist only in the present (see Mullins 2016, p.74–87, Normore 1982, p.367f; Pasnau 2011, p.388-9). According to presentists, while minerals exist below us in the ground and clouds exist above us in the sky, our ancestors don't exist before us in seventeenth century, and our descendants don't exist after us in the twenty-second century. The most that can be said is that our ancestors in seventeenth century *used to* exist and our descendants in the twenty-second century *will* exist, and that doesn't imply that they exist, even in the most expansive sense of 'exists.' Presentists sometimes describe reality as three-dimensional, with objects distributed across all three spatial dimensions. As time passes, that distribution changes. Just as only one image is projected onto a movie screen at a time, reality is just one distribution of objects at a time. If you ask a presentist what exists in the most expansive sense of 'exists', their answer would include minerals and clouds, but not our ancestors or our decedents.

Given their commitment to presentism, Aquinas, Ockham, and Buridan would reject any proposal that appeals to objects that exist only in the past or only in the future. This would presumably also lead them to reject any

proposal that appeals to past times or future times. Thus, they would presumably reject relationism, because it treats properties as relations between objects and both past times and future times, and thus appeals to both past times and future times.

There's another, closely related reason why they'd reject relationism. In his *Physics*, Aristotle says that times are measures of motion (Book 4, Chapter 14, 220b33). There was a debate among medieval Aristotelians about whether this means that times are identical to motions (e.g., Buridan, *Summulae de Dialectica*, Tr 3, Ch 7, Sec 1; Dekker 2001), or whether times are measurements made by the soul, and thus exist only in the soul (e.g., Ockham, *Expositio Physicorum*, Book 4, 27.4; Trifogli 2010, p.272–275). Either way, it would be hard to reconcile this view of time with relationism, because that would mean that *whiteness* is a relation to a motion that no longer exists, or to something that exists only in a soul. Either way, times aren't the right kind of entity for relationism.

## 4.2   Adverbialism

Similar to relationists, adverbialists would deny the indiscernibility of Morning Peter and Night Peter (see Johnston 1987). They would first insist that, for every time, there is a different way of instantiating *whiteness*. They would then insist that Morning Peter and Night Peter instantiate the same properties in the same ways. In particular, Morning Peter instantiated the property *whiteness* in a morning-ly way, and he instantiated the property *brownness* in a night-ly way. Likewise, Night Peter instantiated the property *whiteness* in a morning-ly way, and he instantiated the property *brownness* in a night-ly. It might help to again make a list:

Morning Peter instantiates *whiteness* in a morning-ly way.

Morning Peter instantiates *brownness* in a night-ly way.

Night Peter instantiates *whiteness* in a morning-ly way.

Night Peter instantiates *brownness* in a night-ly way.

Adverbialists would conclude that Morning Peter and Night Peter instantiated all the same properties in all the same ways. They would also conclude that these properties aren't contraries. Just as greeting one person in a friendly way is compatible with greeting another person in an unfriendly way,

instantiating *whiteness* in a morning-ly way is compatible with instantiating *brownness* in a night-ly way.

There are several reasons why Aquinas, Ockham, and Buridan would reject adverbialism. First, according to adverbialists, Peter changes by instantiating different properties in different ways, e.g., by instantiating *moving* in a morning-ly way and instantiating *resting* in a night-ly way. Because Peter always instantiates the same properties in the same ways, he always has the same properties. Thus, Aquinas, Ockham, and Buridan would reject adverbialism, because it's incompatible with their understanding of change as gaining or losing properties.

