

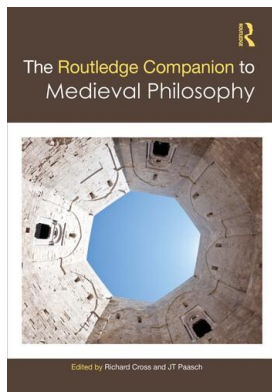
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10

IDENTITY AND SAMENESS

Andrew W. Arlig

In this chapter, we will explore some of the main metaphysical issues that pertain to identity and sameness as they were addressed in the medieval period. Of course, the notions of identity and sameness can also be approached from a logical or semantic angle. Medieval logicians had some interesting things to say about the logical and semantic properties of such terms as “same” (*idem*) and “different,” including—to name just one case—some very interesting discussions of inferences involving the substitutivity of identicals into opaque contexts.¹ This article, however, will largely ignore such logical issues.

Types of Sameness

While the word *identitas* does appear in medieval philosophical and theological works, it is much more illuminating to say that medieval philosophers developed complicated theories of kinds of sameness and their properties. In medieval discussions, identity (in our modern sense of the term)—if it is recognized by medieval thinkers—is situated within a broader discussion of kinds of sameness and difference. This way of thinking about identity and more broadly sameness is inherited from Aristotle.

Basic Aristotelian Kinds of Sameness and Difference

The primary sources for Aristotle’s views on sameness and difference are his *Topics* (along with the *Sophistical Refutations*), his *Physics*, and his *Metaphysics*. In his *Topics*, Aristotle tells us that there are three basic senses of “same”: (1) same in number, (2) same in species, and (3) same in genus (1.7, 103a7–9). Boethius repeats this threefold scheme in his *On the Trinity* 1 and hence passes this basic framework on to the earlier generations of Latin-speaking philosophers, who did not have direct access to Aristotle’s *Topics*, *Physics*, or *Metaphysics*.

To the modern ear, “numerical sameness” might suggest a relation that behaves like identity—that is, a relation that, for example, is reflexive, symmetric, transitive, and obeys the principle of the Indiscernibility of Identicals. There are some medieval discussions which suggest that philosophers in this period were sensitive to these features of identity. For example, in his great summary on logic, Buridan (2001: 313) states that every affirmative syllogism holds in virtue of the principle that “whatever things are said to be numerically identical with one and the same thing, are also said to be identical between themselves,” and (ibid.: 315) negative syllogisms are said to be valid in virtue of an analogous principle (*Summulae de Dialectica* 5.1.8). This indeed looks like transitivity.

But there are other ways in which the comparison between medieval understandings of numerical sameness and contemporary, Leibnizian notions of identity is misleading. For example, given that sameness is a relation, medieval thinkers had trouble with the notion that sameness could be reflexive:

For this reason, it is clear that if a relation always requires two extremes [i.e., disparate things] and in relations of this sort [i.e., identity relations] there are not two extremes in reality but only in the understanding, then the relation of identity will not be a real relation; it will only be a relation of reason, on account of the fact that something is said to be the same simpliciter. (Aquinas 1950, Met. V.11, n. 7)

Given the trouble that medievals had with the locution “*x* is the same as itself,” they tended to substitute that phrase for one that did not imply a relation, namely, “*x* is numerically one.” (For more on the link between sameness and unity, see the section “Comparing Identitas to Identity”.)

It is also notable that for many medievals, numerical sameness did not necessarily conform to the principle of the Indiscernibility of Identicals. The seed for this divergence from mainstream modern thinking about identity is already in Aristotle. In *Topics* 7.1, Aristotle presents some tests to determine whether two items are numerically the same or different. It is here that many commentators see a commitment to the Indiscernibility of Identicals:

Speaking generally, examine whether there is any difference among the things that are in any way predicated of either one and of those of which these are predicated. For whatever is predicated of one must be predicated of the other, and those of which one is predicate, the other must be a predicate. (152b25–29)

In an influential paper, Nicholas White (1971) has argued that Aristotle backed away from a thoroughgoing commitment to the Indiscernibility of Identicals in later works, such as in a famous passage in *Physics* 3.3, where Aristotle claims that “it is not the case that all the same things belong to things that are the same in any way whatsoever, but only to those for whom the being is the same” (202b14–16). Mario Mignucci has disputed this interpretation, but what is more germane for our present purposes is that he admits that several later Greek commentators, including most notably Simplicius, did interpret Aristotle as in effect moving away from a full-blooded commitment to the Indiscernibility of Identicals and toward the view that the principle is valid only in cases where the things that are the same not only denote the same object, but also share the same sense (1985: 86). Likewise, many of the subtler medieval thinkers thought that X and Y could be numerically the same and yet not share all and only the same properties.

