

# A Divine Alternative to Zimmerman's Emergent Dualism

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**Abstract:** Dean Zimmerman argues for the existence of souls as they enable us to avoid certain vagueness-inspired, metaphysical puzzles that plague materialist accounts of the person. There are far too many overlapping *material* thinking candidates for being the referent of "I". Zimmerman suggests that an emergent soul whose creation is overdetermined by overlapping material entities will avoid the unwelcome overpopulation of physical thinkers. I will argue that parallel problems plague Zimmerman's emergent dualism, there are too many souls produced where we want just one.

**Keywords:** Emergentism, Zimmerman, Soul, Fission, Fusion

## 1. Introduction

Dualists believe that a fully material entity can't be a subject of thought. The typical objection is that matter is the wrong kind of stuff to be capable of having qualia and content. Taking a different tact, Dean Zimmerman defends dualism by pointing out, somewhat ironically, that if material beings could produce thought, then there would be too many thinkers. If an adverbial account of qualia is assumed in which one, say, senses redly, the material subject of thought will, so to speak, be painted red. But which of the many painted candidates is the person, the referent of "I"? Garden variety materialism assumes that we are the type of entity that will be described in human physiology texts—e.g., organisms, brains, cerebrums, cerebral hemispheres, central nervous systems, and the like (Zimmerman 2010b, 137). The problem, which Zimmerman skillfully develops in a number of fascinating articles (2003, 2010b, 2011), is not only that there are too many equally good entities with which we persons could be identical in the above list, but there are many overlapping candidates for being each of the listed entities, the brain, the animal etc. When one looks closely, garden variety entities such as brains are like clouds, their

borders vague. Just as there are water molecules at the boundary region of clouds that we don't know whether to ascribe as part or not of the cloud, it would be equally arbitrary to draw the boundary around a candidate for the brain with one more atom or less than a rival.

Zimmerman acknowledges (2010b, 2011) being indebted to Peter Unger as his paradigm example of the vague cloud is borrowed from Unger's seminal article, "The Problem of the Many" (1980). The materialist typically assumes a person consists of atoms, but when we consider the microscopic arrangements of those atoms, there seem to be many equally good candidates for being the aggregate of atoms that compose the person. If one candidate aggregate composes a thinking being, why doesn't another collection with just a few more or less atoms also compose a thinking being? This gives rise to Unger's 'The Mental Problem of the Many'. One version of this problem stresses that there would seem to be a countless number of overlapping conscious beings feeling pain and pleasure and other qualia where you are. Unger calls this the "Problem of the Experiential Many." Olson (1997) stresses the epistemic puzzles as one would not know whether one was a person or an organism or a brain or cerebral hemisphere. Hershenov and Taylor emphasize how the overlapping thinkers can't both be autonomous (2016). It may be in the person's interest to transplant the cerebrum into a younger body but not in the animal's interest as it would become mindless.<sup>1</sup> Of course, one could just accept that there are countless beings experiencing phenomena where you are but that is extremely counterintuitive. It is best to pursue a metaphysic that avoids a mental hydra.

Zimmerman believes that given the abundance of overlapping material thinking candidates with which we could be identical to if we are material entities, dualism begins to look much better in comparison. He suggests that the way to ensure there is just one human person uniquely referred to by the first-person pronoun when there are so many material candidates for being the subject of thought, is to argue that the latter all causally overdetermine the production of a single emergent soul.

Zimmerman insists that emergent souls have advantages over other dualist accounts. They are more neurologically respectable, they don't involve God's constant miraculous involvement, and they avoid notorious interactionist puzzles. I will argue that Zimmerman is looking towards the wrong type of soul to save us from the explosion of physical subjects of thought. Most problematic of all is that overlapping physical objects will not ensure there is just a single overdetermined

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<sup>1</sup> Hershenov and Taylor offer more realistic bioethical examples of the person and animal being unable to both simultaneously act autonomously (Dialectica).

soul. There will be non-overlapping parts of the brain that can also generate souls. Moreover, emergence is a mysterious relation, far stranger—at least for a theist—than divine creation and causation. A divinely created soul removes the need to spatially locate souls to resolve interactionist problems. There is no embarrassment or theoretical disadvantage of having a God already causally involved with conserving the world to also create souls. In fact, having a God creating, removing, and sustaining souls will provide explanations for what happens in fission and fusion scenarios that emergent dualists leave unexplained.

## 2. The Alleged Appeal of Emergent Dualism

The core idea of Emergent Dualism is that when the brain achieves a certain complexity, a soul emerges. It is this new immaterial substance that is the subject of our thoughts. Zimmerman insists that this emergence and thus dependence of the soul on the brain renders it “the most plausible of dualisms” (2011). He is not alone in favoring such an approach, claiming as allies Hasker, Swinburne, Hart, Taliaferro, and Lotz (2010b, 135). If the soul emerges from neurological activity then there is no surprise that one’s thought can be modified, diminished, or extinguished by whatever interferes with the brain’s functioning.

If the soul is spatial—perhaps an extended simple—the puzzles of interactionism can be avoided. The most forceful version of the interactionist puzzle is known as the Pairing Problem (Kim). How the nonspatial soul causes and is caused by one body rather than another is alleged to be a devastating problem for earlier dualisms. It is easy to understand why a pair of qualitatively identical guns hit different targets at the same distance by noting the spatial relations between the gun’s direction and the targets. But there is nothing analogous to explain why one immaterial soul links up to a particular body than another. The result will be lonely souls, the apt title of the article in which Kim depicts the problem of pairing causes and effects.

The charge Kim levels against dualism is worse than falsehood: he claims the pairing problem renders dualism unintelligible. On the other hand, materialist theories, according to which the brain produces thought avoid these problems, since mental states either are simply physical events and thus there is no mystery as to how they cause other physical events, or if the mind is not reducible to the brain, it supervenes on the brain, and thus there is no great difficulty understanding how it becomes paired with a particular brain.<sup>2</sup> However, if the soul is in space, perhaps an

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<sup>2</sup> There is either nothing to pair if identical, or if they are not identical then the mental facts are fully determined by the fixing of the physical facts. Chalmers (41–42) defines materialism in terms of the physical facts determining all the other facts. The materialist thus believes that all facts logically

extended simple located where the neurology first produces the baby's "great buzzing, blooming confusion" (James 1981, 488) diminishes the puzzle. So emergent dualism is more neurologically respectable.

The Pairing Problem is less of a headache than materialists of mind realize. Emergent dualists like Hasker (2001) and Zimmerman (2010) argue that the soul comes into being via the functioning of the brain. When the brain reaches a certain level of complexity, a soul is generated, which then independently interacts with the brain in a sort of feedback loop. Thus, there is no more problem explaining why a particular soul is paired with a particular brain than there would be in explaining why a particular magnetic field is paired with a particular group of iron molecules.

One might think that the religious—a congregation Zimmerman belongs to—should not be so concerned with the Pairing Problem. If it were such a problem, then it would be a good argument for atheism for how could God interact with the spatial world from without? He seems to pull it off (Plantinga 2007) and no one has argued that he can't. The pairing problem certainly does not have the cache of the argument of evil or divine hiddenness. As far as I know, it not a source of doubt about God's existence.

Moreover, most dualists are also theists.<sup>3</sup> As such, they can appeal to God as an explanation for pairing. God just wills the soul to come into existence and links it to a particular body. As Plantinga put it, if God says "Let there be light, then there is light" (2007). Or if God declares "Let Adam come into existence" then Adam comes into existence. Asking what makes these things the case, according to Plantinga, is like asking what makes an equilateral triangle an equilateral triangle. The answer is: logical necessity. It is necessarily the case that whatever God wills subsequently happens. Thus, as Plantinga insists, the pairing problem "ought to have no purchase whatsoever" upon the theist (2006, 2007).

What is wrong with the divine solution? Zimmerman doesn't say why it couldn't work but he seems to believe that such an approach would "involve too much divine tinkering . . . couldn't God have designed creatures in which consciousness arises naturally?" (2011, 175). He adds that "many dualists have thought it would be sloppy for God to create a world requiring nearly constant miraculous intervention" (2011, 176). He doesn't say that he is in that cohort, though one wonders why he would bring this up if he were not sympathetic.

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supervene upon the physical facts. Chalmers is fond of Kripke's metaphor that if materialism is false, then once God fixes all the physical facts, there is still something else for him to do for there to be mental facts (45).

<sup>3</sup> Unger (2006) is a rare exception.

However, doesn't the world already require constant miraculous intervention in the classical conception of God? Is not God subserving the world and causally concurring? Zimmerman has God causally interacting with our death and departure from this world (1998, 1999, 2012) so it doesn't seem particularly problematic to have him involved with our origins. Sometimes Christians treat God like a genie who has only three wishes or miracles at his disposal and so we can't be allowed to rely upon him too much. A co-author and I have argued elsewhere that the theist is in a dialectically stronger position in their debates with materialists if thought and autonomous action are not possible without God (Hershenov and Taylor, 2016). Nonetheless, there is something to Zimmerman's claim that "less radical dualisms are in fact, safer, they posit no more difference between souls and material objects than are required by the reasons for rejecting materialism" (2011 176). I will argue in later sections that divine creation of souls is needed to avoid the problems of too many thinkers.

### 3. The Intelligibility of Emergence?

The panpsychist Galen Strawson claims that consciousness can no more arise from non-consciousness than the extended from the non-extended, the spatial from the non-spatial, or the abstract from the concrete (2006). He contrasts the *brute* emergentist relation of the mental from the physical with that of the liquidity from water molecules. The molecules of water have properties and obey laws so that liquidity can be seen to consist of nothing else but their lawful interactions. It isn't at all mysterious how their movement gives rise to liquidity.

The emergence of consciousness from the non-conscious physical is not like that of liquidity. And there is little hope that a future science will enable us to discover an entailment from the physical to the experiential because future physics will just be more of the same structural and functional explanations. We only know of the fundamental physical entities by their relations—i.e. how they affect other objects. For example, what it is for something to have mass is it to accelerate when encountering certain forces and the like. But conscious experience is not functional. This is why the hope that a future science will explain experience by causal interactions at the lower amounts to what Seager called "a faith-based science."

The "silly mistake" the physicalists make, says Strawson, drawing upon the physicist Eddington, is to initially deny the intrinsic nature of the physical is experiential which leads to the conundrum about how to hook them up. The explanatory gap is bridged if all of the physical, not just our brains or those of other

organisms, already possess experiential properties. There is no magical emergence if the intrinsic nature of the physical is experiential.

However, the panpsychist will still suffer a too many thinkers problem for the Unger-like reasons that Zimmerman relies upon. Thus, there remains the need for a soul as the subject of thought if we want only one subject thinking our thoughts. While dualism and panpsychism are incompatible—the dualist regards all physical things to be mindless, while the panpsychist thinks they all have experiential states—defenders of divinely created souls can nevertheless help themselves to a variant of the panpsychist anti-emergentist claim in their argument against emergent dualists. Although the physical won't have mental properties in this conception, there is a parallel problem of why only some physical composites generate immaterial thinkers and not others. The question then is why does the developed organism with certain neurological structures make thought possible but no other organism with less development does? Why, in Chalmers's phrase, should thought just "wink out" with a slight loss in a system's complexity? Mental experience is not like baldness. It is plausible that it is indeterminate whether someone is bald or not because of our semantic indecision, i.e., we never bothered to determine the precise boundaries of baldness. But it doesn't seem to be a semantic issue of vagueness whether entities are conscious or not. They either are or they are not, there is no room for indeterminacy.

Well, if there isn't a good answer to why minds (souls) would wink out with the loss of one more atom, then it may be that every composite physical thing is soul producing and so there is nothing special about our brains. I am not appealing here to intrinsic natures of the physical being experiential, only asking why some physical objects enable the thinking soul to emerge. The soul provides *just* the single subject of thought, but is not thinking without the contributions of material entities such as the brain. Souls are dependent upon material bodies, unable to think without them, just as a lightbulb needs a socket.<sup>4</sup>

Zimmerman can always respond that there is experience all the way down and the soul is present at every level of material complexity. There is never an object that is not ensouled. So if the panpsychists are on to something, the soul theorist can accommodate them and avoid the problem of too many thinkers, which they cannot. But this won't be the emergence of thought from non-thinking things.<sup>5</sup> And it strikes most of us as preferable to just have thinking what common sense believes thinks—

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<sup>4</sup> The simile is from Swinburne (1984). For other accounts of the soul's dependency see Plantinga (2006, 2007), Unger (2006), and Hasker (1999).

<sup>5</sup> One remaining puzzle would be to avoid having souls within souls. Perhaps the soul of the whole does what the soul of the part did or neutralizes encompassed souls.

dogs, cats, people and the like, not plants, cells, atoms and molecules. The problem of winking out is avoided by not having souls emerge from one level of complexity and not something just slightly less complex. Instead, souls have divine origins. God decides when to ensoul an entity. Only if souls emerge solely from neurological development and depart solely due to neurological decline is there a dilemma of “winking out” or experience all the way down.<sup>6</sup>

#### **4. Soul Theories May Begin to Look like the Sole Solution**

Soul theories avoid then mental problem of the many for they maintain that there’s just one soul attached to each group of overlapping material entities. So, the epistemic problems (Olson) and autonomy threatening moral conflicts (Hershenov and Taylor) do not arise. Zimmerman’s emergent dualist solution is to have just one soul emerging from all the overlapping brain-candidates. The emergentist account is problematic because all the equally good overlapping physical candidates should be able to produce different souls. In response, Zimmerman argues that they overdetermine the same soul. He writes:

I suppose that the following hypothesis is more likely: many overlapping sets of events occur in the brain, none of which is the minimal cause of the soul’s ongoing existence, or the single cause of its overall phenomenal state. With many overlapping patterns of neural firings, each lawfully sufficient for the existence of a soul with the same phenomenal states, there could still be just one soul, its existence and phenomenal state overdetermined. (2011, 195)

This view strikes me as dubious. Moreover, the materialist could help herself to her own version of overdeterminism (Bynoe and Jones). She might also claim that all the candidate aggregates vaguely constitute the same person. The vagueness would be in the constitution relation, not the identity relation (Baker).

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<sup>6</sup> One shouldn’t claim that the divinely created soul theory has its own “winking out” problem as the soul ceases to function with too much neurological decline. The thoughts of the divinely created soul may rely upon neurological activity to be the subject of thought but they are not created by that activity so there is no reason to think there will be thinking souls at all levels of complexity. At worst, the same soul will have simplistic experiences in cases of neurological immaturity or damage where it is now believed that thought is impossible. But that may never occur either because God has the soul depart when a certain kind of thought is no longer possible or makes the soul so that it doesn’t have experience all the way down until there is no physical tie.

## **5. Split Brains and the Nullification of Adjacent Thinkers**

The emergent dualist position seems even more suspect when we consider non-overlapping parts of the brain that could each produce consciousness. The split brain can give rise to thoughts cut off from each other, as would transplanting those cerebral hemispheres into two disjoint bodies. Unlike the case of the split-brain in one body, the two disjoint bodies would clearly seem to be distinct agents. (The split brain in a single body rarely produces any frustration of agency that one would expect if there really were two persons connected to a single body.) But prior to the fissioning and transplant, the two hemispheres can't produce distinct emergent souls or there will be a pair of persons where we want just one.

So, the presence of each adjacent cerebral hemisphere must somehow serve to nullify the other hemisphere from giving rise to a soul. The two hemispheres do not present a case of overdetermination of a simple soul as they don't overlap; this is more obvious when prior to their fusion, two distant, unrelated cerebral hemispheres each produced thought on their own. If unconnected thinking cerebral hemispheres produced conscious souls before they were fused, they must upon fusion, nullify each other's soul production, lest there be two souls post-fusion. Yet this nullification must not prevent the soul that is overdetermined by the many overlapping brain candidates. It is very difficult to fathom this qualified nullification on top of the overdetermination that Zimmerman posits. It seems much more plausible for God to bestow the soul on the overlapping candidates and add or withdraw any needed or unnecessary souls with the fission or fusion of cerebral hemispheres.

## **6. The Souls of Theseus**

The divinely created soul avoids Ship of Theseus-like problems that the emergent dualist does not evade. Assume that all the matter that initially composed your brain gets removed and is later reassembled elsewhere in the exact same manner. Supposedly there will be a soul disposed to emerge from the reassembled matter that initially produced the original soul. Would that not give rise to the same soul? Are the emergent souls not individuated by the matter that produced them? But if the brain had its matter not just removed but gradually replaced as does occur with metabolic activity, the same soul would remain. But then how does the reassembled brain "know" it is to produce a different soul? What makes the soul different?

If we don't want to say the same soul would emerge later in the reassembled brain if it were not for the original soul persisting through the replacement of the original



brain's matter, then an appeal to God's creation and role in individuation seems indispensable. God can reattach the same soul to the same matter or not. Or if one prefers a hylomorphic conception of the soul, God can configure matter with one soul rather than another.

Of course, individuation of souls is a deep and difficult subject that can't be treated thoroughly here. Hopefully, a problem has been raised and the appeal of divine creation and individuation of the soul has been appreciated.

## **7. Strokes, Plasticity, and Same Soul**

Certain strokes and recoveries pose problems for emergent dualism. Imagine a stroke that puts you into a coma which is so destructive that when you later emerge from it you do so with the mind of an infant. It is safe to assume that most of us would have prudence-like concern for the stroke victim that would result from damage to our brain reducing its capacities to realizing mere unreflective sentience. The soul theorist would conclude that the same soul is present without psychological continuity. Now ponder the following twist that depends upon the well-known plasticity of the brain. Consider whether your reaction to the prospect of coming out of a stroke-induced coma with pain and pleasure sectors intact but no more sophisticated cognitive capabilities above this will be different if such sentience is a result of different parts of your brain being rewired during the coma to realize pain and pleasure when you awaken? I suspect that the prospect of this would leave most readers with prudential-like concern despite different parts of their brain contributing to such sensations.

Zimmerman can't say that the post-coma it is still the same brain so the same soul is retained. The post-coma thought is produced by the part of the brain that never was involved before in thought production. There is no more reason to say it is the same emergent soul than if the cerebrum had been split and each hemisphere removed from the others. Or there would be as much reason to say there was just one soul when cerebral hemispheres were alternatively anesthetized from the birth if not earlier, each hemisphere with unrelated experience to the other (McMahan; Reid). Surely those two uninvolved parts of the brains which would be producing minds as cut off from each other as yours is from mine, involve two souls.

If we are to insist that there is one soul that is the same before the coma-producing injury and after the coma when there is an infant-like mind supported by a different part of brain, then it is God's decision to ensoul and sustain souls that provides the best explanation. Prudential intuitions suggest that the same soul is present but that it is not emerging from (or sustained by) the same portion of the brain. To preserve

and explain the intuition of persistence, the soul must be bestowed from without. Perhaps people are the composite of the soul and body which would explain why different parts of the body would be involved with the production of thought in the same soul. Or maybe people are just their soul and that soul is connected to an animal rather than just a portion of the upper brain. Thus, the soul can interact with more of the brain than allowed by emergent dualism and so can capture our intuitions about plasticity and different realizations of thought.

### **8. Sleeping Socrates, Waking Socrates, and the Same Soul**

A further reason undermining the emergent dualism criterion for identity is provided by modifications to Locke's account of Socrates awake and Socrates asleep (Locke, 343). Locke conjectured that if sleeping Socrates was psychologically cut off from waking Socrates then they would not be the same person. This strikes most of us as implausible. Imagine that your waking life is cut off body's dreaming life. Films of your sleeping body twisting, your sleeping face grimacing, cries of discomfort, as well as electroencephalogram (EEG) readings suggest terrible nightmares. You cannot recall the nightmares when awake, and it is stipulated that the dreams don't involve contents distilled from experiences of your waking life before sleep. I suspect that few readers would follow Locke and deny that they were states of the same person, interpreting the psychological disconnect as evidence of two people sharing a body. So much then for theories of identity requiring psychological continuity. They no more capture our intuitions than they did in the case of minimal sentience after the coma. The soul theorist can accommodate our intuitions by claiming the same soul that dreams is awake at other times.

However, let's now imagine different parts of the brain are involved with sleep and waking hours. Due to an injury they are permanently cut off from each other. The dream life is not recalled and the dream life involves no current reference to waking life as the physical connections are lost. But the terrible nightmares would elicit the concern of waking persons watching their nocturnal bodies. Since there isn't any psychological or physical continuity between the waking and the sleeping, then what makes them the same person must not be that (immaterial) thought is emerging from the same neurology. I suspect that if readers could prevent these nightmares by doing something when awake, they would. And readers would do so for prudential reasons, not moral concerns about alleviating the suffering of another. If one believes there is one soul here with experiences that are not causally involved, it is better to think of the soul as placed there and sustained there by God rather than emergent from a specific arrangement of matter.

## 9. The Soul of Disunified Developing Minds

For all we know, fetal and neonatal cognitive development involves different parts of the brain producing thought. The initially physically dispersed realization and thus psychologically unrelated fragmented mental states of the baby are only later psychologically united as the older child obtains reflective access to the different states. The child can come to say that “I am in pain now and earlier had pleasant experiences,” reflectively linking what earlier had been experienced without the capacity for reflection upon those experiences. We wouldn’t maintain that the conscious states prior to the emergence of the unifying self-consciousness capacities didn’t belong to the same child. Even if such conjectured development is not how we actually develop, our reactions to such a counterfactual assumption about ourselves does illuminate what we take ourselves to be: perhaps a soul connected to a human animal or composite of soul and body or hylomorphic union of soul and matter, rather than a soul emerging from a portion of the brain rather than brain-unified thinkers. If fetal and neurological development is like this, the Fusion would not be a sci-fi tool of philosophers engaging in thought experiment but a staple of neurological development. Proceeding our emergence would be simpler thinkers who fuse out of existence with our arrival. That is preposterous. Instead, such early pains and pleasures would be mine because the same soul would be the thinker of thoughts, despite disjoint neurological structures contributing to thought production. There is no good reason to identify ourselves, as do McMahan and Hudson, with a part of the consciousness-producing central nervous system. