

Spinoza on Mind, Body, and Numerical Identity

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1 Introduction

Spinoza claims that the mind and body are “one and the same.” But he also claims that the mind thinks and does not move, whereas the body moves and does not think. How can we reconcile these claims?

As a way of sharpening the challenge, let’s restate it as a puzzle involving Spinoza’s favorite philosophical character: Peter. Suppose that Peter woke up one morning and decided to go for a run. Let BODY be the body that went running, and let MIND be its mind.

- 1a. BODY moved and did not think, whereas MIND thought and did not move.
- 1b. BODY and MIND are numerically identical.
- 1c. $(x)(y)(P)$: If x and y are numerically identical, then $P(x)$ iff $P(y)$.

These claims seem mutually inconsistent. Which claims, if any, would Spinoza reject?

I will argue that Spinoza would reject (1c), i.e., the Indiscernibility of Identicals. This response might initially seem absurd, because many now regard the Indiscernibility of Identicals as an obvious truth, and perhaps even a definitional truth. But I’ll argue that it is continuous with a traditional way of thinking about identity. In that tradition, identity is linked to essence, rather than to indiscernibility. In particular, x and y are identical if and only if they share the same essence, regardless of any discernible differences.

I think that Spinoza is drawing on this tradition to offer a novel account of the mind’s relation to the body. It might help to compare his account to Descartes’s. As I interpret Spinoza: He agrees with Descartes that the mind and body are numerically identical only if they share the same essence. He also agrees with Descartes that the mind thinks, but does not move, while the body moves, but does not think. But he disagrees with Descartes about

the essence of the mind and body. Unlike Descartes, he denies that the mind's essence is to think, and that the body's essence is to be extended. Instead, he claims that what's essential to the mind and body is a pattern of activity, a pattern that the mind actualizes in its thoughts, and the body actualizes in its motions. He also disagrees with Descartes about whether sharing the same essence is sufficient for identity. According to Descartes, my mind and your mind can share the same essence without being identical. Likewise, my body and your body can share the same essence without being identical. Spinoza, however, insists that sharing the same essence is sufficient for identity. Thus, according to Spinoza, the mind and the body are identical because they share the same essence, even though the mind only thinks and the body only moves.

To appreciate why Spinoza might be attracted to such an account, let's consider why he might have regarded it as superior to dualism and materialism. Dualists, such as Descartes, claim that the mind and body are numerically distinct, a view that might seem to preclude the mind and body from constituting a unified human being. Materialists, such as Hobbes, reduce the mind to the body, a view that might seem to mischaracterize thought as a kind of motion. As I interpret Spinoza, he's suggesting an alternative to dualism and materialism that's designed to avoid their unappealing consequences. In particular he's suggesting that the mind and body are unified in one of the strongest possible senses, in that they're identical, while also insisting that thought and motion are discernible activities, and thus neither can be understood in terms of the other.

Before we consider the details of Spinoza's account, it will be helpful to consider a parallel puzzle about identity across times. I'll first argue that Descartes, among others, would respond to this other puzzle by rejecting the Indiscernibility of Identicals. I thereby hope to establish that there's a tradition that links identity to essence, rather than indiscernibility. I believe that Spinoza is using this tradition to develop a new understanding of the mind's relation to the body. I'll then argue that, like Descartes, Spinoza would respond to this other puzzle by rejecting the Indiscernibility of Identicals. I thereby hope to establish that Spinoza's response isn't an *ad hoc* maneuver to avoid the unappealing consequences of dualism and materialism. Instead, it reflects a systematic approach to identity. In other work I argue that he would respond similarly to two other puzzles about identity, one involving identity across "levels" within the attribute of thought (e.g., the identity of MIND the idea of it) and the other involving identity across "columns" within

the attribute of thought (e.g., the identity of MIND and the idea of a mode of an unknown attribute).

Whether Spinoza's account is ultimately satisfying is a complicated matter that we can't settle here. But there's grounds for optimism. Spinoza's metaphysics has already broadened our philosophical imagination by forcing us to engage with views that at first seemed absurd but on closer examination proved credible. Panpsychism and substance monism are recent examples (see e.g., Strawson [Strawson2006], Schaffer [62]). His view of the mind's relation to the body might prove to be another. In the conclusion I'll explain why property dualists should pay especially close attention.

2 Identity Across Times

As before, suppose that Peter woke up one morning and decided to go for a run. But now also suppose that, at night, Peter decided to go to sleep. Let MORNING be the body that was moving, and let NIGHT be the body that was resting. The following three claims seem mutually inconsistent:

- 2a. MORNING moved and did not rest, whereas NIGHT rested and did not move.
- 2b. MORNING and NIGHT are numerically identical.
- 2c. $(x)(y)(P)$: If x and y are numerically identical, then $P(x)$ iff $P(y)$.

Which claims, if any, should we reject? Let's start by considering three contemporary proposals to clarify what's distinctive about Descartes's and Spinoza's proposals.

2.1 Contemporary Proposals

Some, including Mellor [43, Ch 8], would reject (2a), the discernibility of MORNING and NIGHT. Mellor would insist that *moving* and *resting* are relations to times. He would then insist that MORNING and NIGHT stand in the same relations to the same times, namely:

MORNING stands in the *moving* relation to the morning
 MORNING stands in the *resting* relation to the night
 NIGHT stands in the *moving* relation to the morning
 NIGHT stands in the *resting* relation to the night

Mellor would conclude that MORNING and NIGHT are indiscernible.

This isn't the only contemporary proposal for rejecting the discernibility of MORNING and NIGHT. What unifies them is the insistence that, in some sense, MORNING and NIGHT both have the property of running in the morning. What differentiates them is the sense in which they both have that property. For Mellor, it's that *moving* is a relation to a time, and MORNING and NIGHT both stand in that relation to the morning. For Johnston [33], it's that *instantiation* is a time-indexed relation, and MORNING and NIGHT both stand in the same time-indexed relations to the same properties. There are other proposals as well. For our purposes, however, Mellor's proposal will be sufficiently representative.

Others, including Hawley [27, Ch 2], would reject (2b), the identity of MORNING and NIGHT. She claims that a body exists only for an instant, at which point it is replaced by a new body. The new body is often, but not always, nearly indiscernible from the old body. For example, MORNING was replaced by a body that was nearby indiscernible, except that it was moving slightly faster, and perhaps also had a slightly different shape, because its knee was slightly higher. It was then replaced by another body, and so on. According to Hawley, there is no body that was moving in the morning and then resting at night. There was just a series of different bodies, some in motion, others at rest. MORNING and NIGHT are supposed to be bodies in that series. This view has its roots in the writings of Heraclitus and other ancient authors.

Still others, including Lewis [37, Ch 4], would reject either the discernibility or identity of MORNING and NIGHT, depending on how these names are disambiguated. Lewis agrees with Hawley that there are bodies that exist for only an instant (though he prefers to call them 'body stages'). But Lewis thinks there are other bodies as well. These additional bodies are composed out of instantaneous bodies, and they exist "partly" whenever one of their instantaneous parts exists. Thus, according to Lewis, there were many bodies that were moving in the morning: To start, there were all the instantaneous bodies, one for each instant in the morning. In addition, there were bodies composed out of at least one of those instantaneous bodies. As a result, the

names MORNING and NIGHT are ambiguous, because I let MORNING be *the* body that was moving in the morning, and I let NIGHT be *the* body that was resting at night, when in fact there are many bodies that satisfy those descriptions. If we disambiguate these names so that they refer to the same body, and that body is composed out of at least one instantaneous body that was running in the morning and at least one instantaneous body that was resting at night, then Lewis would deny their discernibility. But if we disambiguate them so that they refer to anything else that satisfies the relevant descriptions, Lewis would deny their identity.

As far as I can tell, almost all contemporary philosophers think that they have to choose between these three options, and reject the discernibility or identity of MORNING and NIGHT.¹ But there's another response, with deep historical roots: give up the Indiscernibility of Identicals in favor of a weaker principle. I believe that Descartes and Spinoza are working in this other tradition.

2.2 Descartes

Let's start with Descartes's commitment to the discernibility of MORNING and NIGHT. Descartes thinks that a thing's motions, colors, textures, and shapes are *modes* of that thing, or ways in which that thing exists (AT VIII 26, 31). Modes are created when a thing starts to exist in the relevant way, and destroyed when the thing no longer exists in that way. As a result, once a thing stops moving, there's no sense in which its previous motion is still a mode of it. Instead, it has a new mode, because it exists in a new way. For this reason, Descartes would think there's a discernible difference between MORNING and NIGHT.

There's an indirect route to this same conclusion. As far as I'm aware, philosophers working in the seventeenth century never consider, let alone endorse, the possibility that *moving* is a relation to a time. They also never consider, let alone endorse, the possibility that *instantiation* is a time-indexed relation. More generally, they never consider, let alone endorse, the possibility that, in some sense, MORNING and NIGHT have the same properties. It's therefore unlikely that Descartes implicitly endorses one of these proposals.

Why weren't these proposals even considered? I believe that these pro-

¹See the surveys by Wasserman [71] and Kurtz [36]. There are exceptions: Baxter [8], Gallois [21, Ch 3], and Myro [45].

posals are inconsistent with their understanding of properties as modes and their understanding of instantiation as inherence. As a result, I don't think these proposals would have seemed like genuine philosophical possibilities. For example, Mellor's proposal requires properties to be polyadic relations. However, philosophers working in the seventeenth century, like their medieval predecessors, standardly reduce or eliminate polyadic relations from their metaphysics.² Perhaps as a result, they standardly assume that all modes are intrinsic. Likewise, Johnston's proposal requires instantiation to be a relation that a thing can bear to properties it does not instantiate relative to the present. However, philosophers working in the seventeenth century, like their medieval predecessors, understood inherence to be a relation that a thing bears to properties relative only to the present; its past properties were understood to no longer inhere in it. This is built into their account of accidental change. Socrates is white at one time, and not white at another time, because whiteness inheres in him at one time, and not at another time.³ Of course, there are many other contemporary proposals. But explaining why each of them wasn't considered would require a lengthy discussion, distracting from our main thread. It might also turn out that there are exotic proposals that they could have considered, and perhaps should have considered, but didn't. Fortunately, for our purposes it's enough that these proposals weren't considered, let alone endorsed.

Let's now turn to Descartes's commitment to the identity of MORNING and NIGHT. In a 1645 letter to Mesland he says that a human body remains numerically the same as long as it is united to the same soul.

[W]hen we speak of the body of a man, we do not mean a determinate part of matter, or one that has a determinate size; we

²See Penner [55] for the medieval background and its influence on Leibniz. Descartes seems to be working in this tradition. First, order and number are paradigmatic examples of polyadic relations, and Descartes says that they're simply ways of thinking about the things ordered and numbered (AT VIII A: 26). Second, Descartes's definitions of 'mode' and 'modal distinction' seem to presuppose that all modes are intrinsic (AT VIII A 26, 29–30).

³See Nomore [50, p.681, 684]. Going one step deeper, I think they understand inherence in this way because they accept presentism and trope theory. As presentists, they think that, if Socrates's whiteness still inheres in him in some sense, it still exists in the present. As trope theorists, they think that, if Socrates's whiteness exists in the present, it exists at a location in space. But where does Socrates's whiteness exist? And why does it no longer make anything white? These questions aren't unanswerable, but they are uncomfortable.

mean simply the whole of the matter which is united with the soul of that man. And so, even though that matter changes, and its quantity increases or decreases, we still believe that it is the same body, numerically the same body, so long as it remains joined and substantially united with the same soul (AT IV 166; Trans. Cottingham et al. [18, 3:243]).⁴

MORNING and NIGHT are united to the same soul. Therefore, Descartes is committed to their identity.

Descartes also seems committed to their identity by his more general account of bodies. In the *Meditations* he says that a piece of wax remains numerically the same body as it melts, despite changes to its color, texture, and shape:⁵

But does the same wax remain? It must be admitted that it does; no one denies it, no one thinks otherwise... I am speaking of this particular piece of wax; the point is even clearer with regard to wax in general... It is of course the same wax which I see, which I touch, which I picture in my imagination, in short the same wax which I thought it to be from the start (AT VII 30-31; Trans. Cottingham et al. [18, 2:20–21]).