Second, like most other medieval Aristotelians, Aquinas, Ockham, and Buridan claim that properties are things that exist at some times, but not at other times, and at some locations, but not at other locations (because they are *tropes*). Thus, if Night Peter instantiates whiteness in some sense, his whiteness must exist while he's sleeping. As noted above, they also accept presentism, the view that whatever exists, exists in the present. Thus, if Night Peter instantiates whiteness in some sense, his whiteness must exist in the present. But at what location? And why does it no longer make anything white? These questions aren't unanswerable, but they are uncomfortable. Perhaps for this reason, it's built into their understanding of instantiation as *inherence* that it's a relation that a thing bears to properties relative only to the present. Thus, they would reject adverbialism, because it's incompatible with their understanding of instantiation.[8]

Relationists and adverbialists insist that, in some sense, Morning Peter and Night Peter both instantiate the property of whiteness. What differentiates them is the sense in which they both instantiate that property. For relationists, it's that *whiteness* is a relation to a time, and Morning Peter and Night Peter both stand in that relation to the morning. For adverbialists, it's that there are many ways of instantiating *whiteness*, and Morning Peter and Night Peter both instantiate that property in the same way, namely morning-ly. There are other senses in which Morning Peter and Night Peter might instantiate the same properties (see e.g., van Inwagen 1990). But I can't find or invent any proposal that would be acceptable to Aquinas, Ockham, and Buridan. For example, any proposal for denying that Morning Peter and

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[8]The same problem might not extend to relationism. Suppose that we agree with Mellor that Peter's whiteness is a relation to the morning. Even if Night Peter still has that property, it might not make him white, given that it's just a relation to a time, rather than something that by nature makes something white, such as the trope *whiteness*.

Night Peter have different properties seems irreconcilable with their view of change. But even if I'm wrong, and there is a proposal that they could have considered, and perhaps should have considered, that doesn't mean that they endorsed it. Medieval philosophers spent a lot of time thinking about the nature of change, and there's no suggestion that, in some sense, a thing always has the same properties.

## 4.3   Exdurantism

Exdurantists would deny that Morning Peter and Night Peter are identical. They claim that a person exists only for an instant, at which point he or she is replaced by a new person (see Hawley 2001, Ch 2, Chisholm 1976, Parfit 1984, Varzi 2003a and 2003b, Sider 1996). The new person is often, but not always, nearly indiscernible from the old person. For example, Morning Peter was replaced by a person who was nearly indiscernible, except that he was slightly browner, and perhaps also had a slightly different shape, because his knee was slightly higher. He was then replaced by another person, and so on. According to exdurantists, there was no person that was white in the morning and then brown at night. There was just a series of different people, some white, others brown, some with bent knees, others with straight knees. Morning Peter and Night Peter are supposed to be people in that series. This view has its roots in the writings of Heraclitus and other ancient Greek authors. It is also found in the writings of ancient Buddhist and Hindu authors.

However, like most other medieval Aristotelians, Aquinas, Ockham, and Buridan explicitly say that a person is identical over time. Quoting from the initial passages in the introduction, Aquinas says that a human being is "numerically one from the beginning of his life until the end," Ockham says that despite changes "someone is certainly said to be numerically the same human being," and Buridan says that "a human being remains the same from the start of his life up to the end." Thus, I don't think they'd accept exdurantism.

Pasnau agrees that Aquinas and Ockham are talking about numerical identity. But Pasnau denies that Buridan is talking about numerical identity. According to Pasnau, Buridan is talking about some other relation.

However, there is compelling evidence that Buridan really is talking about numerical identity. Let's focus on Buridan's argument that if a person didn't remain the same over time, "it would follow that you who are here have

not been baptized, but rather someone else was. Therefore you are not a Christian"(*Quaestiones super cogito physicorum libros Aristotelis*, Book 1, Question 10; Trans. Pasnau in Buridan 2015). Why should we think that this conclusion is about numerical identity?

First, and most obviously, Buridan writes a few sentences later, "we are asking not about sameness with respect to species or genus, but about numerical sameness [*identitate numerali*], according to which 'this being the same as that' means that this is that."

Second, his argument seems invalid if he's talking about another relation. For example, if an adult were merely *similar* to a child who was baptized, that doesn't seem like a reason to conclude that the adult is baptized. Likewise, if an adult were merely *generated* from a child who was baptized, that doesn't seem like a reason to conclude that the adult is baptized.

Third, as Pasnau acknolwedges, Buridan's conclusion would amount to the mere suggestion that we should *say* that the adult is numerically identical to a child (2014, p.62; 2011, p.697–8). But Buridan elsewhere goes to great lengths to establish more than verbal consistency with Christian doctrine. For example, like many other medieval philosophers, he insists that the whiteness of a communion wafer continues to exist after the communion wafer is destroyed and replaced by the body of Christ (*In Metaphysicam Aristotelis quaestiones*, Book 4, Question 6; see Bakker 2001, p.250–4). Buridan doesn't merely insist that we should *say* that the whiteness continues to exist, and presumably he's as serious about the sacrament of baptism as he is about the sacrament of the eucharist. Arlig makes a related point, "I do not think Buridan wants to validate the claim that I am the one who was baptized merely by appealing to custom"(2014, p.24).

Pasnau suggests that Buridan might have a midden motive. In particular, that he might be trying to preserve verbal consistency with the Condemnation of 1277, to avoid persecution (Pasnau 2011, p.697; for background see Thijssen 2016). But Buridan elsewhere treats the Condemnation of 1277 as an authority to be respected, not merely circumvented. In particular, Buridan objects to Ockham's theory of motion that it's committed to the heretical view that God cannot move the entire universe (*Physics* commentary, Book 3, Question 7; Dekker 2001, p.153–4). This wouldn't be an effective objection if Ockham could respond by merely offering redefinitions of the words in the Condemnation of 1277 (incl. "move" and "entire"), so that his view is verbally consistent with it. It thus seems more likely that Buridan regarded the Condemnation of 1277 as an authority to be respected, rather

than a restriction to be circumvented. This is also what wed expect given his more general insistence that philosophers shouldn't try to correct theologians about doctrines of faith.

Fourth, otherwise Buridan's conclusion wouldn't conflict with the conclusions of those philosophers who, like Autrecourt (*Tractatus utilis ad videndum an sermones peripateticorum fuerint*; see Pasnau 2011, p.703), deny that people are numerically identical over time, even though Buridan writes as though he's arguing for a controversial conclusion.

Fifth, otherwise Buridan's conclusion would imply that human beings aren't substances. Buridan interprets Aristotle as saying that one of the definitive properties of substances is that numerically the same substance is able to receive contraries, including to be pale at one time and dark at another, and Buridan endorses this claim (*Summulae de Dialectica*, Treatise 3, Chapter 2, Section 6). Thus, if human beings aren't numerically the same over time, they can't be substances, just as they wouldn't be substances if they didn't have the other definitive properties of substances, such as not inhering in another (ibid., Section 4), or not being predicated of another (ibid., Section 5).

Sixth, it would be hard to understand why the sentence 'Socrates will tomorrow be running' is supposed to be true "strictly speaking"(*Summulae de Dialectica*, Ch 4, Reply to 5th Sophism; Trans. Klima in Buridan 2001, p.888). In contrast, the sentence 'The Seine that I see is the one that I saw ten years ago' is not supposed to be true strictly speaking because the water isn't the same (*Quaestiones super cogito physicorum libros Aristotelis*, Book 1, Question 10; Trans. Pasnau in Buridan 2015).

Baptism isn't Buridan's only argument that a person remains the same over time. He also argues that if a person weren't the same over time then we wouldn't be justified in rewarding or punishing him for his past actions, or for holding his responsible for his past promises (see again *Quaestiones super cogito physicorum libros Aristotelis*, Book 1, Question 10). Many of the same points apply to these other arguments.

There's another argument worth mentioning, even though Buridan doesn't rely on it. There were many controversies about the doctrine of reincarnation, including whether the person who will exist after resurrection will have numerically the same body as the person who died, and whether that person will exist *as a person* following his death but before his resurrection.[9] But

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[9]See e.g., Aquinas, *Summa Theologica*, Part 3, Supplement, Question 79; *Question*

it was uncontroversial that the person who will exist after resurrection is numerically identical to the person who died, and it's hard to see how that's possible if a person can't be numerically identical over time. Buridan doesn't say much about the doctrine of resurrection, because he wasn't a member of the faculty of theology. But he says that God *could* create numerically the same world after its destruction (*Quaestiones super libros De generatione et corruptione Aristotelis*; Pluta 2001, p.60), and that God *could* make it the case that a person exists as a person following his death but before his resurrection (*Quaestiones in Aristotelis De anima*, Book 3, Question 6; Pluta 2001, p.60-62). Thus, he presumably thinks that God *could* resurrect numerically the same person, and it's hard to see how that's possible if a person can't be numerically identical over time.

As Pasnau points out, Buridan does deny that a person is numerically identical over time in the "strict*est* sense," on the grounds that the parts of a human being change over time (*Quaestiones super cogito physicorum libros Aristotelis*, Book 1, Question 10, Trans. Pasnau in Buridan 2015, emphasis added). But a person must still be identical over time in a strict sense, not only for the reasons mentioned above, but also because in other work he insists that this is still numerical identity "unconditionally and without qualification" (see the previous quote from Buridan, *Quaestiones super libros De generatione et corruptione Aristotelis*, Book I, Question 13). As Pasnau points out, Buridan does call this "partial identity." According to Pasnau, this is Buridan's way of indicating that it isn't really identity. But, given what we said above, it's more likely that Buridan chose this label because its identity that follows from sharing a certain part, namely the same soul. Likewise, Buridan calls identity in the strictest sense "total identity," rather than just "identity," because it's identity that follows from sharing all the same parts.

Despite all of this evidence, why does Pasnau deny that Buridan is really talking about numerical identity? Because Buridan is talking about a relation that doesn't satisfy the Indiscernibility of Identicals. Pasnau explains:[10]

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*disputant de anima*, Question 19; *Summa Contra Gentiles* Book 4, Question 79. For discussions of Aquinas's views, see Stump 2006 and Van Dyke 2007.

[10]As mentioned in fn 6, Pasnau suggests in personal correspondence that he's describing a principle that might not entail (A). Given that the relevant principle is supposed to give rise to a puzzle about identity over time, I'm not sure which other principle he might be describing. It can't be (A2), the principle restricted to indiscernibility at a time, because that principle doesn't give rise to a puzzle about identity over time. In any case, what's

> Things are identical when they are in fact not multiple things at all, but are just one thing. This is the identity of the equal sign, the identity that licenses the indiscernibility of identicals, which is to say that things are identical only if they share all the same features. It is unintelligible to say that things are identical and yet different. Or, rather, such talk can be made intelligible, but only when construed in some looser, less-than-strict sense. That is, to speak of identity where there is differences requires construing such claims as saying something other than what they seem on their face to say (Pasnau 2014, p.62).

Contemporary philosophers make similar claims. For example, Sider claims that, "Restricting Leibniz's Law [the Indiscernibility of Identicals and its converse] forfeits one's claim to be discussing identity. The demands of the notion of identity are high: identical things must share all their properties"(2001, p.167).

But I don't think we should impose such a strict limit on how numerical identity must be understood. Philosophers have been talking about numerical identity since the beginning; it's not a technical notion that was stipulated into existence. Just as there is room for disagreements about beauty, truth, justice, and God, there is room for disagreement about numerical identity. As I hope everyone will agree, we shouldn't deny that Plato is talking about beauty because he denies that poems are beautiful (Plato 1993, Bk 10, 601b), or that Bradley is really talking about truth because he denies that truth requires correspondence (1914), or that Hobbes is really talking about justice because he denies that democracies are just (Hobbes 1994, Ch 19), or that Whitehead is really talking about God because he denies that God is omnipotent (1933, p.213). We likewise shouldn't deny that Buridan is really talking about numerical identity just because he's talking about a relation that doesn't satisfy the Indiscernibility of Identicals. Philosophy is far too open-ended to start imposing strict limits on how its basic notions are to be understood.

This doesn't mean that contemporary metaphysicians must concede that the Indiscernibility of Identicals is *false*. It doesn't even mean that they must concede that it isn't *definitive* of identity. Just as some argue that *modus ponens* is built into the definition of the material conditional even

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most important for present purposes is that, according to Pasnau, Buridan can't be talking about identity because that would violate a widely held principle about identity.

though others have rejected it, contemporary philosophers are free to argue that the Indiscernibility of Identicals is built into the definition of identity even though some in the Aristotelian tradition would reject it. I'll return to this issue later. My point for now is just that, even if we ultimately decide that Aquinas's, Ockham's, and Buridan's views are false, and perhaps even incompatible with the definition of identity, we shouldn't deny that they're really talking about identity.

## 4.4 Perdurantism

Perdurantists would deny either the discernibility or the identity of Morning Peter and Night Peter, depending on how these names are disambiguated. According to perdurantists, people are composed of bodies that exist only for an instant (see Quine 1950; Hirsch 1982; Lewis 1986, Ch 4). A person exists "partly" whenever one of her instantaneous parts exists. Thus, according to perdurantists, there were many things that were white in the morning: To start, there were all the instantaneous bodies, one for each instant in the morning. In addition, there were all the things composed out of at least one of those instantaneous bodies. As perdurantism is developed by Lewis and others, more than one person was white in the morning, because the same instantaneous bodies were parts of more than one person (see especially Lewis 1993). If perdurantism is developed in this way, the names 'Morning Peter' and 'Night Peter' are ambiguous, because I let Morning Peter be *the* person that was moving in the morning, and I let Night Peter be *the* person that was resting at night, when in fact more than one person satisfies those descriptions. If we disambiguate these names so that they refer to the same person, and that person is composed out of at least one instantaneous body that was white in the morning and at least one instantaneous body that was brown at night, then perdurantists would deny their discernibility. But if we disambiguate them so that they refer to anything else that satisfies the relevant descriptions, perdurantists would deny their identity.

Aquinas, Ockham, and Buridan wouldn't respond in this way. The medieval term for such beings is "successive entities" [*entia successiva*] (see Maier 1958; Pasnau 2011, Ch 18). The medieval Aristotelians debated about whether there are *any* successive entities, focusing on the most likely candidates, motion and time. As far as I'm aware (and see Pasnau 2011, p.395), there wasn't a debate about whether people are successive entities. It was taken as a given that people aren't successive entities.

There are at least two possible reasons for this consensus. First, medieval Aristotelians, including Aquinas, Ockham, and Buridan, deny that people have parts that are independent of each other, in the sense that each part can exist without the others. They claim that if people had parts that were independent of each other in this sense, people would be "mere aggregates," rather than substances. This leads them to deny that the body can exist without the mind. It also leads them to deny that our fingers, toes, ears, and other organs can exist apart from each other (see e.g., Aquinas, *Summa Contra Gentiles*, Book II, Question 72; Pasnau 2011, Ch 26). For the same reason, they would deny that people are composed of many instantaneous bodies, because instantaneous bodies not only *can* exist without each other, but actually do exist without each other, since each exists at a different time. There's more to say about all these arguments, including why these authors insist that people are substances rather than mere aggregates, and why, following Aristotle (*Metaphysics*, Zeta, Ch 13, 1039a3-8), they insist that people would be mere aggregates if their parts could exist without each other. But hopefully this is enough for present purposes.

Second, as noted above, medieval Aristotelians standardly accept presentism, the view that objects exist only in the present. According to perdurantists, at most one temporal part of a person exists in the present. Thus, if a medieval Aristotelian accepted perdurantism, he would need to say that at most one temporal part of a person exists, and thus to deny that people exist. Similarly, if only one part of a car exists (e.g., its muffler), the car doesn't exist, and if only one part of Peter's body exists (e.g., his foot), Peter doesn't exist (see Merricks 1995, p.524). It would be hard to deny that this principle applies to temporal parts as well.[11]

These considerations not only seem to establish that human beings aren't composed of things that exist for just an instant, they also seem to establish that human beings aren't composed of things that exist for any other length of time. For the medieval Aristotelians, a human being can't be a series of

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[11]Ockham explicitly articulates the underlying principle: "that which does not exist cannot be part of any being"(*Summula Philosophiae Naturalis*, Book 3, Chapter 5; Trans. Pasnau 2011, p.385). In some cases, this principle is controversial. Albert of Saxony says that a month can exist even if none of its parts exist (*Expositio et questiones in Aristotelis libros Physicorum ad Albertum de Saxonia attributae* Book 3, Question 2; Pasnau 2011, p.386). Halsanger (2003) says that her extended family exists, even though her grandmother is a part of her extended family and her grandmother doesn't exist. But this principle shouldn't be controversial for human beings.

distinct things, no matter how long those things exist.

Almost all contemporary philosophers reject either the identity or discernibility of a person over time. This isn't a coincidence. Contemporary philosophers believe that, if we want to be coherent, these are our only options. But there's another response: reject the Indiscernibility of Identicals, perhaps in favor of a weaker principle restricted to times. I think that Aquinas, Ockham, and Buridan would respond in this way. And I think this best explains why they don't seem to regard their claims as puzzling; the Indiscernibility of Identicals didn't seem true to them, and thus there didn't seem to be a puzzle.

# 5   Further considerations

There are four further considerations in favor of this explanation.

**(1)**   Some medieval Aristotelians would even deny that identity requires indiscernibility *at a time*. For example, Scotus claims that $x$ and $y$ can be identical even if they are "formally distinct," and by definition formally distinct things have different properties at the same time. His examples include a universal and its instantiations, a soul and its faculties, and the genus and specific differentia within a substance. Thus, for Scotus, identity doesn't require indiscernibility at a time (*Reportata Parisiensia*, Book I, Distinction 33, Questions 2-3 and Distinction 34, Question 1; Adams 1982, p.416–7; 1987, p.29; King 2003, p.22).

Similarly, in defense of his understanding of properties as universals, Burley says that, "it is not absurd that numerically the same thing [namely, the universal *man*] is in heaven and in hell and that it is simultaneously in motion and at rest" (*Super artem veteran Porphyrii et Aristoteli* f. $5^{ra}$; Trans. Adams 1982, p.428). In the special case of God, many more medieval Aristotelians would deny that identity requires indiscernibility at a time. For example, Buridan says that the divine persons of God are discernible, but nonetheless identical. In particular, he says that the Father is identical to God, and God is identical to the Son, but denies that the Father is identical to the Son. Thus, in the special case of God, Buridan rejects the transitivity of identity, and thus also the Indiscernibility of Identicals (*Summulae de Dialectica*, Treatise 5, Chapter 2, Section 2).

It's unclear how much weight we should put on these examples. Scotus's and Burley's claims were controversial precisely because they deny that identity at a time requires indiscernibility at a time (more on this below). In addition, the doctrine of the trinity involves God, and thus might be exceptional. Nonetheless, that medieval Aristotelians are willing to deny that identity always requires indiscernibility, especially in cases involving indiscernibility at a time, is further evidence that they are working with different presuppositions about identity.

Notably, Scotus might have another reason for rejecting the Indiscernibility of Identicals. Medieval Aristotelians standardly claim that a substance is prior to its properties. Scotus takes this to establish that a substance's properties aren't necessary for its identity. He writes, "The identity of what is metaphysically posterior is neither necessary nor sufficient for the identity of what is prior"(*Ordinatio*, Book 2, Question 3, Number 82-83; Trans. Cross 1999, p.4). Thus, Scotus might reject the Indiscernibility of Identicals on the grounds that, for example, Peter's properties aren't necessary for Peter's identity.

**(2)** None of their arguments seem to presuppose the Indiscernibility of Identicals, rather than the principle that merely links identity to indiscernibility at a time:

  A2. If $x$ and $y$ are numerically identical, and $x$ instantiates a property at a time, then $y$ doesn't instantiate a contrary property at that time.

For example, Ockham argues (against Aquinas, *Summa Contra Gentiles*, Book II, Question 72) that a person is not numerically identical to his body, because after death the body still exists, while the person no longer exists (*Quodlibetal Questions*, Volume 2, Quodlibet 11). This argument presupposes that, if a person is identical to his body, and the body exists at a time, the person exists at that time. Thus, this argument presupposes (A2), and does not require the Indiscernibility of Identicals. Similarly, Ockham and Buridan argue (against Scotus, see above) that Peter's whiteness is not identical to Paul's whiteness, because Peter's whiteness exists in a different location than Paul's whiteness (*Ordinatio*, Part 1, Distinction 2, Questions 1 and 6; see Adams 1982, p.417–22; Adams 1987, Ch 2; Buridan, *Summulae de Dialectica*, Tr 3, Ch 5, Sec 7). They conclude that we shouldn't understand properties as universals. This argument presupposes that if Peter's

whiteness is identical to Paul's whiteness, and Peter's whiteness exists in a location at a time, then Paul's whiteness exists in the same location at that time. Thus, this argument also presupposes (A2), and does not require the Indiscernibility of Identicals. Of course, these are just two of their arguments involving identity and indiscernibility. But I can't find any arguments that require the Indiscernibility of Identicals, rather than the weaker principle.

**(3)**   As noted earlier (Section 3), from an eternalist perspective, our reasons for thinking that objects at different *locations* are non-identical also seem like reasons for thinking that objects at different *times* are non-identical. For example, our reason for thinking that Downstairs Peter is not identical to Upstairs Peter (namely: that only Downstairs Peter is white) also seems like a reason for thinking that Morning Peter is not identical to Night Peter. Thus, from an eternalist perspective, it can seem that anyone who accepts (A2) should also accept the Indiscernibility of Identicals.

But, rightly or wrongly, Aquinas, Ockham, and Buridan reject eternalism in favor of presentism. From a presentist perspective, there's an important asymmetry between locations and times: while objects exist at many locations, they exist at only one time, namely the present. Thus, a presentist will agree that Downstairs Peter exists downstairs and Upstairs Peter exists upstairs, but they will deny that Morning Peter exits in the morning and Night Peter exists at night, because at most one of these times is the present. As a result, our reasons for thinking that Downstairs Peter isn't identical to Upstairs Peter might be of a different kind than our reasons for thinking that Morning Peter isn't identical to Night Peter. Our reasons for thinking that Morning Peter isn't identical to Night Peter might be more like our reasons for thinking that Morning Peter isn't identical to certain people in non-actual situations, such as a counterfactual person born to different parents. It would take a long time to properly spell out the details of this asymmetry between locations and times, and the potential symmetry between counterfactuals and times, but I hope it's clear enough why, from a presentist perspective, our thinking about identity across locations needn't guide our thinking about identity across times.

**(4)**   From a presentist perspective, there's a different motivation for the Indiscernibility of Identicals. In particular, the Indiscernibility of Identicals might seem to follow from our ability to make true claims about the past.

Consider the claim 'Peter was white' when said at night. From a presentist's perspective, it's unclear how this claim can be true, because it's about someone who is no longer white.[12] Given presentism, it might seem that 'Peter was white' can be true when said at night only if, in some sense, Peter still instantiates *whiteness*. More generally, it might seem that we can make true claims about what Peter did only if, in some sense, Peter still instantiates the properties Morning Peter instantiated. It would follow that, if Morning Peter and Night Peter are identical, and Morning Peter instantiated a property in the morning, Night Peter instantiates that property at night. This is a short step from the full Indiscernibility of Identicals, and already sufficient for the puzzle of identity over time.[13] Thus, from a presentist perspective, it can seem that anyone who accepts:

A3. If $x$ and $y$ are numerically identical, then $x$ satisfies a predicate if and only if $y$ satisfies that predicate.

should also accept the Indiscernibility of Identicals.

Aquinas, Ockham, and Buridan would accept (A3) (see e.g., Ockham, *Ordinatio*, 1, Distinction 2, Question 6, Paragraph 24). But this line of reasoning depends on an assumption that they would reject. We can roughly state that assumption: if a claim is true, it is made true by the things that exist and the properties they instantiate. Rightly or wrongly, the medieval Aristotelians don't accept this principle. Aquinas says that, "Although knowledge has only being for its object, it is not necessary that what is known should be a real being at the time in which it is known"(*Questiones Disputatae de Veritate*, Question 2, Article 3, Ad 12, Trans. Thomas Aquinas 1952). Likewise, Buridan says that propositions about the past can be true even though "it is not the case that howsoever it signifies [things to be] outside, so are the things that are signified outside" (*Summulae de Dialectica*,

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[12]I'm setting aside claims about the future, because many medieval Aristotelians deny that claims about the future can be true, given that the future is not yet settled. See Normore 1982.

[13]We also have the ability to make true claims about things that no longer exist, such as 'Peter went running', said centuries later. Bigelow and Zimmerman argue that such claims are made true by a property instantiated by the entire world, in this case *is such that Peter went running* (see Bigelow 1996, Zimmerman 1997). They could claim this property also makes 'Peter went running' true when said at night. But it's natural to think that, if an object still exists, claims about it are made true by the properties it instantiates.

Sophismata, Chapter 2, Second Conclusion, Trans. Klima in Buridan 2001, p.850; see also ibid., To the Second Sophism, and ibid., Sixth Conclusion). One possibility is that these claims are true because God believes them, and, just as there's no distinction between God's willing something and God's doing it, there's no distinction between God's believing something and its being true (see Rhoda 2009). There are other explanations as well (for a survey, see Caplan and Sanson 2011, p.199-201). Regardless of which explanation the medieval Aristotelians would prefer, they wouldn't think that the Indiscernibility of Identicals follows from our ability to make true claims about the past, because they wouldn't accept the principle that, if a claim is true, it is made true by things that exist and the properties they instantiate.

# 6   Conclusion

It shouldn't be surprising to discover that there are philosophers who would reject the Indiscernibility of Identicals. Consider the principle that a thing is identical to itself. This principle is obviously true, and we would expect anyone to accept it, regardless of their starting point. One doesn't need philosophical training to understand and accept it. If you asked a person to choose between this principle and a principle that says that a thing is only identical to itself at some times, they would choose the former principle without hesitation. At least in part, this is because the appeal of this principle doesn't depend on one's metaphysical views about other abstract topics, such as the nature of time. In contrast, the Indiscernibility of Identicals is about properties and their instantiations, notions that are incredibly abstract and about which there's considerable disagreement. Without philosophical training, it would be hard to even understand the Indiscernibility of Identicals. As we saw earlier, it's appeal also varies with one's metaphysical view of time, in particular whether one is a presentist or an eternalist. If you asked a person without philosophical training to choose between the Indiscernibility of Identicals and the principle that links identity to indiscernibly at a time, they probably wouldn't know how to respond. If we're able to convince our students to accept it without argument, I suspect that's because we haven't clearly distinguished it from a principle that links identity to indiscernibly at a time, or a principle that's about predication rather than properties. They might also be responding to the tone of our voice ("as *everyone* will agree ..."), and our description of it as an obvious truth, and perhaps even as a

logical truth. In any case, it shouldn't be surprising that, given certain views about properties and their instantiations, and perhaps also certain views about time, the Indiscernibility of Identicals wouldn't seem true.

It also shouldn't be surprising to discover that there are philosophers for whom its unassailable that a thing changes by gaining and losing properties. After all, this view is at least suggested by our everyday experiences, and as a result might seem more trustworthy than any of the abstract metaphysical principles that conflict with it, such as the Indiscernibility of Identicals.

This doesn't mean that the Indiscernibility of Identicals isn't true. It also doesn't mean that the Indiscernibility of Identicals isn't definitive of identity. It just means that, when interpreting historical figures, we shouldn't assume without argument that they accept it, especially when they say things that seem to contradict it.

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