Medieval Elaborations on the Basic Framework

As Alan Wolter has observed, in the Middle Ages there was general agreement that (1) there are features of the world that are really distinct from one another, (2) there are other features that are merely ways in which the human mind thinks about the world (distinctions of reason), and then (3) there are features that are not really distinct from one another and yet are in some robust sense founded in the way that the world is and not merely artifacts of humans minds.² Naturally, there was much disagreement about how precisely to characterize the third sort of phenomenon, which is perhaps borne out by the choice of terminology to describe distinctions of the third sort. To mention what are perhaps the two most famous cases, Henry of Ghent asserted that some items were not really, but only “intentionally distinct,” and John Duns Scotus availed himself of the

“formal distinction” in a number of philosophical and theological contexts. Of course, there were also some notable exceptions. Godfrey of Fontaines attacked Henry of Ghent’s use of the intentional distinction (see Wippel 1981: 79–89), and William of Ockham insisted that it was impossible for two items to be formally distinct unless there was also a real distinction (*Ordinatio* XXX, in Spade 1994: 156–158; cf. Adams 1987: 46–52, 934–936).

The obvious cases (at least for a medieval Christian) of phenomena described by (3) involved features associated with the Trinity and the Incarnation. For instance, there is one and only one God. But God is three persons, and each of those persons is God. It would seem that no two divine persons are numerically the same as each other. But that quickly threatens to split the one, absolutely simple divinity into parts, if not three gods. Hence, there is enormous pressure to assert that the persons are numerically the same as the divine essence, and yet distinct in a way that is less than real but more than merely in reason.

There are also mundane cases that seemed to fall under the third category. In the thirteenth and fourteenth centuries, for example, there was an intense interest in the question whether the essence and *esse* (being) of a concrete thing were really distinct (attributed to Aquinas and defended by Giles of Rome), distinct merely in reason (e.g. Godfrey of Fontaines and John Buridan), or distinct in some third manner (Henry of Ghent).³ Medieval philosophers also strained to describe the precise way in which a human soul, which for doctrinal reasons must be indivisible into parts, can “consist of” or have a plurality of real powers. And the so-called “moderate” realists searched for ways to describe the relationship between a particular substance and its nature, which is something that is common to all substances of a kind even though no thing can fail to be a particular.

We also find attempts to carve out a middle way between a real distinction and a distinction in reason early in the medieval tradition. Perhaps the most notable of these attempts is by the twelfth-century philosopher Peter Abelard (see Arlig 2012b, esp. 130–133). Abelard asserts that numerical sameness and difference are derivative of a more fundamental kind of sameness and difference, sameness and difference in *essentia*. X and Y are the same in *essentia* if and only if X has all and only the same parts as Y, that is, X and Y must mereologically coincide. X and Y are different in *essentia* if they fail to mereologically coincide. If X and Y are the same in *essentia*, then X and Y are numerically the same. Notice that sameness in *essentia* appears to be symmetric and transitive. If X mereologically coincides with Y, then Y mereologically coincides with X. If X mereologically coincides with Y, and Y mereologically coincides with Z, then X mereologically coincides with Z. Parasitically, numerical sameness will be symmetric and transitive.

Yet, remarkably, things may fail to be numerically the same and yet also fail to be numerically distinct. This is because things can fail to mereologically coincide in two ways: X and Y can overlap but fail to completely overlap; or X and Y can fail to overlap. Abelard makes it clear that X and Y are numerically distinct only if X and Y fail to have any parts in common. This leaves a large number of cases where X and Y are *neither* numerically the same *nor* numerically distinct. By way of contrast, numerical identity, as it is normally conceived by modern thinkers, is all or nothing: X and Y are not numerically identical if and only if X and Y are numerically distinct.

But that is not all, two items can be numerically the same and yet fail to share all and only the same properties, or to put the point in Abelard’s terminology, X and Y can be essentially and numerically the same and yet be different “in property” or “in definition.” Difference in property or definition will turn out to be the key to the Trinitarian conundrum. But Abelard also offers us a more mundane example of things that are numerically the same yet different in property: the wax and the waxen image. Students of contemporary metaphysics will recognize that Abelard is pointing to a case of material constitution, and so it appears that in his pursuit of a solution to the Trinitarian problem, Abelard has stumbled upon an answer to Allan Gibbard’s famous puzzle concerning the statue and the clay out of which it is composed (Brower 2004; Arlig 2012b). But

of more relevance in the present context, it should be observed that for Abelard, the Indiscernibility of Identicals is not constitutive of numerical sameness. Some things that are numerically the same are also the same in property. But while the wax and the waxen image are numerically the same, Abelard (1969: 247–248) insists that “their properties remain so thoroughly unmixed that the property of the one in no way participates in the other, even though the substance of both is absolutely the same in number” (*Theologia Christiana* 3.140).

A perhaps more famous, if not notorious, form of sameness and difference is Duns Scotus’s formal distinction (and its correlate, formal, or “adequate” identity), which he used to not only unravel theological knots, but also in several contexts involving the metaphysics of created things.⁴ X and Y are adequately the same when X and Y are really the same and they overlap completely with respect to their definitions. Even though formal or adequate sameness comes closest to capturing what we think of as identity, for Scotus it is a qualified form of sameness. For Scotus, the core type of sameness is real sameness. X and Y are really the same when they are inseparable. X and Y are separable, and hence really distinct, if either X can survive without Y or Y can survive without X (Cross 1998: 8–9).

In fact, once the real distinction is characterized in terms of ontological separability, it is hardly surprising that philosophers and theologians would see the need for a distinction that captures the fact that two are inseparable, and yet different in a way that does not depend upon how a human mind conceives of them. For example, if one rejects Platonism, it is not obvious that a thing’s *esse* and its essence are separable—although one defender of the real distinction between *esse* and essence asserts that they are!⁵—and it is hard to claim that the powers of Socrates’s soul are really distinct if one wants to reject the view (also associated by medievals with Plato) that a soul is actually an aggregate of (potentially) independently existing powers. Finally, there is the Trinity. Previously, it was observed that Ockham rejects the formal distinction as a third type of distinction. There is one exception: Ockham allows the use of the formal distinction in the case of the Trinity, although he strains to bleed the distinction of any ontological commitments (Adams 1987: 1000–1007; Thom 2012: 167–169).

Comparing Identitas to Identity

It should now be apparent that medieval thinking about sameness and difference is in several respects markedly different from mainstream contemporary thinking about identity. In recent years, some observers have described medieval theories of numerical sameness as “numerical sameness without identity” (Rea 1999; Brower 2004). Brower and Rea prefer this label to the one that often appears in the literature on Aristotle’s theory of sameness, viz. “accidental sameness.” But while this might be a useful way to explain medieval thinking about sameness and difference to a contemporary audience, it should not go unnoticed that in so far as this characterization suggests that the principle or core notion of sameness for a medieval is Leibnizian identity, the characterization is misleading.

The difference has much to do with the particular starting point of Aristotelian theories of sameness and difference. Following Aristotle’s lead, medieval thinkers tend to frame the various forms of sameness and difference in terms of different types of unity; indeed, many medieval thinkers describe sameness as an “attribute” (*passio*) or division of unity. So, for example, in his commentary on *Metaphysics* 5, Aquinas makes the following remark:

The parts of “one” are (1) “same” (*idem*)—i.e. “one in substance”—(2) “similar” (*simile*)—i.e. “one in quality”—and (3) “equal” (*aequale*)—i.e. “one in quantity.” And in contrast, the parts of “many” (*multitudo*) are diverse (*diversum*), dissimilar, and unequal.

(Aquinas 1950, *Met. V.11, n. 2*)

It is also sometimes observed that unity is to be characterized as a privative notion: it connotes indivisibility.⁶ When situated in this context, it should now be clear why medieval treatments of the types of sameness and difference tend to begin by itemizing the sorts of divisions which can be made in a thing. This also explains why, for instance, medieval critiques of Scotus's use of the formal distinction often centered around the fact that he seemed to be positing true pluralities in things that are supposed to be absolutely simple. For example, Scotus's initial characterization of the formal distinction seemed to commit him to positing a plurality of "realities" or "formalities" in God. While Scotus strenuously insisted that a formality is not a separable thing—and hence a true *part* of the divine essence—he seemed to be troubled by criticisms of his early version of his theory. Some have even held that Scotus altered his characterization of the formal distinction in order to dispel the illusion that he was compromising the doctrine of God's absolute simplicity (Adams 1987: 26–29; but see Dumont 2005).

Identity, Constitution, and Persistence

In the midst of a discussion of monism, Aristotle adds what appears to be a digression about wholes and parts (*Phys.* 1.2, 185b11–16): are the part and the whole one or many? Or, given that the answer to that question surely is "one considered in one manner and many when considered in another," in what sense is the part and the whole one and in what sense is the part and the whole many? In particular, if a part is one with the whole in the sense of being undivided, is it also the case that this is one with that part?

Late ancient and medieval commentators seem to have been struck by this passage and they often devoted a considerable amount of energy to the questions that Aristotle raised.⁷ As Averroes reads Aristotle, the primary question takes the form of a dilemma:

Are the part and the whole the same, and if they are the same, in what sense can they be said to be the same? For the whole appears to be other than the part. On the other hand, if the parts differ from the whole, in what sense are they said to be other? For the whole is nothing other than the collection of the parts [*congregatio partium*].

(1574: 13vL, In *Phys.* 1.2, *Comm.* 17)

Either answer seems to present us with difficulties (*ibid.*: 13vL–14rA):

For if any single one of the parts is the same *with* the whole because it belongs to the whole (that is, not separated from the whole), then any single one of the parts will be the same as the whole.⁸ And thus every one of parts will be the same with every other one. Thus, the head, the hand, and the neck will be the same . . . The opposing argument to this is not made explicit on account of it being quite notorious. It is this: every part is other than the whole. The whole is nothing other than the collection of the parts. Therefore, the whole is other than itself.

Averroes rightly observes that the opposing argument is a howler. Even if each of the parts taken singularly were other than the whole, all of them taken together (*omnes in simul*) cannot be said to be other than the whole. But, arguably, Averroes is too quick to dismiss the question whether the parts taken together and all at once are the same or other than the whole. As we will see, the claim that the whole is nothing other than the collection of the parts is controversial (see the section "Is the Whole the Same as Its Parts Taken Together?").

Averroes's treatment of the first horn of the dilemma is also much too facile, for he does not identify the precise way in which a part is the same as its whole, and in what way the part is different. True: the whole cannot be unrestrictedly the same as one of its parts, since then it ought

to be unrestrictedly the same as any other one of its parts. But then it would follow that one part (e.g. my left hand) is unrestrictedly the same as another part (say, my right hand). Averroes seems to think that by merely denying that the part is the same as the whole, the transitivity puzzle dissolves. However, as later commentators note, there also are difficulties with assuming that the part is unrestrictedly other than its whole. Surely, for example, it is one thing to say that Plato is other than Socrates, and it is another thing altogether to say that my left hand is other than my body. There is a sense in which my hand is not other than my body, since my body includes my hand. What precisely is that sense?

One common solution appears to be this (see, e.g., Aquinas 1884, *In Phys.* 1.3, n. 3): the whole is not unrestrictedly the same (*idem simpliciter*), but rather only qualifiedly the same (*secundum quid idem*) as the part. Hence, my left hand is only qualifiedly the same as my body. It is the same *secundum partem* as the body, that is, it is the same as the body in so far as it is part of the body.

This observation is surely right, but one could be forgiven for thinking that it does not go very far toward offering us a solution to the puzzle. I have suggested that we can find other, more satisfying analyses of the sense in which a part is the same as its whole elsewhere in the medieval tradition (Arliig 2012a). For instance, consider again Abelard's elaborate theory of sameness and difference.⁹ As the reader will recall from above, for Abelard, two items are essentially the same if and only if they mereologically coincide. All it takes to be essentially different is for the two things to fail to share all the same parts. Numerical difference, however, requires that the items fail to share any parts. Clearly, then, there can be cases where things are essentially different and yet neither numerically the same nor numerically different. A house and its wall, or my left hand and my body are such cases. Abelard's view can be compared to a solution to this puzzle offered by David Lewis (1993; cf. Normore 2006: 749), who, in turn, is taking up the suggestion offered by David Armstrong that absolute identity and absolute difference are the endpoints of a continuum. Between these endpoints, there are degrees of partial identity and partial difference. A part and its whole are closer to being absolutely the same to the degree that the part shares more of its parts with the whole—e.g. the top half of my body and my left hand are both partially the same as my body, but the top half is closer to being absolutely the same as my body than my left hand is.

The Problem of Too Many Animals

To see why all this might matter, we should think about not hands, but larger parts of animals and humans. Consider a medieval puzzle that Peter Geach (1980) later adapted and made famous with his example of Tibbles the cat. In the Middle Ages, the puzzle is usually centered around a man named Socrates. Since Geach himself credited William of Sherwood with the puzzle, let us quote the medieval author's presentation of it in his *Synkategoremata*:

Assign the whole Socrates the name "A," and the whole Socrates except (*praeter*) a foot "B."
Accordingly, A is an animal and B is an animal. Thus, if B is a part of A, it follows that an animal is part of an animal.

(1941: 60)¹⁰

A common response was to claim that "B is an animal" is false, since B is a part. But, as William notes, there seems to be a *prima facie* case in favor of the proposition that B is an animal, even when it is a part of A (*idem*):

Let the foot be cut off and then one would say that B is an animal. But there is not some animal now which previously was not. Thus, B previously was an animal. Therefore, "B is an animal" is true.

With a nod to Geach's formulation of the puzzle, we can see how in short order we could draw the inference that Socrates consists of an indefinite number of animals (Geach 1980: 215).

In response to all this, many medieval thinkers stuck to the assertion that a part of an animal cannot be an animal. For example, Albert of Saxony (1999: 131–132) insists that in order to say that something is an animal, “it is required that this thing is one separately existing being, which is not existing as a part of something else.” When the foot has not been amputated, the part is not an animal, although it could become an animal, since “then it would be one, separately existing substance, and it would not be existing as a part of another substance or of anything else that happens to be *per se* one” (*Quaestiones* 1.8).

Buridan (1984) also asserts that a part of an animal is not *an* animal—that is, a particular substance—but he adds an interesting elaboration (*Quaestiones in De Anima*, final lectures, 2.7). Every part of animal is animal. However, to be *an* animal, the thing must be a *per se* unity. Thus, the only thing that is *an* animal is the whole, and even though Tibs is cat, the only thing that is *a* cat is Tibbles. Buridan makes this distinction because he thinks that every part of a non-human soul has all the powers of the whole soul. Hence, Tibs has all the powers of a cat. Each part of a cat is a substance, and a substance must belong to a natural kind. The obvious natural kind under which a cat part falls is, hence, *cat*. The case of a human is even more straightforward since (for theological reasons) Buridan asserts that the human soul—though itself mereologically atomic—wholly imbues every part of the body. Thus, every non-detached part of a human body has all the powers and capacities of the whole soul and hence, each part falls under the natural kind *human*, even though no non-detached part of a human is *a* human.

William of Sherwood's own solution to the sophism is that B is an animal and B is a part of an animal, but in different manners. B is an animal, indeed the same animal as A, when considered with respect to the soul, since the whole soul imbues and perfects A and the same soul, as a whole, imbues B. (In effect, then, William seems to be suggesting that we count *animals* by counting souls.) However, when B is considered with respect to the body, B is not an animal, but rather a part of an animal. To infer that B is both a part of an animal and considered under the same respect, an animal is to commit a fallacy of accident (1941: 60–61; compare to Geach's solution, 1980: 261).

Is the Whole the Same as Its Parts Taken Together?

A much trickier problem is whether the whole is the same as all of its parts taken together. On several occasions, Abelard asserts that a whole is the same as the sum of its integral parts (Arlig 2013). As we saw earlier, Averroes also asserts—seemingly without qualification—that a whole is nothing other than the collection of the parts. And in the fourteenth century, Ockham and other nominalistically inclined thinkers held the view that a whole is its parts (Pasnau 2011: 681–688). For both Abelard and the fourteenth-century nominalists, the view that the whole is the same as its parts taken together would push these thinkers toward a stringent criterion for diachronic identity (see the section “Identity over Time and through Change”). In addition to being saddled with an uncompromising position about diachronic identity, there seem to be other problems for the view that every whole is nothing other than its parts taken together.

First, it would seem that the issue ought to have been settled by an appeal to authority. In his *Topics*, Aristotle claimed, without any apparent restrictions, that the “parts and the whole are not the same” (6.13, 150a15). Aristotle also distinguished between types of collections. Some things are merely totalities and others are wholes (*Metaphysics* 5.25). Wholes require some sort of structure. Likewise, the upshot of the final chapter of *Metaphysics* book 7 (and also book 8) is that the whole is something more than its elements; it is the elements organized by a formal principle. This, again, would seem to imply that the whole is something “over and above” the sum of its parts.

(For more on these and related Aristotelian passages, see Koslicki 2006.) Even some philosophers who did not know these parts of Aristotle's corpus appreciated the idea that some wholes might be identical to the sum of their parts, whereas others are not. For example, the anonymous author of the twelfth-century *Compendium Logicae Porretanum* notes that while all discrete wholes—both aggregates and even artifacts (i.e. wholes whose parts are “contiguous”)—*are* merely the sum of their parts, all continuous wholes are not (Anonymous 1983: 38–39).

In addition to the weight of authoritative texts, there are good philosophical reasons to resist the idea that the whole is its parts. The most significant of these philosophical reasons is that, as any reader of Boethius's *On Division* knows, the parts are “prior in nature” to their wholes. This means that the parts could exist even when the whole does not. The parts must exist, but for any whole more complicated than a mere plurality, there must be a structure in place as well. For a pile of stones to exist, the stones must exist and they must be *spatially proximate* to one another. For a *house* to exist, the house parts must exist and they must be *arranged* as a house. Even in the case of a substance, such as a horse or a human, not only must the soul and the matter exist, but they must be fitted together so that the soul *imbues* the matter. The last scenario, where soul and matter exist but lack the appropriate structuring relations, might at first be hard to imagine. Surely, in natural cases, if a substantial form is spatiotemporally proximate with matter of the right sort, the form will imbue the matter. But later medieval philosophers reminded their readers that form and matter could be proximate and yet impeded by divine power. The debate, then, seemed to center around whether the possibility of divine intervention implied that there must be something in addition to the substantial form and the matter—namely, another kind of form—that makes it such that the substantial form and the matter combine to become a whole. Ockham asserted that the possibility of divine intervention did not force us to posit extra entities. Scotus thought that it did: there had to be a real relation of inherence.

In fact, Scotus's position is even subtler than that: an “accidental unity,” such as white Socrates, is the same as the sum of Socrates, his whiteness, and the real relation of inherence. But when it comes to substantial unities, as Cross (1998) puts it, Scotus's view is “strongly anti-reductionistic.” The substantial unity is not the same as the sum of the substantial form, the prime matter, and the relation of inherence. It is an extra thing over and above the sum of the parts.

On the face of it, Scotus seems to have the weaker position, for we are immediately tempted to ask *in virtue of what* is a substance different from the sum of its substantial parts. Sometimes, Scotus's language suggests that there is an additional form that the whole substance has. But if the substance has an extra formal component, we seem to be in danger of embarking on an infinite regress. For one could ask whether the whole just is the substantial form, the matter, the relation of inherence, and the extra unifying form taken together. If the answer is yes, then Scotus does not differ from reductivists like Ockham about the claim that a whole is its parts; there is merely a disagreement about the number of parts. If the answer however is no, then there seems to be no principled reason why we cannot ask after the cause of this new unity. But in fact it seems that, following a suggestion from Aristotle's *Metaphysics* 7.19, Scotus thinks that the whole substance is not other in virtue of some additional part. This saves Scotus from the regress objection, but it leaves him with the same sort of worry that plagues the reductivists.

The reductivists must acknowledge that there can be cases where the parts exist and yet the whole does not. That is, in the end, reductivists must acknowledge that for many (if not most) cases of composition, there is an extra fact that must obtain in addition to the fact that the parts exist. Ockham, for one, acknowledges this (1984: 208, *Summula Philosophiae Naturalis* 1.19):

So it holds that the whole is nothing other than all the parts; however, not always, but only at that time when they are collocated or ordered or united in the manner required. For different unions of parts are required for different wholes: Sometimes it is required that the parts are

located altogether; sometimes that there is no distances between them in the sense that there is nothing in between; and sometimes there can be something in between, but a correct ordering is required (as when many humans make up one populace).

Abelard, likewise, concedes that extra conditions or facts must often obtain (see, e.g., 1970: 550–551). Nonetheless, both Abelard and Ockham will insist that no extra *things* (*res*) are required to explain composition. The success of the reductivist position, then, rests on whether its proponents can make reference to conditions, orderings, and other structures, without taking on any extra ontological commitments.

Identity over Time and through Change

What conditions must obtain for this animal at one time to be numerically the same as that animal at another time? In the twelfth century, there was a robust debate about this (see Arlig 2013). Again, Abelard seems to be at the center of it all, since he repeatedly is on record asserting that no thing, or *res*, has more parts at one time than at another. The so-called Nominales, who are usually considered to be Abelard's followers, reportedly asserted that “nothing grows” (*nihil crescit*). Perhaps unsurprisingly, these relatively extreme claims were attacked by other twelfth-century philosophers. And even in the case of Abelard and the Nominales, it is unclear just how widely their commitment to mereological essentialism extends. It is clear that Abelard believes that all discrete integral wholes, including man-made objects, cannot survive the addition or removal of any part. But when considering the case of human beings, Abelard rather meekly notes that perhaps one does not commit homicide when Socrates's nails are clipped (1970: 552), and the Nominales appear to have drawn a distinction between on the one hand *res* and *substances*, which are mereologically static, and on the other hand *persons*, which can grow and diminish (Martin 1998).

In contrast to the twelfth century, the question of persistence seems to have had a relatively straightforward answer for most of the thirteenth century: this animal is numerically the same as that animal provided that the substantial form of the former is numerically the same as the form of the latter.¹¹ Of course, there are some subtle differences in how this “standard” doctrine is formulated. For example, consider the nuanced version of the account in Walter Burley's short treatise on mereology:

Formal parts (*partes secundum formam*) are those which always remain the same, so long as the whole remains the same and complete. Material parts are those that come and go. Examples of the former: a hand, a head, and others of this sort always remain the same, so long as the whole remains the same. Examples of the latter: flesh and marrow, these come and go while the whole remains the same. And just as “part” is said in two ways—namely, materially or formally—so too “whole” is said in two ways—i.e. formally or materially. Hence, a man in youth and in old age is the same whole formally and has the same soul at all times, but he is not the same materially, since he possesses one matter in one stage [of his life] and a different one in a different [stage].

(1966: 301)

Burley's concession that the matter is in a sense independent from the form and hence can be said to remain the same or become different is noteworthy, since it points toward developments among his contemporary nominalist opponents. Nevertheless, his insistence that the substantial form is the principle of persistence still situates him among the proponents of the standard view.

In the fourteenth century, persistence, once again, becomes a much more complicated affair. Ockham, Buridan, Albert of Saxony, and Nicole Oresme (among others) broke from the standard

Aristotelian solution to identity over time. These thinkers held not only the thesis that a whole is its parts, but also “the no-transfer principle,” i.e. the principle that no form can move from one hunk of matter to another (Pasnau 2011: ch. 29). When these two principles are combined, it is clear that identity over time becomes problematic again. After the Condemnation of 1277, however, it was forbidden to assert that a human cannot grow by means of nourishment. Clearly, then, there had to be a sense in which a human is numerically the same over time despite mereological change. The solution that these philosophers more or less all endorsed was that there were three modes or kinds of diachronic numerical sameness: (1) numerical sameness in a “total” sense, (2) numerical sameness in a “partial” sense, and (3) numerical sameness in a “less proper” sense or in virtue of succession.¹² For X and Y to be numerically the same over time in the strictest sense, X must have all and only the same parts as Y (if X and Y have parts). Only mereologically atomic things and things that never lose or gain matter (such as celestial things) are in fact ever numerically the same in this sense. For X and Y to be the same in the second sense, X and Y must share at least one part, where this part is strictly numerically the same from time to time. This is the sense in which 10-year-old Socrates and 30-year-old Socrates are numerically the same; they share a mereologically atomic part, namely, his intellective soul. Non-human animals and plants, as well as lower order things, only have diachronic numerical sameness in the third sense, since per the no-transfer principle their souls change as their material parts change. A horse or a houseplant persists through time and changes only in virtue of there being a succession of causally related horses or plants.

There is a lot more than one could say about this remarkable treatment of survival through change. For the present, however, a few brief remarks must suffice. Most importantly, note that we should not be too quick to attribute to all of these nominalist thinkers the thesis that there is a strict and proper sense of “identity” and a loose and vulgar sense in which something is the “same as” another. For example, Buridan appears to be contrasting three different philosophical senses of being the same—each with different, but precisely defined truth conditions—with the way that we commonly speak. For instance, here is what he says about the persistence of human beings:

The third thing to say is that, from the beginning of his life up to the end, a man remains partially the same, or I should say, [the same] with respect to his noblest and most principal part (that is, with respect to the intellective soul, which always remains wholly the same). And from this we can conclude that speaking in an unqualified way and without anything added that a man remains the same from the beginning of his life to the end. And this is because we customarily denominate, unqualifiedly and without adding anything, a thing by means of its most principal part, and this is especially so if the most principal part is something that is clearly superior in the way that the intellective soul is superior to the body.

(2010, *De Gen.* 1.13)

In many conversational contexts, we are entitled to make unqualified attributions of sameness. It is only when we are doing natural philosophy that we must be sure that we qualify our statements, given the kind of entity under scrutiny. Moreover, Buridan seems to be explaining why we are usually not misled when someone makes an unqualified statement about sameness in colloquial contexts.

Nevertheless, some later medieval philosophers, including Nicole Oresme and John Major, did draw a distinction that resembles Bishop Butler’s famous division between strict and popular senses of identity (see Pasnau 2011: 700, 703). And this is certainly a predictable trajectory that these nominalist inquiries into numerical sameness over time might take. Hence, the theory of diachronic identity offered by these later nominalistically inclined philosophers is perhaps one of the clearest cases where we see affinities between the philosophy of the later Middle Ages and the philosophy of the early modern period.

Notes

- 1 The *locus classicus* for such discussions is Aristotle's *Sophistical Refutations* 24. For an analysis, see Mignucci (1985: 75f). For medieval treatments of the issues raised in this section of the *Sophistical Refutations*, see the helpful discussion by S. Read and G. Priest in Priest (2005: 68–81).
- 2 See his “The Formal Distinction” and “Scotus’s Realism,” both reprinted in Wolter (1990). This outline of the medieval consensus appears on pp. 27–30, 43–45.
- 3 For an overview of one such thirteenth-century debate, see Wippel (1981: ch. 2). On Aquinas’s commitment to a real distinction between essence and *esse*, see Wippel (2000: 145f). Cf. Giles of Rome *Theoremata*, Thms. 5 (1930: 24f) and 12 (p. 68f). For Buridan, see *Quaestiones in Metaphysicam* 4.8 (1588) and Stuart (1993).
- 4 For example, the formal distinction is employed in Scotus’s analysis of what makes an individual thing individual (Spade 1994: 107).
- 5 Giles of Rome *Theoremata*, Thm. 12 (1930: 67–68).
- 6 Buridan, *Quaestiones in Isag.* q. 11 (1986: 170.1780–98).
- 7 For a particularly fascinating late ancient discussion, see Philoponus’s *In Phys.* 1.2 (2006: 65–68).
- 8 “Si unaquaeque partium est idem cum toto, quia est totius, id est non separata a toto, tunc unaquaeque partium idem toti.” It is not quite clear what turns on the difference between being the same with X and being the same as X.
- 9 It should be observed that Abelard was not directly aware of the passage from the *Physics*.
- 10 Cf. Kretzmann’s translation (Sherwood 1968: 60–61). See also Albert of Saxony, *Quaestiones* 1.7 (1999: 97). In Albert’s *Quaestiones*, the puzzle is one of several raised in opposition to the claim that the whole is its parts (*utrum totum sit suae partes*). On the issue of whether a whole is the sum of its parts, see the section “Is the Whole the Same as Its Parts Taken Together?”. The puzzle concerning an indefinite number of men is also raised in Albert’s logical treatises, as well as logical and physical treatises by others. For the discussions in these logical works, see Fitzgerald (2009).
- 11 See Pasnau (2011: 689–692). Interestingly, Scotus seems to take a different view. When examining the doctrine of bodily resurrection, Scotus defends the view that the identity of a particular substance S requires the identity of S’s matter. This is in stark contrast to, for example, the view of Aquinas, which holds that form is primarily what determines identity. The doctrine of resurrection adds some extra wrinkles to the problem of personal identity over time, since this supernatural event raises the possibility that a thing can have a gappy existence. On this issue, Aquinas thinks that a human cannot have a gappy existence, whereas again Scotus remarkably enough held that the identity of S at two moments in time does not require that S or any part of S exist at all times between these two moments. For a discussion of Scotus’s position, see Cross (1999).
- 12 See, e.g., Buridan (2010) *De Gen.* 1.13 and (1509) *Phys.* 1.10, and Albert of Saxony (1999) *Quaestiones* 1.8, as well as references to other nominalist thinkers in Pasnau (2011: 695–702). Ockham’s theory is not as well developed, but it clearly tends toward the theories espoused by Buridan et al. (see Pasnau 2011: 692–695; Normore 2006: 751–753).

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