

Causal Closure and Dualism Without Overdetermination or Epiphenomenalism

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Abstract: We show that there is a version of dualism—and even of substance dualism—on which (a) the physical is causally closed, (b) there is no systemic overdetermination, (c) mental states are not physical states, and yet (d) mental states have physical effects. This shows that commonly-made claims about dualism about causal closure are not quite correct. The theory offered can be seen as a version of Aquinas’s theory of sensory consciousness, where sensory consciousness is partly constituted by the soul’s informing of the body and partly by the states of physical organs.

Key words: mind, dualism, causal closure, overdetermination, epiphenomenalism, Thomas Aquinas, consciousness, qualia

1. INTRODUCTION

It is widely explicitly held that if physical reality is causally closed and there is no systematic overdetermination, then the only option available for the dualist is epiphenomenalism—the view that non-physical mental states are causally inert. Hence, the causal exclusion problem.¹ Interactionist dualists typically respond by denying the causal closure of the physical.² Other dualists reply that the exclusion problem assumes disputable additional premises not clearly supported by current science.³ Recently, some dualists have rejected overdetermination.⁴

We think the dualist (substance, hylomorphic, or property) needn’t take any of these routes and we show that the above commonplace about the logical space of theories of mind is false by presenting a version of dualism on which (a) the physical is causally closed, (b) there is no systemic overdetermination, (c) mental states are not physical states, and yet (d) mental states have physical effects. This theory can be seen as inspired by (a reading of) Aquinas’s theory of sensory consciousness. We will argue that this theory fits well with data about the mind’s dependence on the physical that is seen as evidence for physicalism, and the knowledge, conceivability, and unity of consciousness arguments for dualism. We do not endorse the theory but present it solely in order to expand the discussion of closure and dualism.

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2. FROM CLOSURE TO OVERDETERMINATION TO A DUALIST WAY FORWARD

First, let's sketch the usual argument that given causal closure epiphenomenalism is the only option for dualism. Causal closure is usually taken to be the following thesis.

Causal Closure: Every physical item (event or object) that has a cause has a physical cause.

If this is true, then given any non-physical cause of a physical effect, E , the effect E must also have a physical cause. If systematically there are non-physical causes that have physical effects—as the interactionist dualist holds—then it seems that systematically physical effects are overdetermined by physical and non-physical causes. However, most are convinced that systematic overdetermination must be rejected. So, given causal closure, the dualist should keep the causal efficacy of the physical but adopt epiphenomenalism about the mental.

This quick argument depends on

Overdetermination: if an effect E has at least two separate and independent causes, C_1 and C_2 , then E is overdetermined by C_1 and C_2 .⁵

As written, the overdetermination thesis is clearly false. For it could be that both C_1 and C_2 are non-redundant, and hence non-overdetermining, necessary conditions of E , in the way that both heat and oxygen are non-overdetermining causes of a forest fire.

We might rule out this kind of case by reading “cause” in the causal closure thesis as a sufficient cause:

Sufficient Causal Closure: Every physical item that has a cause has a sufficient physical cause.

This version of closure implies that anything that has a physical cause has a sufficient physical cause. But on indeterministic interpretations of quantum mechanics, typical physical events in the world do *not* have sufficient physical causes but only have probabilistic causes (albeit ones that make the event highly probable).

Taking quantum indeterminism into account, we might propose the following.

Probabilistic Causal Closure: Every physical item (event or object) that has a cause has a probabilistic physical cause (its probability is a result of only a physical cause).

On this version of causal closure, the interactionist dualist has a way out (though there may be empirical or conceptual difficulties, of course, with the details): a non-sufficient probabilistic physical cause could be compatible with the existence of another cooperating probabilistic cause.⁶

There may or may not be a way of making the causal closure argument work in a probabilistic context.⁷ Almost⁸ no one attempts this. Still, we will make the task for the dualist harder by allowing physical determinism, and hence allowing the deterministic causal closure thesis that any caused physical item has a *sufficient* physical cause.

The overdetermination thesis has a second problem, even if we assume we are talking of sufficient causes in a deterministic context. While sufficient causation may not *always* be transitive, cases where C_1 sufficiently causes E by sufficiently causing an intermediate sufficient cause C_2 are possible and are not cases of overdetermination. For instance, in a deterministic universe, a complete state of the universe could be sufficiently caused by *each* preceding complete state without this being overdetermination.

Similarly, E. J. Lowe argued that *Sufficient Causal Closure* is compatible with emergentist interactionist dualism and non-overdetermination. Suppose the universe initially existed with only physical items until a non-physical mental item M emerged. This allows that P_1 is a sufficient physi-

cal cause of a physical event P_2 by P_1 causing an intervening event M , which is a cause of P_2 . In such a case, P_1 and M do not causally overdetermine P_2 .⁹

One way to get out of this transitivity worry would be to specify the causation in the causal closure argument to be *immediate*:

Immediate Causal Closure: Every physical item (event or object) that has a cause has an immediate physical cause.

The problem here is that *Immediate Causal Closure* is incompatible with the mainstream view that time is dense, causation is always diachronic, and events have physical causes but never immediate physical causes. If P_1 causes P_2 , then P_1 is before P_2 , and hence by density there is a time between P_1 and P_2 , and at that time many would expect an intermediate cause.¹⁰

We might weaken the thesis to:

Weak Immediate Causal Closure: Every physical item (event or object) that has an immediate cause has an immediate physical cause.

But *Weak Immediate Causal Closure* is only going to save the argument from dualism to epiphenomenalism if we can deal with certain scenarios with infinitely many intermediate mental causes. Suppose, for instance,

Infinite Mental Sequence: Time is dense, and a physical effect E at time t_2 is sufficiently caused by each of an infinite sequence of mental events M_t where t ranges over all times strictly between 1 and 2.

Then no M_t is an immediate cause of E (since M_t for $t < 1$ causes E by the intermediate event $M_{1/2+t/2}$), and so E can have a sufficient mental cause without having any immediate cause at all. Thus, *Weak Immediate Causal Closure* holds trivially for E .¹¹

Perhaps there are ways of handling such scenarios. First, we might suppose that in the example given, the fusion of the mental events M_t counts as an event that *immediately* causes E . Second, and more controversially, if the “causal finitism” thesis is true, such scenarios are impossible.¹² We will assume, thus, that we have some such way of handling the transitivity worry.

We will thus assume for simplicity that “cause” in the causal closure and overdetermination theses is a sufficient immediate cause, that determinism holds, and that we have some way of resolving issues about infinite chains of intermediate causes.¹³ Nonetheless, the overdetermination thesis fails in a third way. This third failure is particularly serious because a somewhat attractive dualist theory can be given that exploits precisely this failure.

3. A FAILURE IN FAVOR OF INTERACTIVE DUALISM

Suppose the following.

Alfred: Alfred dies defending Poland against Nazi invaders on September 1, 1939.

Alfred’s death is caused by World War II. It is also caused by the German invasion of Poland, which is a proper part of World War II. And it is also caused by a particular bellicose act—say, the firing of a rifle—that is a part of the invasion. Yet there is no overdetermination among these three causes. We thus have a third way for the overdetermination thesis to fail: one of the causes, C_1 and C_2 , of E could be a proper part of the other. That is,

Proper Part Causation: C_1 and C_2 are causes of E , and C_1 is a proper part of C_2 .

It is not always true that when a proper part of X causes some effect E , then X is itself a cause of E .¹⁴ But it is *sometimes* true.

One might think that this is another technical worry that can be resolved by tightening up the causal closure thesis. But we will now sketch a not unattractive dualist theory of consciousness that exploits this worry while doing justice to the physicalist's intuitions behind closure. The possibility of such a theory is evidence that the worry is *not* a merely technical worry, in the way that worries about implausible scenarios with infinitely many mental causes are.

To sketch the theory, suppose initially that the person is a unity comprised of a body and soul. Also, suppose the following theses comprising the heart of the distinctive aspects of the theory:

Phenomenal Composition: An ordinary phenomenal state M is essentially composed of a brain state B and a purely non-physical state S .¹⁵

Mental-Physical Dependence: Neither B nor S on its own is sufficient for an episode of phenomenal consciousness: it is only when they are joined in M that we have something more than a zombie.

Wholistic Mental Causation: When the brain state B is the cause (and if we like, we can add: sufficient and/or immediate) of a physical effect E , this causation is correctly attributable to the whole state M of which B is but a proper part.

We can call M a quale, and then on our theory qualia will be composites of a purely physical state and a purely non-physical state. And such a hybrid itself counts as a non-physical state but not a purely non-physical state.

More will be said to make the story plausible, but at this point we can see how the above fits with causal closure. The mental state M is a (sufficient and/or immediate, if you wish) cause of the physical effect E . The physical effect E has a physical (sufficient and/or immediate if M is) cause B . And yet there is no overdetermination because M causes E by virtue of its proper part B .

Moreover, the story is faithful to the physicalist's motivations for positing causal closure. The physicalist wants to avoid "spooky" non-physical causation. But there is a sense in which the causation here is actually *physical* causation: even though M is not a physical state, M causes E *physically* because it causes E entirely by a physical part B . There is nothing more mysterious to M 's causing E than to B 's physically causing E . There are *some* dualist mysteries here: What is the purely non-physical state S , and how are B and S combined to form a state M ? And there is also the mystery of what the state B is, where the theory issues a promissory note for future scientific discovery, just as a typical physicalist theory does. But these are not mysteries about how a non-physical item causes a physical event without violating the physical causal nexus. Because the story is actually faithful to the anti-mystery intuitions behind causal closure, it is unlikely that a refinement of the causal closure argument will rule it out.

It is worth noting that some of the inspiration for the theory comes from Thomas Aquinas who may have held a version of this theory in the case of sensory consciousness. Specifically, Aquinas appears to have held that states of sensory consciousness are constituted by physical states of the sensory organs together with the state of informedness-by-the-soul that made the body of an animal be alive.¹⁶ The difference between that theory and the one we are discussing is that on Aquinas's theory the relevant physical states are co-constituting qualia are states of the sensory organs while from a contemporary point of view it is much more plausible to take them to be states of the brain.

4. BUT IS THIS DUALISM?

Some might object that the view we've stretched is not dualism because according to dualism, if x is mental, then x has no physical properties. In contrast, on the above theory the state M has physical properties by virtue of having a physical part.

We see two responses. First, it is not clear that if some whole, W , has a part that has physical properties, then W automatically has physical properties. After all, wholes do not automatically inherit the properties of their parts. An H_2O molecule does not have the property of positive charge, even though it has parts (e.g., protons) that have that property. And it is controversial whether committees have mental properties, even though obviously their members do. One might insist that even if in general properties are not inherited from parts, anything that has a part with physical property V has the physical property PV of having a part with V . But it is not clear that PV is a physical property. After all, PV entails the property of *having a part*, and the property of *having a part* is not a physical property: it is equally had by any object, physical or not since every object has a part (if only an improper one).

But, second, let's grant for the sake of argument that PV is a physical property. We now note that it is a misunderstanding of what dualists maintain to attribute to them the view that mental items have no physical properties. Richard Swinburne, for example, defines a mental substance as one which possesses a mental property essentially, while a physical substance does not essentially possess a mental property.¹⁷ Likewise, Dean Zimmerman explains substance dualism as the view that

for every person who thinks or has experiences, there is a thing—a soul or spiritual substance—that lacks many or most of the physical properties characteristic of non-thinking material objects like rocks and trees; and that this soul is essential to the person, and in one way or another responsible for the person's mental life.¹⁸

This conception of the mental is compatible with the mental having physical properties. Another example is E. J. Lowe's non-Cartesian substance dualism on which the subject or self is mental (not identical to but distinct from its body) and yet is spatially extended, possessing physical properties, including size, shape, and mass.¹⁹ Some dualists have argued that the soul possesses some form of energy and the power to transfer its energy to a body or physical event.²⁰ Even Descartes held a version of *Mental-Physical Dependence* according to which some mental states, including memory, imagining, and perceiving, depend on brain states.²¹ The logical space of dualism expands further than commonly thought.²²

5. GAZE DUALISM

Recall that on our theory, which we will call *Gaze Dualism* for reasons to be explained shortly, mental state M is a (sufficient and/or immediate) cause of physical effect E , where M causes E *physically* by virtue of M 's physical part B . This and the following are illustrated in Figure 1.

We can now add some more details to the sketch. There could be a division of metaphysical workload between the purely non-physical state S and the brain state B . If we swap out the brain state while keeping the non-physical state the same, we can get a different phenomenal quality. Different ordinary qualia—say, a conscious experience of red or of blue or of middle C—are differentiated by B , but what makes them *qualia* is that B is combined with S . The motivation for this supposition is that it allows us to be behaviorally sensitive to all the qualitative features of our experience without violating closure. We react physically differently to an experience of red, of blue, and of middle C, and we can say that the difference in these reactions is sufficiently caused by the corresponding brain state B . At the same time, by a metaphysically contingent law of mental-physical interaction, the state S always occurs when people have properly functioning brains capable of exhibiting the relevant brain states.

To speak poetically, we can think of S as “the gaze of the eye of the soul upon the brain,” and we whimsically call the theory “gaze dualism.” The soul “looks” at the brain states and is aware of them. Somewhat less poetically, but still non-literally and intuitively, we can think of S as the person's *attention* to their brain. But the non-physical “attention” here is a more fundamental kind

S = Soul state M = Mental state
 B = Brain state E = Event
 Q = Qualia state

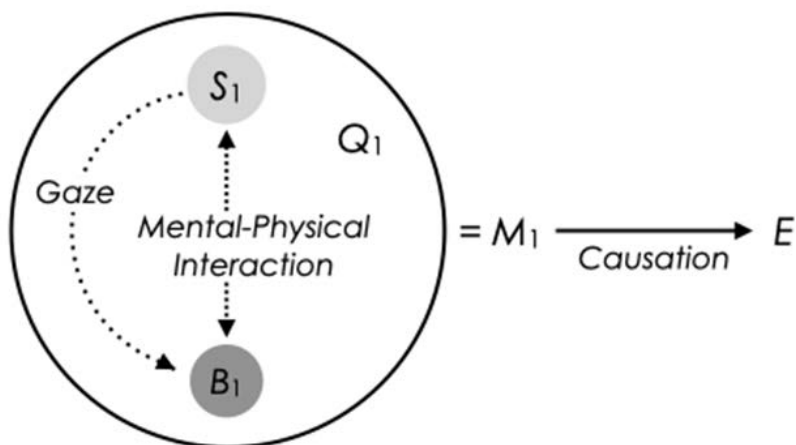


Figure 1

of attention than the brain states associated with the kind of attention that neuroscience studies or the kind of second-order scanning of the HOT theory of phenomenal consciousness.²³

It is worth emphasizing that gaze dualism does not entail that *S* explains *B* or that *S* explains *E*. The soul state *S* is not a mental state but a proper part of a mental state. A part of a mental state is not always a mental state (materialists certainly will agree, but it is open to dualists to agree). The metaphysical significance of *S* is that, in conjunction with *B*, *S* makes *M* phenomenally conscious, which allows for behavioral sensitivity to the qualitative features of our experience. As far as gaze dualism goes, *S* could be epiphenomenal. It is also worth noting that even on an identity physicalism, a mental state that is identical to a brain state can have parts that are epiphenomenal with respect to observable behavior—for instance, the brain state may involve a neuronal molecule that does not affect behavior.

To make gaze dualism more plausible, let us consider how it fits with standard arguments for physicalism and for dualism.

5.1. Taking the Physical Seriously

Because in the division of labor between *S* and *B*, it is *B* that enters into the causal explanations of physical behavior, standard observations about the dependence of conscious states on brain function and malfunction fit as well with gaze dualism as with physicalism. And we can specify in our theory that “the gaze of the eye of the soul” is sensitive to precisely those properties of the brain—perhaps functional properties—that physicalists think realize or ground consciousness. Thus we can suppose just as much multiple realizability as functionalists do or just as little as those who think consciousness to be a biological property do.

5.2. Conceivability Arguments

Conceivability arguments for dualism fit well with gaze dualism. On gaze dualism, zombies are just beings that have human-like bodies and behaviors but who do not have the gaze or attention state *S*, either because of a miracle or a difference in laws of nature. If we think that the conceivability of life after death gives evidence of the possibility of disembodied life, we can suppose that just as phenomenal states are composed of a physical and a purely non-physical component, we too are

composed of a physical and a purely non-physical component but can survive the loss of the physical component. The non-physical component, the soul, could be the direct bearer of the gaze state S . And we might then add that a “soul’s gaze” state can be sensitive not just to brain states but also to non-physical states.²⁴

5.3. Knowledge Arguments

Knowledge arguments are a little trickier. An aficionado of knowledge arguments might complain that on gaze dualism, Mary, raised in a black-and-white environment, should be able to know what it is like to see red by knowing what it is like to see white and what brain states are involved in seeing red. For the quale of red on gaze dualism is the sum of a component, S , common between the quale of red and the quale of white, and a brain state different between the two. Since Mary can know the brain state B_r associated with seeing red, and since she is familiar with S from her consciousness of white, she should also know the state M_r composed of B_r and S .

This objection is unconvincing. For Mary may be familiar with the sum of B_w (the brain state associated with consciousness of white) and S without being familiar with the component S as such. After all, one can be familiar with a table without being familiar with any of the particles making it up or at least without being aware of them as particles. The component S is mysterious, and so even though Mary has experienced $B_w + S$, and knows all about B_r , the combination $B_r + S$ may be a mystery to her. Furthermore, even if Mary knew all about the components of a whole, it wouldn’t be clear that she would know all about the whole.

5.4. The Unity of Consciousness

Finally, gaze dualism can provide an elegant account of the phenomenal unity of consciousness while allowing for cases of phenomenal disunity, if there are any, such as in hemispherectomy (split-brain) patients (a surgical procedure in which the two hemispheres of the brain are disconnected from one another by the severing of the corpus callosum) and persons living with Dissociative Identity Disorder (DID). But here first we should note two things. First, there are both dualists and non-dualists who reject the possibility of disunified phenomenal consciousness.²⁵ Second, recent studies have undermined the standardly referenced empirical support for disunified phenomenal consciousness.²⁶

It is a longstanding argument that dualism provides the best account of the fact that we simultaneously experience multiple states of phenomenal consciousness in a single state with its own what-its-like-to-experience. One thought is that phenomenally unified consciousness cannot be spread across or shared among disparate parts of the brain but can be experienced by a mereologically simple subject, a soul.

The gaze dualist might hold that what gives the phenomenal unity of multiple states of consciousness is that they all involve the numerically same “gaze” state S , which is sensitive to various brain states combined with S . Thus when one is in a cold and loud environment, one has a gaze state S and two brain states, a B_c state correlated with perceptions of cold and a B_l state correlated with perceptions of loud. One then has two conscious mental states: $B_c + S$ and $B_l + S$, and what makes them unified is that there is a single non-physical gaze state S that they have in common which is hosted by a single simple subject, the soul.

However, one *might* also suppose that under exceptional circumstances (e.g., hemispherectomy, or DID), multiple “gaze” states result that are sensitive to different aspects of the brain. Thus, it may be that when the brain is split, we have gazes S_L and S_R , directed at the properties of the left and right hemispheres, respectively. Then if the left hemisphere has a state L_c correlated with cold and the right hemisphere has a state R_l correlated with loudness, the individual as a whole might have two disunified mental states: $S_L + L_c$ and $S_R + R_l$, so that the individual is aware of cold and aware of loudness but is not aware of them both in a phenomenally unified way.

So gaze dualism gives an account of the phenomenal unity of consciousness but perhaps better accounts for the possibility of the disunity of consciousness than alternative dualist accounts.²⁷ Even if consciousness is not *actually* disunified, one might argue that just as we can conceive of zombies and time travel, one might think that we can conceive of people with disunified consciousness (though one of us (Rickabaugh) actually finds phenomenally disunified consciousness inconceivable).

6. WHAT KIND OF DUALISM DOES THIS FIT WITH?

The metaphorical description of the non-physical state as a “gaze of the soul” suggests that the theory under consideration is a Cartesian dualist theory. In fact, versions of the gaze theory can be made to fit with Cartesian dualism, integrative dualism, hylomorphic dualism, or property dualism. However, the theory seems slightly more amenable to integrative and hylomorphic dualism.

On Cartesian dualism, the person is the soul, a non-physical substance. On this view, the gaze is a relation between the person and a brain that is not a part of the person. Consequently, on Cartesian gaze dualism there needn't be an intrinsic difference between a person—a soul—who is having a phenomenal perception of red and a person who is having a phenomenal perception of white. For in both cases the soul could have an exactly similar gaze state, but the differences in phenomenal states are grounded in the difference in brain states, which are extrinsic to the person. One of us (Pruss) does not think this kind of phenomenal externalism is immediately absurd, but we both admit it is counterintuitive.

On integrative and hylomorphic gaze dualism, the extrinsicness problem disappears because the person is a whole composed of a non-physical soul (thought of as a substance or an organizing form) and a physical body, and the gaze relation is thus aimed at an internal state of the person, even if a physical one.

Finally, on property gaze dualism, the first relatum of the non-physical gaze relation will presumably not be a non-physical soul but a physical object: the person as a whole or perhaps the brain as a whole. One may worry a little about whether two physical relata—say, a person and an aspect of a brain—can have a non-physical relation, but this does not seem significantly more problematic than something all property dualists face, namely the idea of a physical object with non-physical properties.

7. CONCLUSION

The conceptual possibility of gaze dualism shows that one can have causal closure, non-overdetermination, and dualism while avoiding epiphenomenalism. It is also worth noting that gaze dualism undermines conservation of energy arguments against dualism. Moreover, if we are right about gaze dualism, then the justification for physicalism wanes, as physicalists tend to consider the argument(s) from causal closure and/or energy conservation the main justification for physicalism.²⁸ Furthermore, gaze dualism is not a mere intellectual curiosity because it does justice to both the brain dependence arguments for physicalism and many of the arguments for dualism. It is a theory on which phenomenal states are non-physical but are not purely non-physical.

Finally, it is worth noting that even those dualists (including us) who reject causal closure because they think causal closure is incompatible with a robust account of free will can accept gaze dualism as an account of phenomenal consciousness, or at least phenomenal sensory consciousness, as it gives a particularly good account of the brain-dependence of conscious states.

NOTES

1. The exclusion argument was initially presented by Ernest Sosa and then developed and sustained by Jagwon Kim. See Ernest Sosa, "Mind-Body Interaction and Supervenient Causation," *Midwest Studies in Philosophy* 9 (1984): 271–281; Jagwon Kim, "Mechanism, Purpose, and Explanatory Exclusion," *Philosophical Perspectives* 3 (1989): 77–108; and Jagwon Kim, *Physicalism, or Something Near Enough* (Princeton University Press, 2005).
2. See, e.g., John Foster, *The Immaterial Self: A Defence of the Cartesian Dualist Conception of the Mind* (Routledge, 1990); E. J. Lowe, *Personal Agency: The Metaphysics of Mind and Action* (Oxford University Press, 2008), 65–74. Some explicitly reject the conservation of energy principle. See, e.g., Alin C. Cucu and J. Brian Pitts, "How Dualists Should (Not) Respond to the Objection from Energy Conservation," *Mind and Matter* 17 (2019): 95–121.
3. Examples of disputable premises include: (a) any change in a body's motion involves some transference of energy between the cause of the change and the body whose movement is altered; (b) nothing non-physical has energy (or at least none that is capable of being transferred to any physical body), and (c) the physical realm is a closed system (i.e., one that exchanges no matter or energy with its surroundings, and on which no external force acts). Ben White, "Conservation Laws and Interactionist Dualism," *Philosophical Quarterly* 67 (267) (2017): 387–405.
4. See, e.g., Richard Fumerton, *Knowledge, Thought, and the Case for Dualism* (Cambridge University Press, 2013); Thomas Kroedel, "Dualist Mental Causation and the Exclusion Problem," *Noûs* 49(2) (2015): 357–375; Christian List and Daniel Stoljar, "Does the Exclusion Argument Put Any Pressure on Dualism?" *Australasian Journal of Philosophy* 95(1) (2017): 96–108; Ben White, "Metaphysical Necessity Dualism," *Synthese* 195(4) (2018): 1779–1798; and Uwe Meixner, "New Perspectives for a Dualistic Conception of Mental Causation," *Journal of Consciousness Studies* 15 (2008): 17–38.
5. Kim, *Physicalism*, 48.
6. John Eccles is the most well-known dualist to take the quantum mechanics approach. See John C. Eccles, *The Evolution of the Brain: Creation of the Self* (Routledge, 1989), 187–192. See also Antonella Corradini and Uwe Meixner (eds.), *Quantum Physics Meets the Philosophy of Mind* (Walter de Gruyter, 2014); Hans Halvorson, "The Measure of All Things: Quantum Mechanics and the Soul," in Mark C. Baker and Stewart Goetz (eds.), *The Soul Hypothesis: Investigations into the Existence of the Soul* (Continuum, 2011), 138–163; and Henry Stapp, "Quantum Interactive Dualism: An Alternative to Materialism," *Journal of Consciousness Studies* 12(11) (2005): 43–58.
7. Here is a possibility. We could posit this chancy causal closure thesis: if some cause of *E* was sufficient to bestow on *E* an objective chance *r*, then some physical cause was sufficient to bestow on *E* objective chance *r*. Then if two things each are sufficient to bestow on *E* objective chance *r*, it seems (modulo the worries that will be raised below for the overdetermination thesis) we have overdetermination.
8. For an attempt at a causal Bayes Net probabilistic approach, see Alexander Gebharter, "Causal Exclusion and Causal Bayes Nets," *Philosophy and Phenomenological Research* 95(2) (2017): 353–375.
9. Lowe, *Personal Agency*, 46–47.
10. Though Alexander R. Pruss (*Infinity, Causation, and Paradox* [Oxford University Press, 2018], chap. 4) offers causal interpretations of physics on which time is dense but causation is not.
11. Such options have been considered by Kant and Łukasiewicz: for historical discussion; see Lionel S. Shapiro, "'The Transition from Sensibility to Reason In Regressu': Indeterminism in Kant's Reflexionen," *Kant-Studien* 92 (2001) 3–12.
12. For instance, see Pruss, *Infinity, Causation, and Paradox*.
13. Causal closure is typically stated in deterministic terms, although some have made room for probabilistic versions. For an excellent discussion on the varieties of causal closure, see Sophie Gibb, "The Causal Closure Principle," *Philosophical Quarterly* 65 (2015): 626–647.
14. If Alice spills a glass of milk at home, for reasons independent of her university duties, the tenure committee of which she is a part is not a cause of the spill.
15. By 'ordinary phenomenal state' and latter 'ordinary qualia,' we mean to exclude cases such as disembodiment.
16. Sheldon M. Cohen, "St. Thomas Aquinas on the Immaterial Reception of Sensible Forms," *The Philosophical Review* 91(2) (1982), 193–209. Cf., John J. Haldane, "Aquinas on Sense-Perception," *The Philosophical Review* 92(2) (1983): 233–239.
17. Richard Swinburne, *Mind, Brain, Free Will* (Oxford University Press, 2013), 141.

18. Dean Zimmerman, "From Property Dualism to Substance Dualism," *Aristotelian Society Supplementary* 84(1) (2010): 119–120. See also Dean Zimmerman, "Dualism in the Philosophy of Mind," in *Encyclopedia of Philosophy*, 2nd edition, vol. 3, ed. Donald M. Borchert (Macmillan, 2005), 113.
19. See Lowe, *Personal Agency*, 95.
20. See, e.g., Robin Collins, "The Energy of the Soul," in *The Soul Hypothesis: Investigations into the Existence of the Soul*, ed. Mark C. Baker and Stewart Goetz (Continuum, 2011), 123–133; and W. D. Hart, *The Engines of the Soul* (Cambridge University Press, 1988).
21. See, e.g., Descartes, *Treatise on Man*, CSM I:107; Descartes, *Objections and Replies*, CSM II, 248; Descartes, *Discourse on the Method*, CSM I, 127; and Descartes, *The Passions of the Soul*, CSM I, 341, 343.
22. See Brandon Rickabaugh and J. P. Moreland, *The Substance of Consciousness: A Comprehensive Defense of Contemporary Substance Dualism* (Wiley-Blackwell, 2023), chap. 11.
23. On higher-order theories of consciousness, *M* is conscious just in case *S*, the subject of *M*, has a higher-order mental state that represents *M*. Higher-order theories of consciousness assume higher-order representationalism, such as a higher-order perception, or a higher-order thought. Gaze dualism does not make this assumption. See, e.g., Peter Carruthers, "Higher-Order Theories of Consciousness," in *The Blackwell Companion to Consciousness*, ed. Max Velmans and Susan Schneider (2007), 288–297.
24. On the other hand, some think that disembodied phenomenal consciousness is impossible. Gaze dualism can accommodate this possibility, since while it can be extended to allow for a gaze at a soul- rather than brain-state, the extension can be rejected. One might even have a view on which disembodied life is possible without disembodied phenomenal consciousness. See, e.g., Thomas Aquinas, *Summa Theologica*, I.89.1.
25. E.g., Tim Bayne, *The Unity of Consciousness* (Oxford University Press, 2010); Tim Bayne and David J. Chalmers, "What is the Unity of Consciousness?," in *The Unity of Consciousness: Binding, Integration and Dissociation*, ed. Axel Cleeremans (Oxford University Press, 2003), 23–58; Christopher S. Hill, *Sensations: A Defense of Type Materialism* (Cambridge University Press, 1991); and Brandon Rickabaugh, *The Conscious Mind Unified* (Baylor University Press, 2020).
26. See Edward H. F. de Haan, Mara Fabri, H. Chris Dijkerman, Nicoletta Foschi, Simona Lattanzi, and Yair Pinto, "Unified Tactile Detection and Localization in Split-Brain Patients," *Cortex* 124 (2020): 217–223; Yair Pinto, David A. Neville, Marte Otten, Paul M. Corballis, Victor A. F. Lamme, Edward H. F. de Haan, Nicoletta Foschi, and Mara Fabri, "Split Brain: Divided Perception but Undivided Consciousness," *Brain: A Journal of Neurology* 140(5) (2017): 1231–1237; and Yair Pinto, Edward H. F. de Haan, and Victor A. F. Lamme, "The Split-Brain Phenomenon Revisited: A Single Conscious Agent with Split Perception," *Trends in Cognitive Sciences* 21(11) (2017): 835–851. Likewise, the use of DID cases as evidence for phenomenally disunified consciousness is heavily disputed. See, e.g., Jeanette Kennett and Steve Matthews, "Delusion, Dissociation, and Identity," *Philosophical Explorations* 6(1) (2003): 31–49; and David Spiegel, Richard J. Loewenstein, Roberto Lewis-Fernández, Vedat Sar, Daphne Simeon, Eric Vermetten, Etzel Cardeña, and Paul F. Dell, "Dissociative Disorders in DSM-5," *Depression and Anxiety* 28 (2011): 824–852.
27. For example, Hasker, worried by cases of split-brain and persons living with DID, provides an emergent substance dualist account of the disunity of consciousness. See William Hasker, "Persons and the Unity of Consciousness," in *The Waning of Materialism: New Essays*, ed. Robert C. Koons and George Bealer (Oxford University Press, 2009), 175–190.
28. See Kim, *Physicalism*, 124–125; David Lewis, "An Argument for the Identity Theory," *Journal of Philosophy* 63 (1966): 17–25; Andrew Melnyk, "Some Evidence for Physicalism," in *Physicalism and Mental Causation: The Metaphysics of Mind and Action*, ed. Sven Walter and Heinz-Dieter Heckmann (Imprint Academic, 2003), 155–172; and David Papineau, *Thinking About Consciousness* (Oxford University Press, 2004), 45.