More generally, a body remains numerically the same despite changes to its modes, including its motions. He writes elsewhere,

[T]he same body can exist at one time with one shape and at another with another, now in motion and now at rest (AT IV 349; Trans. Cottingham et al. [18, 3:280]; see also AT VIIIA 31).

⁴He elsewhere he says that “a human body loses its identity merely as a result of a change in the shape of some of its parts” (AT VII 14; Trans. Cottingham et al. [18, 2:10]; see also AT XI 330–1). However, he’s there contrasting the immortality of the soul with the mortality of the body, and thus is merely saying that a human body is destroyed when certain of its parts change shape, such as when its lung permanently collapses. See also Kaufman [34, fn 17].

⁵There’s debate about whether it remains numerically the same *piece of wax* (see Kaufman [34, p.80]). But we’re assuming something weaker, namely that it remains numerically the same *body*.

This seems to commit Descartes to the identity of MORNING and NIGHT.⁶

There's an important complication. In the same letter to Mesland he denies that bodies always survive changes in their parts. Thus, if MORNING and NIGHT have different parts, his general account of bodies doesn't imply that they're numerically identical. In this regard, his choice of examples in the *Meditations* is perhaps significant, because a piece of wax doesn't seem to gain or lose parts as it melts. Fortunately, we can build into our puzzle that MORNING and NIGHT have all the same parts, perhaps by supposing that God intervenes to prevent NIGHT from gaining or losing parts. In that case, like the wax before and after it melts, MORNING and NIGHT differ only in their motions, colors, textures, shapes, and other modes, and are therefore numerically identical.

Would Descartes accept a Lewis-like proposal? Descartes never talks about instantaneous bodies, and never describes enduring bodies as composed out of bodies that exist at different times. It's therefore unlikely that he would accept a Lewis-like proposal, according to which human beings exist only "partly" at each instant. There might also be a philosophical reason why he *can't* accept a Lewis-like proposal. Descartes says that God preserves a thing by *recreating* it at each moment (AT VII 49–50, 109), which suggests that God creates it moment-by-moment, through distinct acts of creation, rather than at all moments in a single act of creation. It also suggests that a thing exists simultaneous with God's act of creation, so that a thing exists at a moment just in case God creates it at that moment. Descartes's claim therefore suggests presentism, the view that a thing exists only if it exists at the present moment. In that case, Descartes can't countenance anything composed out of bodies that do not exist in the present moment.⁷

⁶Some question this interpretation of the wax passage (e.g., Pasnau [54, p.143]). I think they're wrong, but for our purposes what's more important is that Spinoza thinks they're wrong. Spinoza attributes to Descartes the view that, "Even though the hardness, weight, and the rest of the sensible qualities are separated from a body, the nature of the body will still remain whole" (PP 2P1). Spinoza also attributes to Descartes the axiom that, "If something can be removed from a thing, while the thing remains intact [*integra*], it does not constitute the thing's essence..." (PP 2A2). It follows that a body remains "intact" even as it changes its sensible qualities.

⁷Gorham [25, p.168–70] disagrees. He thinks that bodies at distinct times must be distinct substances because past bodies and future bodies can exist without each other (by AT VII 109, 370) and "two substances are really distinct if one can exist without the other" (AT VII 162). He infers that Descartes accepts a Lewis-like proposal ("perdurantism"). However, I don't think a presentist would apply the criterion for real distinction

I believe Descartes is best interpreted as rejecting the Indiscernibility of Identicals. As noted earlier, many contemporary philosophers regard this response as absurd, perhaps as absurd as denying the definitional truth that triangles have three interior angles. But there is a philosophical tradition, rooted in Aristotle, in which the Indiscernibility of Identicals has a different status. 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 time and dark at another, and hot and cold, and bad and good. (Aristotle, *Categories*, Ch 5, 4a10-11 and 18-21; Trans. Ackrill [4, p.7]; see also *Metaphysics*, Bk 5, 1016a35–106b3)

While interpreting Aristotle is always tricky business, he seems to think that a man is the same over time despite discernible differences (indeed “contraries”). Medieval authors working in the Aristotelean tradition make similar claims. Let’s focus on three of the most influential authors in this tradition: Aquinas, Ockham, and Buridan. They write, respectively:

[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 intellectual soul is the same]. (Aquinas, *Summa Contra Gentiles*, Book IV, Question 81, Line 4157; Trans. Pasnau [54, p.691])

[Despite changes in their matter] someone is certainly said to be numerically the same human being, because the intellectual soul, which is a simple form, remains in the whole and in each part (Ockham, *Opera Theologica*, Book VII, Line 264; Trans. Pasnau [54, 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 part

to bodies at distinct times.

[namely: the intellective soul] (Buridan, *Quaestiones super libros De generatione et corruptione Aristotelis*, Book I, Question 13; Trans. Pasnau [54, p.697]).

Aquinas, Ockham, and Buridan claim that a human body is numerically identical over time because of its intellective soul, a substantial form. Thus, they would say that MORNING and NIGHT are numerically identical because of Peter’s intellective soul. Aquinas, Ockham, and Buridan also claim that a human body is numerically identical over time despite changes in its matter, presumably including a loss of water and nutrients. Thus, they would say that MORNING and NIGHT are identical despite discernible differences.

Strikingly, these authors don’t seem to regard their claims as even superficially paradoxical. For example, they don’t consider anything like the contemporary proposals for rejecting the discernibility of MORNING and NIGHT. Instead, they just move on to the next topic. Perhaps this is because these proposals are inconsistent with their understanding of properties as real accidents or modes, and their understanding of instantiation as inherence. Or perhaps these proposals just never occurred to them. In any case, I think the best explanation is that they link identity to substantial form, and thus to essence, rather than to indiscernibility. To someone working in this tradition, the Indiscernibility of Identicals wouldn’t have seemed like an obvious truth.⁸

I think that Descartes is best interpreted as working in this tradition. Like Aquinas, Ockham, and Buridan, he’d insist that MORNING and NIGHT are numerically identical, despite discernible differences, only if they share the same essence. Aquinas, Ockham, and Buridan were especially influential in France.⁹ It is thus likely that Descartes was exposed to their views, probably

⁸I’m smoothing over many subtleties and controversies in medieval discussions of essence. For example, according to Aquinas and Buridan, the essence of MORNING and NIGHT includes “common matter” (Aquinas, *Summa Theologica*, Volume, 1a Question 29; Buridan, *In Metaphysicam Aristotelis quaestiones*, Book VII, Question 12; see Pasnau [54, p.551n4]). In contrast, according to Ockham, the essence of MORNING includes “individuated matter” (*In libros Sententiarum*, Book VII Question 13; Trans. Pasnau [54, p.693]), which is matter that a thing gains and loses, and therefore MORNING doesn’t have the same essence as NIGHT. Ockham would instead say that MORNING and NIGHT are numerically identical because their essences share a part, namely the same intellective soul.

⁹See Roensch [61], Courtenay [14, Ch 8] and Thijssens [69], respectively, for the influence of Aquinas, Ockham, and Buridan on French scholasticism.

during his student days at La Flèche.¹⁰ Indeed, Descartes seems to have their views in mind when in his letter to Mesland he says that the human body is numerically identical over time because of its relation to the soul.

This isn't to say that Descartes's view is thoroughly traditional. There are at least two important departures. The first is that Descartes doesn't countenance substantial forms (AT III 502), and thus owes us an alternative account of the essence shared by MORNING and NIGHT. According to Descartes, they share the same essence in that they share the same principle attribute. In particular, they share the attribute of extension (AT VIII A 25). The second, related departure is that Descartes doesn't think that sharing the same essence is sufficient for numerical identity. For example, Descartes thinks that all bodies are extended, and thus share the same essence, while still insisting that they are distinct from each other.¹¹ What's sufficient for numerical identity? For human bodies, it's their inessential relation to the soul (AT IV 166–7). For non-human bodies, it's unclear, but it might be retaining the same parts (also AT IV 166–7), and it's debatable whether it's essential to a body to have those exact parts, rather than just to have some parts (see AT VIII A 42). In any case, for Descartes sharing the same essence is necessary, but not sufficient, for numerical identity.

This also isn't to say that Descartes, or any of the others, completely sever the link to indiscernibility. Descartes argues that a body and its mind are numerically distinct because the body has parts while the mind is simple (AT VII 13, 86). This argument presupposes that discernibility sometimes implies numerical distinctness. One possibility is that Descartes is relying on a weaker principle that's restricted to indiscernibility *at a time*. Let x_t denote an object as it exists at time t . He might accept:

2c.' (x)(y)(P)(t): If x and y are numerically identical, then $P(x_t)$ iff $P(y_t)$.

This principle validates the argument mentioned above, while also allowing MORNING and NIGHT to be numerically identical, despite discernible differences, so long as they don't move and rest at the same time.

¹⁰See Ariew [2, p.9] for more on Descartes's education at La Flèche.

¹¹There's a debate about whether distinct bodies are distinct *substances* (see Secada [66, p.208]). There's also a debate about whether the distinctions between bodies are mind-dependent (see Sewal [67]). But there shouldn't be a debate about whether they're distinct. In any case, minds share the same essence (AT VIII A 25), and they're unquestionably distinct substances (AT VII 14).

There's precedent for such a principle. In *The Truth of the Sciences* Mesland interprets the principle "that it is impossible for the same thing to be and not to be" as implying that the same thing cannot be green and not green, sweet and not sweet, and so on. He also says that this principle should be understood as implicitly restricted to a time ([3, p.162]).

Stepping back, here's my argument in a nutshell: Descartes is straightforwardly committed to the numerical identity of MORNING and NIGHT. His understanding of properties as modes seems to commit him to their discernibility and he never considers any of the now popular proposals for rejecting their indiscernibility, perhaps because these proposals weren't yet part of a philosophical tradition that might have influenced him. In contrast, it's highly probable that Descartes was exposed to a philosophical tradition in which philosophers weren't committed to the Indiscernibility of Identicals. It's even possible that he absorbed this tradition unreflectively. In addition, none of Descartes's arguments presuppose the Indiscernibility of Identicals, rather than the weaker principle just mentioned. And he certainly never explicitly commits himself to the Indiscernibility of Identicals or anything that entails it. I conclude that, all things considered, Descartes is best interpreted as rejecting the Indiscernibility of Identicals. Perhaps more importantly, at least given our ultimate aims, Spinoza might have reasonably interpreted Descartes in this way.

Before considering how Spinoza might respond to this puzzle, let's consider the perspective of some contemporary philosophers, including some prominent historians of philosophy. These philosophers will think that anyone who would reject the Indiscernibility of Identicals isn't really talking about numerical identity, because, according to these philosophers, the Indiscernibility of Identicals is *definitive* of numerical identity. Should we follow them, and conclude that Aquinas, Ockham, Buridan, and Descartes aren't really talking about numerical identity?¹²

¹²I am thinking especially of Della Rocca [59, p.132] and Pasnau [54]. I'll address Della Rocca in the next section. Because Pasnau doesn't think that Ockham, Buridan, and Descartes would really give up the Indiscernibility of Identicals, he concludes that Ockham's view is incoherent (p.695), that Buridan is merely suggesting a way of talking (p.697), and that Descartes is implicitly relying on a distinction between so-called "thick substances" and "thin substances" that appears nowhere in the text and that is hard to reconcile with his other metaphysical commitments, including his deflationary view of modes (p.143). What follows is in part a response to Pasnau. But even if you agree with Pasnau, what's more important is that Aquinas, Ockham, Buridan, and Descartes can naturally be read as giving up the Indiscernibility of Identicals, and therefore might have

No. For concreteness, let's focus on one of Buridan's most succinct arguments for identity over time. He argues that otherwise, "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 [12]). Why think that he's really talking about numerical identity? Most obviously, he says a few sentences later, "we are asking not about sameness with respect to species or genus, but about numerical sameness, according to which 'this being the same as that' means that this is that." His argument also 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. Finally, his conclusion would amount to the mere suggestion that we should *say* that the adult is numerically identical to a child, even though he elsewhere goes to great lengths to establish more than verbal consistency with Christian doctrine. For example, like most other scholastics, he insists that the accidental forms of a communion wafer continue to exist after the communion wafer is destroyed and replaced by the body of Christ (*In Metaphysicam Aristotelis quaestiones*, Book IV, Question 6; see Bakker [7, p.250–4]). Buridan doesn't merely insist that we should *say* that accidental forms continue to exist, and presumably he's as serious about the sacrament of baptism as he is about the sacrament of the eucharist.¹³

Stepping back from Buridan's argument, I think it would be conceptual imperialism to deny that these authors are really talking about numerical identity. Philosophers have been talking about numerical identity since the beginning and there's room for substantive debates about what it involves, just as there's room for substantive debates about what God, justice, truth,

influenced others to do so, even if this wasn't their intent (and in this connection see fn 3).

¹³Arlig 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" ([6, p.24]).

There are two additional considerations. First, Buridan's conclusion wouldn't conflict with the conclusions of those philosophers who, like Autrecourt (see Pasnau [54, p.703]), deny that people are numerically identical over time, even though Buridan writes as though he's arguing for a controversial conclusion.

Second, it would be hard to understand why the sentence 'Socrates will tomorrow be running' is supposed to be true "strictly speaking" (Buridan, *Summulae de Dialectica*, Chapter 4, Reply to 5th Sophism; Trans. Klima [13, p.888])

and beauty involve. It's not a technical notion that was stipulated into existence. As I hope everyone will agree, it would be imperialistic to deny that Muslims are really talking about God because they deny the divinity of Jesus (*Qur'an*, 4:171). It would be similarly imperialistic to deny that Ockham, Buridan, Descartes, and others are really talking about numerical identity because they don't accept the Indiscernibility of Identicals. Like religion, 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 philosophers must concede the point. For example, they are free to identify better responses to the puzzle of identity over time. They are also free to argue that the Indiscernibility of Identicals is built into the definition of identity even though some have rejected it, just as some argue that *modus ponens* is built into the definition of the material conditional even though some have rejected it. And they're free to avoid all conflict by stipulating that by 'identity' they mean a relation that satisfies the Indiscernibility of Identicals. Nonetheless, I don't think contemporary philosophers should deny that Aquinas, Ockham, Buridan, Descartes, and others are really talking about numerical identity when they give up the Indiscernibility of Identicals. And if contemporary philosophers decide to stipulate a particular meaning for 'identity', they should at least have the courtesy to use an asterisk, as should anyone who stipulates a particular meaning for a term with such a long and complicated history.

2.3 Spinoza

Let's start with Spinoza's commitment to the discernibility of MORNING and NIGHT. Like Descartes, Spinoza regards a thing's motions, colors, textures, and shapes as *modes* of that thing, or ways in which that thing exists (1P25C, 2D1). Also like Descartes, Spinoza thinks that modes are created when a thing starts to exist in the relevant way, and destroyed when a thing starts to exist in another way. This feature of modes is especially clear for Spinoza, because he regards candles, tulips, butterflies, and human bodies as modes, and they're obviously created and destroyed. He also thinks that the modes of these modes are created and destroyed. For example, emotions are modes of our mind, and he repeatedly says that they're destroyed (3P43, 3P38, 4P7, 5P2, 5P20S). Spinoza's metaphysics does contain modes that always exist: the so-called *infinite* modes (1P21-23). But bodies, minds, and their modes are finite, and thus exist at some times, but not others. For this reason,

like Descartes, Spinoza would think there's a discernible difference between MORNING and NIGHT.

As before, there's also indirect support for this conclusion: nobody in the seventeenth century, Spinoza included, considers or endorses anything like the contemporary proposals for rejecting the discernibility of MORNING and NIGHT. It's therefore unlikely that Spinoza would reject their discernibility because he endorses one of these proposals.

Let's now consider his commitment to the their identity. The most important passage is his definition of "one body" in the so-called physical digression following 2P13:

When a number of bodies, whether of the same or different size, are so contained by other bodies that they lie upon one another, or if they so move, whether with the same degree or different degrees of speed, that they communicate their motions to each other in a certain fixed pattern [*ratio*], we shall say that those bodies are united with one another and that they all together compose one body, or individual, which is distinguished from the others by this union of bodies. (2PhysD1; see also KV App. II Sect. 14)¹⁴

Spinoza infers from this that, if a body's pattern of motion is disrupted, the body is destroyed (2PhysD1, 4P39S). He also infers that, as long as that pattern is preserved, the body remains numerically the same, as when its parts merely grow in size (2PhysL5) or when there's merely a change in the direction or speed of its overall motion (2PhysL6, 2PhysL7). By themselves, these inferences are compelling evidence that Spinoza is committed to the identity of MORNING and NIGHT.

In later passages, he's even more explicit that the body remains numerically the same, and is not replaced by a body of the same type. For example, he says that "one and the same man" can respond differently to the same stimulus at different times (3P51&S; see also 4P33). An insult might infuriate a man when he's young, but have no effect after his intellect is sufficiently strengthened (4P44S). In later passages, he's also more explicit that a human body can survive considerable changes. He says that the mind, and therefore the body (by 2P7), can "undergo great changes, and pass now to a greater,

¹⁴Curley [68] translates *ratio* using 'manner'. But Garrett [23, p.86–7] persuasively argues that 'pattern' better conveys what Spinoza has in mind.

now to a lesser perfection” (3P11S; see also 4Pref, 4P27). A human body can survive transitions from sadness to joy (3DefAffect), from sickness to health (5P39S), and, more generally, from childhood to old age (see 5P6S and 5P39S). A human body can therefore survive the relatively minor transition from running to resting. Indeed, he seems to think that all bodies can survive similar changes, insisting that “each body moves now more slowly, now more quickly” (2PhysA1). For this reason, as long as MORNING and NIGHT share the same pattern of motion, Spinoza is committed to their identity.

What pattern of motion is shared by MORNING and NIGHT? It can’t include the motions of their parts, because their parts were moving in different ways. For example, MORNING’s heart was beating quickly whereas NIGHT’s heart was beating slowly. But it can include the dispositions of those parts to move in certain ways under certain circumstances. For example, it can include the disposition of the heart to beat rapidly when running, and slowly when resting. Building on this point, I think there’s a helpful comparison between patterns of motion and computer programs: A computer program specifies how a computer in a certain state will respond to a given input by specifying what the computer will output, what internal processes will generate that output, and any internal changes. Likewise, a pattern of motion specifies how a body in a certain state will respond to an interaction by specifying how it will behave, what internal processes will generate that behavior, and any internal changes. In response to the firing of a starting pistol, Peter’s well-rested body will rapidly move forward, because his heart will beat quickly, his lungs will suction air rapidly, and his leg muscles will expand and contract forcefully, and these internal processes will consume oxygen, water, and glucose, until he’s no longer well-rested. When he’s no longer well-rested, he might respond differently to the firing of the same pistol; he might not move as rapidly, for example.

Like computer programs, patterns of motion can be arbitrarily complex. Peter’s response to the starting pistol might depend on thousands of independent facts about his environment, including the direction of the wind, the intensity of the sun, and the postures of his competitors. Peter’s response might also depend on what’s happening in millions of different parts of his body, including thousands of different parts of his brain. Because Peter is rarely in exactly the same environment, and because the parts of his body are constantly changing, he might never respond in exactly the same way twice. For this reason, Peter’s pattern of motion can be more complex, and therefore more distinctive, than the dispositions encoded in his DNA.

There's a lot more to say about patterns of motion. But I hope this is enough to see how MORNING and NIGHT might share the same pattern of motion, and thus why Spinoza might be committed to their identity.

Would Spinoza accept a Lewis-like proposal? At least in principle, Spinoza can agree with Lewis that there was an instantaneous body moving in the morning. The instantaneous body's pattern of motion might have required an exact heart rate (e.g., 100 bpm), and thus went out of existence an instant later. Spinoza can also agree with Lewis that there was a longer-lived body moving at that same instant. The longer-lived body's pattern of motion might allow for a broader range of acceptable heart rates (e.g., 20-220 bpm). But Spinoza would deny that the longer-lived body exists at that instant because the instantaneous body is a part of it. According to Spinoza, the longer-lived body exists at each instant because its pattern of motion is preserved at each instant, rather than because it has a part at each instant (see 2PhysD1 above). Thus, for Spinoza, a thing exists "wholly," rather than "partly," at each instant.

I believe that Spinoza would reject the Indiscernibility of Identicals. I believe that Spinoza, like Descartes, is working in a tradition that links identity to essence, rather than indiscernibility. While I don't know whether he read Aquinas, Ockham or Buridan, he might have absorbed their tradition through a number of intermediaries, including Descartes, and perhaps also the Jewish authors he read in yeshiva and the scholastic authors he read at the University of Leiden.

In at least one respect, Spinoza's view is more traditional than Descartes's. According to Spinoza, sharing the same essence is *sufficient* for numerical identity. This is clear from his definition of essence:

I say that to the essence of any thing belongs... that without which the thing can neither be nor be conceived, and which can neither be nor be conceived without that thing. (2D2; see also 2P10C1S).

The first clause ("without which the thing can neither be nor be conceived") implies that sharing the same essence is necessary for numerical identity (see also 1P20C2, 3P39D), and the second clause ("which can neither be nor be conceived without the thing") implies that sharing the same essence is sufficient for numerical identity.¹⁵

¹⁵One consequence is that a difference in modes *by itself* doesn't establish numerical

For Spinoza, what is the essence of MORNING and NIGHT? Unlike Aquinas, Ockham and Buridan, he doesn't think that it involves a substantial form, because he regards substantial forms as unacceptably mysterious. Unlike Descartes, he doesn't think that it's extension, because all bodies are extended (2D1), and sharing the same essence is supposed to be sufficient for identity.

In the next section I'll argue that the essence of MORNING and NIGHT is a pattern of activity that isn't specific to motion, and thus can be shared by a mind as well. If I'm right, Spinoza has a unified account of the numerical identity of MORNING and NIGHT and the numerical identity of BODY and MIND.

For now, I just want to point out two potential ambiguities in the question. First, Spinoza sometimes talks as though there is an essence shared by everything of a given kind, such as the essence shared by all men (1P8S, 1P17S[II] 4P36S, 4P35D, 5P4S). In the contemporary jargon: he sometimes seems to talk about kind essences. There's a debate about whether he's really committed to kind essences (see Huebner [30]). But we don't need to get entangled in that debate. We're interested in the essence that a thing shares with nothing else. In the contemporary jargon: we're interested in individual essences.

Second, Spinoza sometimes talks as though there are "actual essences" in addition to formal essences (3P7). There's a debate about whether he's really committed to any additional essences, and, if he is, what role they play in his metaphysics. But we don't need to get entangled in that debate either. We're interested in whatever essences are responsible for numerical identity, regardless of whether they are actual essences (as Garrett argues in [24, fn 4]) or formal essences (as I argue elsewhere).

Stepping back, here's my argument in a nutshell: Spinoza is straightforwardly committed to the identity of MORNING and NIGHT. Spinoza's understanding of properties as modes seems to commit him to their discernibility and he never considers any of the now popular proposals for denying their discernibility, perhaps because these proposals weren't yet part of a philosophical tradition that might have influenced him. In contrast, it's highly probable that Spinoza was exposed to a philosophical tradition in which philosophers would reject the Indiscernibility of Identicals, at least through Descartes, and probably also through others as well. It's also worth taking into account that he never explicitly commits himself to the Indiscernibility

distinctness (see 1P5D).

of Identicals or anything that entails it. And none of his arguments presuppose it, rather than the weaker principle restricted to times. For example, he argues that the human body isn't an extended substance because the human body is divisible whereas an extended substance is indivisible (1P10, 2Phy2L1D), and this argument might just rely on the weaker principle. I conclude that, all things considered, Spinoza is best interpreted as rejecting the Indiscernibility of Identicals.

Notably, Spinoza might accept the converse principle, the Identity of Indiscernibles. According to this principle, if x and y are indiscernible, they're numerically identical. While Spinoza never explicitly commits himself to this principle, he does assume that numerically distinct substances must be discriminable (see 1P4). As Lin [38, Sect 2] points out, it's debatable whether this commits Spinoza to the Identity of Indiscernibles, because it's unclear whether Spinoza thinks that numerically distinct *modes* must be discriminable. But, in any case, this wouldn't be evidence that he accepts the Indiscernibility of Identicals, because one can accept a principle without accepting its converse.

In fact, Spinoza might accept the Identity of Indiscernibles for the very reason he would reject the Indiscernibility of Identicals, namely the link between identity and essence. In particular, suppose I'm right that for Spinoza sharing the same essence is necessary and sufficient for numerical identity. In other words, that x and y are identical if and only if they share the same essence. In that case, perhaps he's committed to the Identity of Indiscernibles because *indiscernible* things *must* share the same essence, or else they wouldn't really be indiscernible, and thus indiscernible things must be identical. And perhaps he would reject the Indiscernibility of Identicals because discernible things *can* share the same essence, and thus discernible things can be identical.

3 Identity Across Attributes

Let's now return to our initial puzzle:

- 1a. BODY moved and did not think, whereas MIND thought and did not move.
- 1b. BODY and MIND are numerically identical.

1c. (x)(y)(P): If x and y are numerically identical, then $P(x)$ iff $P(y)$.

I believe that Spinoza would reject the Indiscernibility of Identicals. More exactly, I believe he would insist that BODY and MIND are numerically identical, despite discernible differences, because they share the same essence. To help motivate this interpretation, I'll first consider the textual and systematic evidence that he's committed to both the identity and discernibility of BODY and MIND. While none of the evidence I'll consider is decisive, it still motivates the search for an interpretation that accommodates both commitments.

Let's begin with his commitment to their discernibility. Spinoza describes bodies as moving and minds as thinking (e.g., 2PhysA1', 2D3). He also denies that bodies and minds have comparable powers. He writes, "And, of course, since there is no common measure between the will and motion, there is also no comparison between the power, or forces, of the mind and those of the body" (5Pref). If BODY could think or MIND could move, we could compare their powers. Thus, BODY cannot think and MIND cannot move.

There's a related, systematic reason why Spinoza is committed to the discernibility of BODY and MIND. Motion is an activity that falls exclusively under the attribute of extension. Thus, if MIND could move, we could conceive of it under the attribute of extension. But Spinoza insists that we can conceive of minds only under the attribute of thought (2P5D). For this reason, he must deny that MIND can move. For a parallel reason, he must deny that BODY can think. The conceptual independence of thought and extension is supposed to follow from the metaphysical core of his metaphysics, namely his accounts of substance and attribute (see his demonstration of 1P10, and his subsequent use of it in 2P5D and 2P6D).

To better understand this commitment, let's consider two proposals ruled out by the evidence. The first proposal, inspired by Mellor, is that *moving* is a relation between a thing and the attribute of extension, while *thinking* is a relation between a thing and the attribute of thought. In that case, BODY and MIND stand in the same relations to the same attributes, namely:

BODY bears the *moving* relation to the attribute of extension.
 BODY bears the *thinking* relation to the attribute of thought.
 MIND bears the *moving* relation to the attribute of extension.
 MIND bears the *thinking* relation to the attribute of thought.

If Spinoza accepted this proposal, he would conclude that BODY and MIND are indiscernible. Spinoza would then be a property dualist, because he'd think that there's one thing, alternately called BODY and MIND, that has distinct physical and mental properties.

The second proposal is that thinking just is a kind of moving, presumably the kind of moving characteristic of neurons. In that case, BODY and MIND would again have the same properties, but not because they have the same mental properties *in addition to* the same physical properties. Instead, their mental properties would be included among their physical properties. Hobbes would respond in this way. Note that this proposal doesn't have an analog for the puzzle about identity over time, because while one could follow Hobbes in reducing MIND's thinking to BODY's moving, one would be hard pressed to reduce MORNING's moving to NIGHT's resting, or vice versa.

These proposals are ruled out by the evidence. Take his claim that the powers of BODY and MIND are incomparable. The second proposal is obviously incompatible with this claim, because if moving just is a kind of thinking, we can obviously compare BODY's moving and MIND's thinking. The first proposal is also incompatible with this claim, though it might not be as obvious. If *moving* is a relation to an attribute, and both BODY and MIND bear that relation to the attribute of extension, we can compare their powers. Analogously, if *moving* is a relation to a time, and both MORNING and NIGHT bear that relation to the morning, we can compare their motions. More generally, if in some sense BODY and MIND share all the same properties, and BODY moves, then in some sense MIND also moves, allowing us to compare their powers. For similar reasons, these proposals are ruled out by the conceptual independence of the attributes.

There is another proposal that isn't ruled out by this evidence: that the differences between BODY and MIND are merely conceptual. According to this proposal, even though there are no metaphysical differences between BODY and MIND, we can't conceive of BODY through the attribute of thought, or MIND through the attribute of extension, because of a limitation in our concepts of BODY and MIND. Likewise, even though there are no metaphysical differences between the powers of BODY and MIND, we can't compare their powers, because of a limitation in our concepts. I will address this proposal later, because I think it's best described as a proposal for denying the inconsistency of (1a)-(3a), given that merely conceptual differences presumably fall outside the scope of the Indiscernibility of Identicals.

I've been focusing on a particular difference between BODY and MIND, namely that BODY moved and did not think, whereas MIND thought and did not move. But there are other differences as well. For example, other bodies were the cause of BODY's moving (2P6), whereas other minds were the cause of MIND's thinking (2P5). BODY and MIND also had different effects, because BODY caused other bodies to move, whereas MIND caused other minds to think (3P2).¹⁶ Moreover, these differences in their motions, thoughts, causes, and effects ground further differences. For example, because only BODY moved, only BODY had a shape, speed, weight, and spatial location, and thus only BODY could have trembled, sobbed, and laughed (3P59S). Likewise, because only MIND thinks, only MIND represented and was conscious, and thus only MIND perceived, believed, and felt (e.g., 5P39S, 3P2S[i]).

Let's next consider Spinoza's commitment to the identity of BODY and MIND. Spinoza repeatedly says that the body and mind are "one and the same thing" [*una eademque est res*]. This was, and still is, a standard expression for numerical identity. For example, it is the standard expression for numerical identity in Latin translations of Aristotle's *Categories* and *Metaphysics*. Consider the passage from Aristotle's *Categories* quoted earlier, with in brackets the Latin translation from the edition that was probably in Spinoza's library (the 1538 Basil edition):¹⁷

It seems most distinctive of substance that what is numerically one and the same [*idem et unum numero*] is able to receive contraries... For example, an individual man — one and the same [*unus et idem*] — becomes pale at one time and dark at another, and hot and cold, and bad and good. (Aristotle, *Categories*, Ch 5, 4a10-11 and 18-21; Trans. Ackrill [4, p.7])

Consider also a passage from Aristotle's *Metaphysics*, with the Latin translation from the same edition in brackets:

¹⁶Despite this textual evidence, Koistinen [35, p.33] and Davidson [17, p.306–7] claim that bodies and minds can causally interact, at least in our sense.

¹⁷The inventory of the books in his library lists only "Aristoteles 1548. Vol. 2" (Freudenthal [20]) Based on the publication year and number of volumes, Freudenthal hypothesizes that it was the 1538 edition (p.276). Thanks to Manzini, we now have more convincing evidence. In *Metaphysical Thoughts* Spinoza quotes from Aristotle's *Metaphysics*, but mistakenly attributes the passage to Book 11, rather than Book 12 (see CM II, Ch 6). This is probably due to a mistake in the 1538 Basil edition, in particular a mistake in the header above the relevant passage, because it says Book 11, rather than Book 12.

Those things are the same [*eadum*] whose substance is one [*una*]; those are like whose quality is one; those are equal whose quantity is one... (Aristotle, *Metaphysics*, Bk 5, Ch 15, 1021a9–12; Trans. Ross [5])

These translations aren't anomalous. Scholastic authors standardly use “one and the same” for numerical identity.¹⁸ This shouldn't be surprising, because it's indicated by the expression itself, with “same” [*eademque*] indicating it's about identity, “one” [*una*] indicating it's about numerical identity, and a term like “thing” [*res*] or “substance” [*substantia*] indicating it's about an individual rather than a kind, time, or act. Given that “one and the same” was a standard expression for numerical identity, when Spinoza says that the body and mind are one and the same thing, he seems straightforwardly committed to their numerical identity. In fact, it's unclear how he could have made that commitment any clearer.¹⁹

¹⁸Here are some passages, chosen nearly at random: Buridan restates the above claim from Aristotle, “it seems to be most proper to substance that while it remains numerically one and the same, it is susceptible of contraries by its own change” (*Summulae de Dialectica*, Treatise 3, Ch 2, Sect 9; Trans. Klima [13, p.162]). Buridan restates the first axiom of Euclid's *Elements*, “whatever things are said to be numerically identical with one and the same thing, are said to be identical between themselves,” and says that it underlies all affirmative syllogisms (*Summulae de Dialectica*, Treatise 5, Ch 1, Sect 6; Trans. Klima [13, p.313]). Ockham says that “one and the same thing” cannot be similar and dissimilar to the same thing in the same respect (*Summa totius logicae*, Bk 1, Ch 13; Trans. Boehner [51, p.65]). While discussing Aristotle's *Metaphysics*, Bk 5, Ch 15, 1021a9–12, Scotus says that, “[T]he unity required in the foundation of the relation of similarity is a real one. But it is not numerical unity, since nothing one and the same is similar or equal to itself” (*Ordinatio*, Distinction 3, Part 1, Questions 1, 4, and 6; Trans. Spade [65, p.583]).

¹⁹Bennett, Marshall, and Aquila claim he means something else. According to Bennett, he means they share a part, in particular the same trans-attribute mode ([11, pp. 577–9], [9, p.141–9], [10, p.17–8]). According to Marshall, he means they form a whole ([39, p.913]). According to Aquila, he means the body is a constituent of the mind ([1, p.283]).

According to Huebner, “one and the same” means numerical identity, but Spinoza is not saying that the body and mind are numerically identical to each other. Instead, he's saying that they're modes of one and the same substance ([31, p.168–9]). Someone sympathetic with Bennett's or Marshall's proposals might similarly interpret Spinoza as saying that the body and mind share one and the same trans-attribute mode, or that they are parts of one and the same whole. The obvious problem with all these proposals is that there's no evidence that Spinoza is speaking elliptically when he repeatedly says that the body and mind are “one and the same thing.” There are also problems specific to each proposal. For example, Huebner's proposal implies that all modes are “one and the same thing,” but Spinoza later says that his claim helps establish that the mind and body are

In further support of this interpretation, consider that this is how Descartes uses “one and the same” when discussing the mind’s relation to the body. He writes in the *Second Replies*:

Whether what we call mind and body are one and the same [*una & eadem*] substance, or two different substances, is a question which will have to be dealt with later on (AT VII 162; Trans. Cottingham et al. [18, 2:114])

Likewise, he writes in the *Third Replies*:

Once we have formed two distinct concepts of these two substances, it is easy, on the basis of what is said in the Sixth Meditation, to establish whether they are one and the same [*una & eadem*] or different. (AT VII 176; Trans. Cottingham et al. [18, 2:124]).

Finally, when discussing our concepts of mind and body in the *Sixth Replies*, he writes:

For it is a conceptual contradiction to suppose that two things which we clearly and distinctly perceive as different should become one and the same thing [*unum & idem*] (that is intrinsically one and the same, as opposed to by combination) (AT VII 444-445; Trans. Cottingham et al. [18, 2:299]).

Spinoza was, of course, thoroughly familiar with Descartes’s work. It’s therefore hard to believe that Spinoza would use “one and the same” in another way when discussing the mind’s relation to the body, without clearly indicating what he means. Otherwise, his claim would give the false impression that he disagreed with Descartes, even though they both agreed that the mind and body are numerically distinct.²⁰ Just as importantly, Spinoza elsewhere always uses variations of “one and the same” to mean numerical identity (e.g.,

unified in a special sense (2P21S). There’s obviously much more to say, but this is why I’d rather search for a proposal that preserves the literal meaning of what Spinoza says.

²⁰In the passage from the *Sixth Replies*, Descartes distinguishes between the claim that mind and body are one and the same *intrinsically* and the claim that they are one and the same *through combination* (AT VII 444-445; see also AT VII 423-4). In personal correspondence, Marshall suggests that Spinoza might have had in mind this combinatorial sense of “one and the same,” and thus could be interpreted as saying that the mind and

2PhysL2D, 2PhysA1", 2P49C, 3P51), even when discussing a relation between kinds (e.g., 4P59D2, 5P4S). If he were using "one and the same" differently in this context, we'd expect him to clearly indicate that shift, especially if he were no longer using "one and the same thing" in the standard way.²¹

There's also a systematic consideration. A well-known problem with claiming that BODY and MIND are numerically distinct is that it's then unclear in what sense they're united into a single human being. Scholastic philosophers, including Aquinas, Ockahm and Buridan, respond that BODY and MIND are unified into a single human being because MIND is a substantial form of BODY. In some passages, Descartes seems to respond that BODY and MIND are unified into a single human being in part because of their causal interactions (AT XI 351; AT VII 88). In other passages, Descartes seems to respond that we can't clearly and distinctly understand their union, because we understand their union only through sensation (AT III 691–2). Spinoza can't respond in any of these ways. He can't respond that MIND is a substantial form of BODY because he rejects substantial forms (AT III 502). He can't respond that BODY and MIND are unified in virtue of their causal interactions because he denies that BODY and MIND causally interact (3P2). And, unlike Descartes, he insists that we can clearly and distinctly understand their union (see 2P13S, 5Pref, TIE 21–22). Moreover, like these other philosophers, he presumably wouldn't respond that BODY and MIND are unified merely in that they're parts of the same whole (a "mere aggregate") because that was the unacceptable conclusion that all of these philosophers were ex-

body combine to form a whole. But I'm not convinced. Whenever Descartes uses "one and the same" without qualification, it's clear from the context that he means it in the first, intrinsic sense. Moreover, Descartes only distinguishes these two senses to make clear that he's using it in the first, intrinsic sense. He never uses it in the second, combinatorial sense. It is hard to believe that Spinoza would use "one and the same" in the combinatorial sense without indication, in part because it would be unreasonable of him to assume that his readers would know he's using "one and the same" in a *secondary* sense that Descartes merely *mentions* in one of his replies.

²¹Marshall [39] seems to suggest that when Spinoza says "a mode of extension and the idea of that mode are one and the same thing, but expressed in two ways," the clause "expressed in two ways" is supposed to indicate that he doesn't mean numerical identity. But it's hard to see how Spinoza could reasonably expect his readers to know that. As far as I can tell, there's no historical precedent for such a convention. There's also no way he could reasonably expect his readers to know what else he meant by "one and the same thing." For example, while Marshall proposes that the mind and body are parts of the same whole in virtue of having parallel causal roles, there's no historical precedent that would indicate to his readers that's what he means by "one and the same thing."

plicitly trying to avoid.²² He also presumably wouldn't respond that BODY and MIND are unified merely in that BODY is represented by MIND, because then MIND would be similarly united with all the other bodies it represents, and because their union would be even weaker than if they were parts of the same whole. How else could Spinoza explain the union of BODY and MIND into a single human being? As long as BODY and MIND are distinct, it's unclear. But if they're numerically identical, it's trivial. This might help explain why Spinoza insists they're "one and the same thing."

To better understand Spinoza's commitment to the identity of BODY and MIND, let's consider two proposals that seem to be ruled out by the evidence. The first proposal, inspired by Hawley, is that BODY and MIND are distinct things with parallel causal roles (by 2P7). The second proposal, inspired by Lewis, is that BODY and MIND are distinct things that compose a whole, perhaps because of their parallel causal roles, so that Peter exists "partly" in the attribute of extension, and "partly" in the attribute of thought. These proposals seem to be ruled out by the evidence because they imply that Spinoza means something else by "one and the same thing," and they don't sufficiently unity BODY and MIND.

There's room for further debate. But I hope this is enough to motivate the search for an interpretation that accommodates Spinoza's commitment to the identity of BODY and MIND.

In a moment I'll use Spinoza's commitments to argue that he'd reject the Indiscernibility of Identicals. But I first want to consider another proposal, mentioned earlier: that the discernible differences between BODY and MIND are merely conceptual, and therefore fall outside the scope of the Indiscernibility of Identicals. According to this proposal, Spinoza can consistently accept the identity and discernibility of BODY and MIND as well as the Indiscernibility of Identicals. For concreteness, I'm going to focus on Della Rocca's way of developing this proposal, because I think it's the best.²³ I'll

²²For general discussion, see Pasnau [54, CH 15, esp. 588–9]. For specific examples, see Aquinas, *Summa Theologica* Volume 1a Question 76; Burgersdijk *Collegium Physicum, disputationibus XXXII absolutum* Disp 20 Par 10; Ockham; Buridan; Descartes AT VII 81, 227–8; Arnauld AT VII 203.

²³Jarrett [32, p.470] suggests a similar proposal, though he focuses exclusively on the causal roles of BODY and MIND, and also doesn't say why we're unable to substitute co-referring terms in causal attributions. Odegard [52, p.587] is hard to classify, but seems to think that the mind and body differ only in how we describe them, which at least suggests that motion is mind-dependent. Curley [15, p. xiv, 68–69, 74–78] and Hampshire [26, esp. 19–22] more explicitly think that the mind and body differ only in how we describe them,

later explain why other ways of developing the proposal are no less problematic.

Let's start with an example. Suppose:

Mary believes that Simon fishes.

Mary does not believe that Peter fishes.

One might think it follows that:

Simon has the property *is believed by Mary to fish*.

Peter does not have the property *is believed by Mary to fish*.

Nonetheless, Peter and Simon are numerically identical, because 'Simon' and 'Peter' are just different names for the same person. Della Rocca concludes that properties like *is believed by Mary to fish* fall outside the scope of the Indiscernibility of Identicals. Della Rocca thinks that examples like this establish the general principle: if whether an object instantiates a property depends on how someone is thinking about that object, that property falls outside the scope of the Indiscernibility of Identicals. He then suggests that, for Spinoza, whether objects instantiate *is moving* or *is thinking* depend on someone's thinking about them as bodies or minds, and thus *is moving* and *is thinking* fall outside the scope of the Indiscernibility of Identicals. In that case, (1a)-(1c) are mutually consistent. In particular, (1a) is about properties that fall outside the scope of the Indiscernibility of Identicals, i.e., (1c).

The problem with this proposal is that it commits Spinoza to a kind of idealism. To see why, consider that Spinoza distinguishes bodies from one another by their motions:

Bodies are distinguished from one another by reason of motion and rest, speed and slowness, and not by reason of substance.

I suppose that the first part of this is known through itself...

(2PhysL1).

For example, whether smaller bodies compose a larger body depends on their motions (see again 2PhysD1). Thus, if Della Rocca is right, whether the larger body exists depends on whether someone is conceiving of the smaller bodies as bodies, and thus depends on what a mind is thinking. Similarly, if Della Rocca is right, the existence of the smaller bodies would also depend on what

and think this supports interpreting Spinoza as a kind of materialist.

a mind is thinking, because Spinoza says that even the smallest bodies are distinguished by their motions (see 2PhysA2''). As a result, the existence of all bodies would depend on what a mind is thinking. Even if their existence merely depended on how *God* is thinking about them, that would still make the existence of bodies dependent on thought.

While Della Rocca focuses on the Principle of Sufficient Reason rather than the way Spinoza distinguishes bodies, he acknowledges that his interpretation commits Spinoza to saying that the existence of bodies depends on thought, and that this is a kind of idealism ([57, p.13]).²⁴

Like others, I'm convinced that this kind of idealism is incompatible with Spinoza's claim that, "each attribute of a substance must be conceived through itself" (1P10). Like others, I think that this claim is supposed to establish that what's happening in one attribute does not depend on what's happening in another attribute. In that case, it not only establishes that the existence of bodies does not causally depend on what's happening in the attribute of thought (2P5, 2P6, and then 3P2), but it also establishes that the existence of bodies does not depend on what's happening in the attribute of thought in the stronger sense in which the existence of bodies would depend on how a mind is thinking about them (see Melamed [42, p.195–7], Newlands [49, p.40–2, 46–9]). There's a lot more to say about this issue (and see Della Rocca [57, p.13–4] for his response), but I hope this is already enough to motivate the search an interpretation that doesn't commit Spinoza to a kind of idealism.²⁵

This problem extends beyond Della Rocca, to any attempt to reconcile the identity and discernibility of BODY and MIND with the Indiscernibility of Identicals. If the differences between BODY and MIND fall outside the scope of the Indiscernibility of Identicals, one is pushed to conclude that motion is mind-dependent, because only mind-dependent properties seem to fall outside the scope of the Indiscernibility of Identicals. However, if motion is mind-dependent, then the existence of bodies depends on what a mind is

²⁴Della Rocca says that the Principle of Sufficient Reason commits Spinoza to identifying existence with intelligibility ([57, p.9–11]; see also [56, p.85], [58, p.36] and [60, p.159–161]). I am emphasizing the way Spinoza distinguishes bodies, because I don't want my objection to depend on Della Rocca's controversial interpretation of Spinoza's commitment to the Principle of Sufficient Reason (see e.g., Garber [22, p.511–3]).

²⁵For more on idealist readings of Spinoza, see Melamed [40] and Newlands [46], [47].

thinking, committing Spinoza to a kind of idealism.²⁶

Let's back up. I just identified textual evidence and systematic considerations that seem to commit Spinoza to the identity and discernibility of BODY and MIND. In contrast, Spinoza never explicitly accepts the Indiscernibility of Identicals, and, as far as I can tell, none of his claims commit him to it. There also don't seem to be any relevant systematic considerations, and none of his arguments seem to presuppose it rather than a weaker principle restricted to times and attributes. Thus, if we want to accommodate the textual evidence and systematic considerations that seem to commit Spinoza to the identity and discernibility of BODY and MIND, but we don't want to commit him to a kind of idealism, we should conclude that Spinoza would reject the Indiscernibility of Identicals.²⁷

Importantly, this conclusion doesn't imply that Spinoza completely severs the link between identity and indiscernibility. In particular, he might still accept a weaker principle. Let x_a denote an object as it is actualized in attribute a . He might still accept:

1c.' (x)(y)(P)(a): If x and y are numerically identical, then $P(x_a)$ iff $P(y_a)$.

I think there's a helpful analogy between times and attributes. Within Spinoza's metaphysics, Peter exists at different times, despite discernible differences, and not because he has a distinct part at each time. Instead, he exists "wholly" at each time. Likewise, Peter exists in different attributes, despite discernible differences, and not because he has a distinct part in each attribute. Peter's existence is thus "spread out" across both times and attributes. In this respect, the attributes are time-like. This explains why

²⁶As an alternative, Newlands suggests that, while the differences between the body and mind are merely conceptual, they are not mind-dependent ([49, p.46], [48, p.76]). According to Newlands, conceptual differences are less psychological, and more metaphysical, than is often supposed. But, if conceptual differences aren't mind-dependent, why would they fall outside the scope of the Indiscernibility of Identicals? I can't think of a reason. As a result, I think that Newlands should deny that Spinoza is committed to the Indiscernibility of Identicals.

²⁷This interpretation isn't completely without precedent. In an offhand remark, and without elaborating, Daniels [16, p.555] says that 3P2, 2P6, and 2P7S jointly imply that Spinoza gives up the Indiscernibility of Identicals. In the French tradition, scholars often seem to take it for granted that the body and mind are simultaneously different and identical, and they don't seem to regard this as paradoxical. This suggests that they take for granted that Spinoza would reject the Indiscernibility of Identicals (see e.g., Deluze, Jaquet).

Spinoza restricts the Indiscernibility of Identicals to times and attributes. Without these restrictions, the numerically same thing couldn't exist at different times and in different attributes, given that it exists in a different way at each time and in each attribute. I'll return to the analogy between times and attributes later, after I've introduced more details about our interpretation.

So far, I just argued that Spinoza is committed to the identity and discernibility of BODY and MIND. But there's more to our interpretation. According to our interpretation, BODY and MIND are identical, despite discernible differences, because they share the same essence, namely the same pattern of activity. What motivates these further claims?

Let's start with the claim that BODY and MIND share the same essence. There are four related motivations for this claim. First, Spinoza's response would then be continuous with a traditional view of identity that he seems to accept. In particular, it would be continuous with the view that x and y are identical, despite discernible differences, if and only if they share the same essence. Spinoza's innovation would be to extend this view of identity to the mind's relation to the body. His response would thus make sense from a historical perspective.

Second, Spinoza's response would be systematic. In particular, his response to the puzzle of identity across attributes would parallel his response to the puzzle of identity across time. Just as MORNING and NIGHT are identical, despite discernible differences, because they share the same essence, so also BODY and MIND are identical, despite discernible differences, because they share the same essence. In other work I argue that it would also parallel his responses to two other puzzles, a puzzle about identity across levels within the attribute of thought (e.g., the identity of MIND and the idea of it) and a puzzle about identity across columns within the attribute of thought (e.g., the identity of MIND and the idea of a mode of an unknown attribute). And this is exactly what we'd expect from such a careful and systematic philosopher.

Third, it seems to follow from Spinoza's definition of 'essence' (2D2). According to Spinoza, we can conceive of BODY without conceiving of MIND, and we can conceive of MIND without conceiving of BODY (2P6D). Nonetheless, in both cases we're conceiving of Peter. Thus, if BODY and MIND had different essences, we could conceive of Peter without conceiving of BODY's essence and we could conceive of Peter without conceiving of MIND's essence. Spinoza's definition of 'essence' would then imply that neither of these essences per-

tains to Peter's essence. This pushes one to say that Peter is something over and above BODY and MIND, rather than something identical to them.

Fourth, if there are discernible differences between BODY and MIND, and yet they're identical, it's natural to look for the feature in virtue of which they're identical. That is, it's natural to look for the metaphysical glue binding them together. This is because there's at least a *prima facie* tension between saying that BODY and MIND are discernible and saying that they're identical, and identifying the relevant feature would help ease that tension. Otherwise, their identity, and identity in general, would seem arbitrary, and as a result unknowable. Likewise, if there are genuine differences between MORNING and NIGHT, and not merely differences in how we conceive of them, we're owed an explanation, and it's natural to expect that explanation to appeal to a common feature. Just as it wouldn't be satisfying to be told that there is no further explanation of the identity of MORNING and NIGHT, despite their discernible differences, it wouldn't be satisfying to be told that there is no further explanation of BODY and MIND, despite their discernible differences.

Suppose we're given the relevant feature, presumably something involving their similar causal roles. The immediate question is: Why is sharing this feature sufficient for identity? From both a contemporary and historical perspective, I think that the best answer is that this feature is their shared essence. Given that BODY and MIND share some features, but not others, it would otherwise seem arbitrary to say that this feature is responsible for their numerical identity.

We just motivated the claim that BODY and MIND share the same essence. What essence do they share? As mentioned in the last section, it's sufficient for BODY's identity over time that it has the same pattern of motion. This might suggest that the essence shared by BODY and MIND is a pattern of motion. However, MIND would then be conceived through that pattern of motion (by 2D2), and thus through the attribute of extension, even though Spinoza insists that minds are conceived only through the attribute of thought (2P5D). Thus, the essence shared by BODY and MIND can't be a pattern of motion. For the same reason, it can't be a pattern of thinking.

As an alternative, I suggest that the essence shared by BODY and MIND is a pattern of activity that doesn't specify moving, thinking, or any other kind of activity. BODY actualizes this essence as a pattern of moving, while MIND actualizes it as a pattern of thinking. According to this suggestion, BODY and MIND are discernible, in that BODY moves but does not think,

while MIND thinks but does not move, but they are nonetheless numerically identical because they share the same essence, namely the same pattern of activity. It would then be sufficient for BODY's identity over time that it has the same pattern of motion, and it would likewise be sufficient for MIND's identity over time that it has the same pattern of thinking, not because these are the respective essences of BODY and MIND, but because having the same pattern of motion or the same pattern of thinking entails having the same pattern of activity, and thus the same essence.

Some will immediately object that everything in Spinoza's metaphysics, including essences, must belong to at least one attribute, and therefore essences must specify moving, thinking, or some other kind of activity. Some will also immediately object that this proposal doesn't cohere with important passages, including passages in which Spinoza says that the essence of the body is "constituted" by motion (e.g., 4P39D). To streamline the discussion, I will consider these objections in a future section. For now, I want to continue filling in the details of our interpretation.

What are patterns of activity? Recall what we said earlier about patterns of motion, building on a comparison with computer programs: A pattern of motion specifies how a body in a given state will respond to an interaction by specifying its behavior, what internal processes will generate that behavior, and any internal changes that might impact future responses. Because it's a pattern of motion, all of this activity will exclusively involve bodies and their motions. Similarly, a pattern of thinking specifies how a mind in a given state will respond to an interaction with another mind by specifying its behavior, what internal processes will generate that behavior, and any internal changes that might impact future responses. Because it's a pattern of thinking, all of this activity will exclusively involve ideas and their thoughts. For example, instead of specifying that BODY's heart will beat quickly, it specifies that a corresponding idea in MIND (specifically: the mind of BODY's heart) will think quickly. I'm suggesting that there is also a pattern of activity that doesn't specifically involve bodies or minds, moving or thinking. For example, instead of specifying that a certain part of BODY will beat quickly, or that a certain part of MIND will think quickly, it just specifies that a part of the relevant thing is more active than before, without specifying whether it's a part of BODY or MIND, or whether it's moving or thinking. More generally, a pattern of activity specifies the causal relations between things, without specifying anything attribute-specific about those things or their activities. It's like a directed graph that doesn't specify whether the nodes are bodies or

minds, or whether the arrows indicate moving or thinking. It's like a Ramsey sentence that doesn't specify whether the variables pick out bodies or minds, or whether the causal relations indicate moving or thinking.

As we're interpreting Spinoza, there's a fundamental disagreement between Spinoza and Descartes. According to Descartes, the essence of the mind is thinking. But according to Spinoza, the essence of the mind is a pattern of activity that doesn't specify thinking. To better understand this disagreement, consider an analogous disagreement about statues. According to some philosophers, it is essential to a clay statue to be made of clay. But according to other philosophers, the same statue could have been made from marble, and thus it isn't essential to the statue to be made of clay. The essence of the statue might instead include only its shape. Likewise, according to Spinoza, it isn't essential to the mind to think, because the same thing could have been actualized by another kind of activity. In fact, according to Spinoza, it is *currently* actualized by infinitely many different kinds of activity, including motion. According to Spinoza, the essence of the mind includes only its pattern of activity. Just as some think that the essence of a statue includes its shape but not its matter, Spinoza thinks that the essence of the mind includes its pattern of activity but not its specific way of being active, namely thinking.

Importantly, just because BODY and MIND share the same essence, and are therefore numerically identical, it doesn't follow that our concept of BODY and our concept of MIND are interchangeable, so that we can use our concept of MIND to conceive of Peter as moving. Our concept of MIND is specifically about how Peter is actualized in thinking, and thus we can't use this concept to conceive of Peter as moving. Analogously, the non-rigid concept "my favorite clay statue" is specially about how a statue is actualized in clay, and thus we can't use this concept to conceive of the statue as made of marble, even though it could have been made of marble. As someone in the seventeenth century might put it, MIND and BODY have different *nominal* essences, but the same *real* essence.

One of the attractive features of our interpretation is that it nicely explains why our concepts of BODY and MIND aren't interchangeable. Because our concept of MIND is specifically about how Peter is actualized in thinking, and there's a metaphysical difference between how he's actualized in thinking and how he's actualized in motion, we can't use our concept of MIND to conceive of Peter as moving. Analogously, because the non-rigid concept "my favorite clay statue" is specially about how a statue is actualized in clay,

and there's a metaphysical difference between being made out of clay and being made of marble, we can't use this concept to conceive of the statue as made of marble.

What is it for the mind and body to *actualize* a pattern of activity? It's a determinate-determinable relation, in that it's a relation between something more specific and something less specific. In this respect, it's like the relation between a clay statue and its shape. But it's unlike like this other relation in that the mind's and body's pattern of activity is not a *property* of the mind or body (see 1D5 and 2D2). It's also unlike this other relation in that a clay statue presumably isn't numerically identical to everything with the same shape. More generally, the relation between the mind and body and their pattern of activity is somewhat idiosyncratic, insofar as it reflects Spinoza's somewhat idiosyncratic view of the status and role of essences, including that they aren't properties. I'll say more about Spinoza's view of essences later, when responding to an objection.

I just used the term 'actualize' to describe Spinoza's view. However, Spinoza's preferred term is 'express'. I will examine Spinoza's terminology towards the end of the next section. I prefer 'actualize' because I think it better conveys Spinoza's view to contemporary readers.

Now that we've introduced more details about our interpretation, let's return to the analogy between times and attributes. According to our interpretation, the essence of a finite thing is a pattern of activity, and patterns of activity can remain the same despite inessential differences along a number of dimensions. Perhaps least controversially, at least for philosophers working in the seventeenth century, they can remain the same despite inessential differences along the temporal dimension. For example, the essence of Peter is a pattern of activity, and it can remain the same across times, despite all the inessential differences between MORNING and NIGHT. Because this pattern is Peter's essence, it follows that Peter wholly exists at each of these "locations" in time. As we're interpreting Spinoza, patterns of activity can also remain the same across attributes, such as the inessential differences between BODY and MIND. Thus, the dimensions along which Peter's existence is "spread out" correspond to the dimensions along which his essence can remain the same.

There's an important and perhaps unexpected twist. Spinoza says that BODY's moving and MIND's thinking are one and the same. He writes:

[B]oth the decision of the mind and the appetite and the deter-

mination of the body by nature exist together – or rather are one and the same thing, which we call decision when it is considered under, and explained through, the attribute of thought, and which we call a determination when it is considered under the attribute of extension and deduced from the laws of motion and rest. (3P2S[iii]; see also 4P8D)

In Spinoza’s metaphysics, BODY’s motion and MIND’s thinking are both modes, and are thus thing-like. In this passage Spinoza is saying that these things are numerically identical, despite discernible differences. According to our interpretation, they must therefore share the same essence. What essence? Consider BODY’s heartbeat at the start of the race. Just as computer programs are built out of subprograms, so also BODY’s pattern of activity is built out of subpatterns of activity that indicate how each of its modes will change over time in response to new conditions. The subpattern in charge of BODY’s heartbeat specifies how it will respond to new conditions by specifying whether it will increase or decrease, what internal processes will generate that behavior, and any changes that might impact its future responses. This is the essence of BODY’s heartbeat. Due to Spinoza’s causal parallelism, the corresponding mode of MIND will be governed by the same pattern of activity; as BODY’s heartbeat increases, a corresponding idea in MIND will think faster, and so on. In that case, despite discernible differences, BODY’s motion and MIND’s thinking are numerically identical.

This makes it hard to categorize Spinoza’s view in contemporary terms. Like the dualist, he thinks that there are discernible differences between BODY and MIND. Like the property dualist, he thinks that BODY and MIND are the same thing, but that there are discernible differences between its physical and mental properties. Finally, like the monist, he thinks that BODY and MIND are the same thing, and that each of its mental properties is numerically identical to one of its physical properties.

It shouldn’t be surprising that Spinoza’s view is hard to categorize. Once we allow for violations of the Indiscernibility of Identicals, we need twice as many categories, because we need to allow for the possibility of discernibility without numerical distinctness.

Relatedly, Spinoza’s view requires a certain kind of logic. For example, Spinoza’s view allows us to truly say, ‘BODY moved at 8am and MIND did not move at 8am’. Because BODY and MIND are numerically identical, many logics would allow us to conclude, ‘There is something that moved at 8am

and did not move at 8am'. And in many logics this is contradiction. But for Spinoza, this conclusion is ambiguous, because it doesn't specify the relevant attributes. Disambiguated in one way, it's just the true and logically consistent claim, 'There is something that moved at 8am, insofar as it's an extended thing, and that did not move at 8am, insofar as it's a thinking thing'. Spinoza's view thus requires a logic in which we cannot always substitute names that refer to the same thing, and we cannot always introduce an existential quantifier by replacing those names with the same variable. In a suitable logic, we can substitute names, etc., only if they refer to the same thing in the same attribute. Fortunately, there are already many logics with this type of structure, including certain modal logics, temporal logics, and intensional logics. In these logics, there's an additional parameter for the world, time, or intensional attitude, and the inference rules take into account this additional parameter. It wouldn't take much to repurpose these logics to accommodate Spinoza's view. Because these logics are demonstrably consistent, this should also reassure us that we can't derive contradictions from Spinoza's view, and it is therefore consistent with the Principle of Non-Contradiction.

In the light of the preceding, we should refine our description of how Spinoza would respond to the puzzle. Spinoza would respond that our initial formulation of the Indiscernibility of Identicals is *ambiguous*, because it doesn't specify the relevant attribute. In particular, it doesn't specify the attribute in which x and y are actualized, and it doesn't specify the attribute in which P is actualized. Spinoza would then reject any reformulation of the Indiscernibility of Identicals that implies that identicals must not only have the same properties, but must actualize those properties in the same way. For example, he'd reject any reformulation that implies that BODY and MIND must have the same properties *as those properties are actualized in thought*. It might help to restate this point in more formal terms. Let P_t denote a property as it is actualized in thought, and let P_e denote that property as it is actualized in extension. Spinoza would reject any reformulation that implies: if x and y are identical, $P_t(x_t)$ iff $P_t(y_e)$. In contrast, he'd accept any reformulation that merely implies: if x and y are identical, $P_t(x_t)$ iff $P_e(y_e)$. Unlike the former reformulation, this reformulation would be consistent with the identity and discernibility of BODY and MIND.

Despite the many motivations for our interpretation, one might wonder whether it coheres with important passages, in particular the passage in which he first says that the mind and body are one and the same. In the

next section I'll argue that it coheres nicely with this and other passages. For what it's worth, I believe that our interpretation coheres with these passages *better* than the other interpretations. However, I won't argue for this stronger conclusion here, because it would take too long to compare what each interpretation has to say about each passage. I'll instead hope that by this point you're convinced that there is sufficient motivation for our interpretation, allowing me to focus on showing that our interpretation coheres with the relevant passages, without addressing other interpretations.

4 Passages

(1) The most important passage is the proposition, demonstration, corollary, and scholium leading up to his claim that a body and its mind are one and the same. He writes:

Proposition 7: The order and connection of ideas is the same as the order and connection of things.

Demonstration: This is clear from 1A4. For the idea of each thing caused depends on the knowledge of which it is the effect.

Corollary: From this it follows that God's [NS: actual] power of thinking is equal to his power of acting. I.e., whatever follows formally from God's infinite nature follows objectively in God from his idea in the same order and with the same connection.

Scholium: Before we proceed further, we must recall here what we showed [NS: in the first part], viz., that whatever can be perceived by an infinite intellect as constituting the essence of substance pertains to one substance only, and consequently that the thinking substance and the extended substance are one and the same substance, which is now comprehended under this attribute, now under that. So also a mode of extension and the idea of that mode are one and the same thing, but expressed in two ways...

A mode of extension is a *body* (by 2D1). The idea of that body is its *mind* (by 2P13). Therefore, Spinoza is claiming that a body and its mind are one and the same.

How well does our interpretation cohere with this passage?

To start, our interpretation explains why Spinoza waits until this scholium to claim that a body and its mind are numerically identical. The preceding proposition establishes that if the parts of a body are reordered, the parts of the mind must be reordered in the same way, and vice versa, because the ordering of bodies must be the same as the ordering of minds. Thus, the preceding proposition establishes that a body and its mind have the same pattern of activity, both internally and externally. According to our interpretation, a body and its mind are numerically identical if and only if they share the same essence, namely the same pattern of activity. Thus, given our interpretation, 2P7 establishes that a body and its mind are numerically identical, making its scholium a natural place to announce that consequence.

Next, our interpretation explains why Spinoza begins the scholium by asking us to “recall here what we showed in the first part.” In the first part of the *Ethics* he argued that the thinking substance and the extended substance are numerically identical because they share the same essence (see 1P14C1). He also argued that their essence is power, or activity (see 1P34 and its demonstration), an argument just called to mind by his discussion of God’s power in 2P7C. Thus, the thinking substance and the extended substance are numerically identical because they share the same power, or activity. Why would he want us to recall that? His transition to the next sentence (“So also...”) suggests that he’s about to give a parallel argument for the numerical identity of a body and its mind. And, according to our interpretation, that’s what he does. He argues that a body and its mind are numerically identical because they share the same essence, in particular the same pattern of activity. Thus, Spinoza wants us to “recall here what we showed in the first part” because he’s giving a parallel argument for the identity of a body and its mind. Spinoza might also want us to recall the first part because, from the claim that God’s essence is his power (1P34), he infers that, “whatever exists expresses in a certain and determinate way the power of God” (1P36D). Just as modes are particular ways in which God exists (1P25C), the essences of modes are particular ways in which God is active, i.e., patterns in his activity.

Finally, our interpretation explains why he says that the mind and body are “expressed in two ways.” Let’s start with the meaning of ‘express’. The Latin is *exprimere*, and is derived from *ex* (out) and *primere* (to press). Classically, it was often used in discussions of sculpture. For example, here’s Horace and Pliny:

Near the Aemilian School a sculptor lives, a clever man at shaping [*exprimet*] fingernails and catching flowing hair in bronze... (Horace, *Ars Poetica*, ln 32–3; Trans. Fuchs [29, p.85])

The first person who modelled [*expressit*] a likeness in plaster of a human being from the living face itself, and established the method of pouring wax into this plaster mould and then making final corrections on the wax cast, was Lysistratus of Sicyon... (Pliny, *Natural History*, Bk 35 Ch 43 ln 153–5; Trans. Rackham [19, p.373])

Given the connection to sculpture, *exprimere* acquired two senses. In one sense, to express something was just to represent it. In this sense, just as statues represent people, sentences represent people. But in another sense, to express something was to be a determinate instance of it. In this sense, just as a clay statue and a marble statue might be determinate instances of the same form, my pet and your pet might be determinate instances of the same species.

Spinoza uses ‘express’ in both senses. When he talks about what definitions express (e.g., 1P8S), he’s using ‘express’ in the first sense. But when he talks about particular things as expressing God’s attributes (e.g., 1P25C), he’s using ‘express’ in the second sense. For example, when he says that bodies express the attribute of extension (2D1), he’s saying that they are determinate ways of being extended.

With this background in place, we can explain why he says that a body and its mind are “expressed in two ways.” According to our interpretation, this is just Spinoza’s way of saying that they are two ways of *actualizing* the same essence. In particular, the body actualizes it in moving, and its mind actualizes it in thinking. This is analogous to the relation between MORNING and NIGHT, because they too share the same essence, though MORNING actualizes it with a rapid heart rate, and NIGHT actualizes it with a relatively depressed heart rate. To the contemporary ear, it might sound odd to say that these actualizations are the same thing, because the Indiscernibility of Identicals leads us to think of each actualization as a distinct thing. But, unburdened by the Indiscernibility of Identicals, Spinoza can make sense of it.

I think that Spinoza’s use of ‘express’ reflects the influence of those who, following Plato, think about finite things as actualizing a higher, unchanging

realm of essences. There's a lot to say about this tradition and its influence on Spinoza, but we'll have to leave that discussion for another occasion.

(2) Spinoza says that, “the essence of man is constituted by certain modifications of God’s attributes” (2P10C). He subsequently talks about the mind’s essence as “constituted by” ideas (2P17S, 3P3D, 3P11S, 3GenDef, 5P9D, 5P36S, 5P38D), and the body’s essence as “constituted by” bodies (4P39D). Many scholars seem to take “constituted by” to mean something like “is nothing but,” and as a result take these claims to establish that the essence of the mind is a pattern of thinking, and the essence of the body is a pattern of motion.

However, I think that Spinoza means something else. I think he means that, insofar as a man is a thinking thing, his essence is actualized by ideas, and insofar as he is an extended thing, his essence is actualized by bodies. In this sense of ‘constitutes’, one might say that, insofar as a statue is a marble thing, it is constituted by marble chunks, and insofar as it could be a clay thing, it could be constituted by clay chunks. This is what Spinoza seems to mean by ‘constitutes’ in other contexts. For example, he writes that, “as each [man] is affected by external causes with this or that species of joy, sadness, love, hate, etc., that is, as his nature is constituted in one way or the other...” (3P56D). In other words, a man’s essence is actualized by different emotions at different times. This interpretation of ‘constitutes’ is further supported by the way he interchanges ‘constitutes’ and ‘expresses’ (1P20D, compare 1D4 and 1D6). It’s perhaps unsurprising that he interchanges these terms since both were originally used to describe a statue’s relation to its matter.

What is the relation between ‘constitutes’ and ‘expresses’? I think that an essence is constituted when all aspects of the essence are expressed. Thus, finite things express God’s power, but do not constitute God’s power, because they express only some of God’s power. A rough analogy might help: an equilateral triangle expresses a plane, but does not constitute it, because it gives a determinate shape to only part of the plane.

There’s a lot more to say about both ‘constitutes’ and ‘expresses’. But for now, I just want to point out an important ramification of this analysis of ‘constitutes’. Spinoza defines an attribute as “what the intellect perceives of a substance, as constituting its essence” (1D4). As I’m suggesting we interpret Spinoza, this means that the attributes are complete but different ways of

actualizing God's essence. More exactly, God's essence is undifferentiated power (1P34), and this power is completely actualized as a power of thinking, as a power of moving, and so on. God's relations to his attributes are thus like Peter's relations to BODY and MIND. Unfortunately, this is a big topic, so we'll have to leave it for another occasion.

(3) Spinoza writes:

If the parts composing an individual become greater or less, but in such a proportion that they all keep the same pattern [*ratio*] of motion and rest to each other as before, then the individual will likewise retain its nature, as before, without any change of form.
(2PhysL5)

I suspect this and similar passages are also responsible for the widespread view that the essence of a body is a pattern of motion. But in all these passages, Spinoza merely commits himself to a conditional, like: If a body keeps the same pattern of motion, it retains the same essence. And that's also true on our interpretation as well, because if a body keeps its pattern of motion, it retains the same pattern of activity. Analogously, if a statue keeps its parts in the same configuration, it retains the same shape.

(4) Spinoza says that a body and its mind are "conceived" in two ways. He writes:

[T]he mind and the body are one and the same thing, which is conceived now under the attribute of Thought, now under the attribute of Extension. (3P2S; see also 2P21S)

Because a body and its mind are discernible, thinking about a body is not the same as thinking about its mind, at least if we're thinking about features of the body that aren't shared by its mind, such as its size, shape, and motion.

(5) Spinoza says that the essence of a man relates to both his mind and body:

When this striving [to persevere] is related only to the Mind, it is called Will; but when it is related to the Mind and Body together, it is called Appetite. The Appetite, therefore, is nothing but the very essence of a man... (3P9S)

Our interpretation coheres particularly well with this passage, because, as we're interpreting Spinoza, the essence of a man is a pattern of activity that relates to his mind and his body.

(6) Recall his definition of 'essence':

I say that to the essence of any thing belongs that which, being given [*dato*], the thing is necessarily posited and which, being taken away [*sublato*], the thing is necessarily taken away; or that without which the thing can neither be nor be conceived, and which can neither be nor be conceived without the thing. (2D2)

I take 'being given' [*dato*] to be yet another way of saying that the essence is constituted, and 'taken away' [*sublato*] to be yet another way of saying that the essence is no longer constituted. If I'm right, it belongs to the essence of x to be F iff (i) constituting x thereby constitutes something F , and (ii) constituting something F thereby constitutes x .²⁸ This cohere with our interpretation, because constituting Peter, whether as BODY or MIND, thereby constitutes his pattern of activity, and constituting his pattern of activity, whether as BODY or MIND, thereby constitutes Peter. Likewise, when we conceive of Peter, whether as BODY or MIND, we thereby conceive of his pattern of activity, and when we conceive of his pattern of activity, whether as BODY or MIND, we thereby conceive of Peter.

(7) Finally, let's consider an important but puzzling proposition from the first part of the *Ethics*:

From the necessity of the divine nature there must follow infinitely many things in infinitely many ways [*modis*]... (1P16)²⁹

The wording of this proposition is puzzling. Why does Spinoza include the clause "infinitely many ways"? Based on how he later uses this proposition, it's clear that the "infinitely many ways" correspond to God's infinitely many attributes (see 1P25C). According to our interpretation, when he says that each thing is expressed in each of God's attributes, he's saying that each

²⁸Among other advantages, I think this helps us make sense of 2P10D and 2P37D.

²⁹Curley [68] translates *modis* using 'modes'. But 'ways' is also acceptable (see Melamed [42, p.150]).

thing is actualized in each of God's attributes. Thus, when he says that from God's essence there follow infinitely many things in "infinitely many ways," he's saying that one thing is actualized in each of God's attributes. For example, Peter is actualized in each of God's attributes, including in thought as MIND and in extension as BODY.

There are many other passages to consider. Nonetheless, I think this is a promising start. Let's now turn our attention to objections.

5 Objections

There are three objections that I suspect have convinced others that this kind of interpretation is unworkable. In this section I'll respond to all three objections, often drawing on conclusions established in my other papers. None of my responses will be decisive. My goal is merely to show that these objections can be resisted.

The first objection involves a claim that isn't explicitly in the text, but that many attribute to Spinoza:

CONCEPTION \rightarrow CAUSATION

If x is conceived through y , then y is a cause of x .

CONCEPTION \rightarrow CAUSATION is apparently inconsistent with my interpretation. Here's why: According to Spinoza, we conceive of a thing through its essence (2D2). Thus, if the MIND and BODY share the same essence, we conceive of them through the same essence. CONCEPTION \rightarrow CAUSATION would then establish that the mind and body share a cause. However, Spinoza seems to insist that the causes of bodies are only other bodies, and the causes of minds are only other minds, in which case they can't share the same cause (2P6, 3P2).

One might question whether there's really an inconsistency with CONCEPTION \rightarrow CAUSATION. In the relevant passages, Spinoza seems most intent on establishing that bodies aren't caused by anything belonging to another attribute, and that wouldn't be the case if it doesn't belong to any of the attributes (it's "attribute-neutral"). Thus, it's at least debatable whether my interpretation is really inconsistent with CONCEPTION \rightarrow CAUSATION.

But I think there's a better response. In other work I argue that Spinoza isn't really committed to CONCEPTION \rightarrow CAUSATION. Spinoza is often

thought to rely on this claim in his demonstration of 1P25. But I argue that he's relying on another claim. And insofar as we've now motivated an interpretation incompatible with CONCEPTION \rightarrow CAUSATION, we have another reason to think that he's not relying on CONCEPTION \rightarrow CAUSATION in his demonstration of 1P25.

The second objection is about the ontological status of essences. In a nutshell, the objection is that essences must be modes, and thus must be modes of extension, modes of thought, or modes of some other attribute (see 1P25C). But I'm claiming that essences are attribute-neutral.

In other work I argue that essences aren't modes. The central issue is Spinoza first axiom, 1A1, which reads:

Everything is in itself or another.
Omnia quae sunt vel in se vel in alio sunt.

Given his definitions of mode and substance, this seems to imply that everything is a mode or a substance. And that's exactly what he infers from this axiom (e.g., 1P4D). Many quite reasonably take this to establish that essences must be modes. But note that this axiom could also be translated:

All beings are in themselves or in another.

In other work I argue that essences aren't *beings*, and thus fall outside the scope of this axiom. From a contemporary point of view, this might sound strange, because we're inclined to agree with Quine [53] that, if something plays a role in our preferred theory, we're ontologically committed to it. Since essences play an important role in Spinoza's preferred theory, he might seem to be ontologically committed to them, and thus to treating them as beings. But I think this again shows that Spinoza is working in another tradition. Consider the late medieval scholastics. With a few possible exceptions (e.g., Anselm and Buridan on the intellectualive soul), they deny that substantial forms are beings – they deny that substantial forms fall within any of the traditional categories of being inherited from Aristotle. Most importantly, they deny that substantial forms are substances or accidents. But substantial forms still play an important role in scholastic metaphysics. In fact, they play much the same role as essences in Spinoza's metaphysics. In particular, substantial forms are responsible for a thing's motions, they indicate its ideal state, and they're responsible for its identity across times. Spinoza seems to

be signaling this similarity by describing essences as “*formal* essences”, and by using ‘form’ interchangeably with ‘essence’ (see again 2P10, 2PhysL4&L6, 2P33D, 4Pref).³⁰ If Spinoza didn’t think of essences as beings in their own right, perhaps he didn’t need to think of them as modes or substances.

Before moving on, I want to point out that, if I’m right, essences are a counterexample to another claim that isn’t explicitly in the text, but that is sometimes attributed to Spinoza (Della Rocca [59], Newlands [48]):

CONCEPTION \rightarrow INHERENCE

If x is conceived through y , then x inheres in y .

Essences are a counterexample, because a thing is conceived through its essence (by 2D2), but doesn’t inhere in its essence, since inherence is a relation involving substances, modes, modes of modes, and so on, i.e., beings. There are independent reasons to deny that Spinoza is committed to CONCEPTION \rightarrow INHERENCE, including that it would imply that present objects inhere in past objects (see Melamed [41]). So it shouldn’t be too surprising to find another counterexample. But it’s still worth mentioning, because essences would then be a counterexample to more than one of the bi-conditionals that are sometimes thought to link Spinoza’s fundamental notions, namely: conception, causation, and inherence. Strict adherence to those bi-conditionals might also explain why this interpretation has gone unnoticed.

The third objection is that if essences are patterns of activity, there’s nothing to prevent the same pattern of activity from being actualized at discontinuous times, such as in 500 BC and then later in 1600 AD but at no moments in between. There’s also nothing to prevent the same pattern of activity from being simultaneously actualized at discontinuous locations, such as simultaneously in Australia and in Norway but at no locations in between. Even if there are some bodies that can exist at discontinuous locations and times, there are many other bodies that presumably can’t, including human bodies. Thus, the objection concludes, the essences of these bodies can’t be patterns of activity. This objection might seem especially pressing given our earlier comparison between patterns of motion and computer programs, because the same program can be run by many different computers.

This objection isn’t specific to our interpretation. Suppose with most scholars that essences are attribute-specific, so that the essence of a body

³⁰See Valterari Viljanen [70, Ch 2–3] for helpful and extended discussions of the similarities between Spinoza’s formal essences and the scholastics’ substantial forms.

is a pattern of motion, and the essence of a mind is a pattern of thinking. Why can't bodies at discontinuous times or discontinuous locations share the same pattern of motion? And why can't their minds share the same pattern of thinking? Spinoza never answers these questions, forcing us to speculate on his behalf.

There are at least two plausible answers. First, perhaps a body's pattern of activity indicates its causes as well as its effects, thereby indicating where it belongs in the causal ordering of the entire universe. For example, perhaps BODY's pattern of activity indicates its parents, children, and other causes and effects, thereby differentiating it from any body with the same pattern of internal motions, but different parents, children, or other causes and effects. We might think of BODY's pattern of activity as like a computer program that specifies who will input the first value, who will input the second value, and so on. In that case, another body can't have the same pattern of activity.

Second, perhaps God's essence cannot produce another body with the same pattern of activity, because he'd thereby produce a contradiction. Suppose that God's essence produced another body with the same pattern of activity as BODY. Because they'd share the same essence, they'd be identical. But the essence of BODY presumably excludes the possibility that it exists at discontinuous times or discontinuous locations. In that case, the essence of BODY would imply that it's not identical to the other body. Thus, God's essence would have produced a contradiction, which obviously can't happen. It follows that, no matter how similar another body might seem, there must be an underlying difference in its pattern of activity, even among the simplest bodies (see 2PhysL1, 2PhysA2'').³¹

I'm inclined to think that Spinoza would give the second answer. A disadvantage of the first answer is that if it were essential to BODY to have certain causes and effects, we couldn't even *think* about counterfactuals in which it has different causes and effects. An advantage of the second answer is that it would also help solve one of the deepest puzzles about Spinoza's metaphysics, which is how something as simple as God's essence could produce such a diverse world, rather than, for example, a world of homogenous balls spinning in place. Perhaps God's essence cannot produce a less diverse world because multiple bodies cannot share the same pattern of activity, or else they wouldn't be multiple. Spinoza's view would then be continuous

³¹Garrett [23, p.80–81] won't think this is Spinoza's answer, because according to Garrett the simplest bodies are completely homogenous.

with a Platonic tradition in which God's essence gives rise to a world of maximal diversity.³²

Fortunately, we don't need to decide here what answer Spinoza would give. It's enough that he could give an answer.

There are other objections, but I think these are the most pressing.

6 Conclusion

If I'm right, Spinoza's view is of great historical interest in that it's both grounded in tradition and genuinely innovative.

Spinoza's view might also be of contemporary interest. As already noted, many now assume that the link between identity and indiscernibility is definitional. Lewis doesn't even think there are substantive questions about identity, writing that, "Identity is utterly simple and unproblematic. Everything is identical to itself; nothing is ever identical to anything else except itself" ([37, p.192]). Hawthorne agrees, writing that, "The topic of identity seems to many of us to be philosophically unproblematic. Identity, we will say, is the relation that each thing has to itself and to nothing else" ([28, p.99]). But it's perhaps time to reconsider, especially now that many are once again comfortable talking about essences, and thus might once again be comfortable linking identity to essence, rather than indiscernibility. This could have widespread implications throughout metaphysics. For example, it could open up new theories about properties and their instantiations, because there wouldn't be the same pressure to relativize properties to times, or to treat instantiation as time-indexed. More generally, it could open up new responses to the puzzle about identity across times as well as other puzzles involving identity.

Spinoza's view might also be of interest to contemporary property dualists. These philosophers claim that there are at least two fundamentally

³²For background on this tradition, see Mercer [44, p.180–4]. There is another reason to think that Spinoza is working in this tradition. In response to the question 'Why didn't God create all men so that they would be governed by the command of reason?' Spinoza answers that God's essence produces all things that can be conceived by an infinite intellect, a reference to 1P16 (1App). Because Spinoza's answer isn't specific to men or their intellects, and because an infinite intellect can presumably conceive of infinitely many different patterns of activity, this is further evidence that he thinks that God's essence gives rise to a world of maximal diversity.

different kinds of properties – physical properties and mental properties – and that we instantiate both kinds. But some wonder: How can one and the same thing instantiate both kinds of properties? Insofar as these are fundamentally different kinds of properties, the suggestion that we instantiate both can seem as objectionable as the claim that the same thing instantiates both physical properties (e.g., *is 10kg*) and mathematical properties (e.g., *is a prime number*). In my opinion (and see also Schneider [64], [63]), property dualists haven't given a compelling response, because they offer merely *negative* reasons. They claim that there's no reason why a thing *can't* instantiate properties of these two kinds. That's an unsatisfying response because anyone who grants the incommensurability of the mental and physical aspects of the world owes us an account of how they're nonetheless reconciled into the same world. It's unsatisfying to be told merely, "Well, why not?"

Spinoza directs property dualists towards a more satisfying answer: identify an abstract structure that is actualized simultaneously by a person's physical properties and mental properties. Property dualists needn't agree with Spinoza that it's a *causal* structure, a claim that seems to require both panpsychism and causal parallelism because the mental properties would need to be as causally efficacious as the the physical properties. As an alternative, property dualists could say that it's a temporal and counterfactual structure that reflects the systematic co-variation of neural and phenomenal properties, and the way these properties change together over time, in response to the environment. It would help property dualists considerably if, like Spinoza, they could also maintain that this structure is responsible for a person's identity across times because it would then be more plausible that they're describing that person's essence. Even better if they could maintain that this structure is responsible for a person's identity across possible worlds, so that it's Humphrey who won the election in another possible world because the person who won the election in that world had the same structure. The resulting view would allow property dualists to agree that the differences between physical and mental properties are so fundamental that they must be instantiated by discernibly different things, namely the mind and body, while also allowing them to insist that physical and mental properties are instantiated by the same thing, because the mind and body share the same essential structure. They would thereby acknowledge the incommensurability of the mental and physical aspects of the world while also giving an account of how they're reconciled into the same world. Unlike Spinoza, they would just need to deny that the physical properties and

mental properties are themselves numerically identical, at least if they want to remain property dualists.

In these ways, Spinoza's view of the mind's relation to the body potentially gives us a way to acknowledge a genuine fissure in the world, while also giving us the resources to unify it. Whether such a proposal ultimately succeeds is, of course, an open question. But at the very least, it's yet another example of why Spinoza's metaphysics deserves careful study.³³

Abbreviations

- TIE *Treatise on the Emendation of the Intellect*
 PP *Parts I and II of Descartes' Principles of Philosophy*
 KV *Short Treatise on God, Man, and His Well-Being*
 CM *Appendix Concerning Metaphysical Thoughts*
 AT *Oeuvres de Descartes*, Charles Adam and Paul Tannery (eds.), 1964-1976, vols. I-XII, revised edition. Paris: J. Vrin/C.N.R.S.

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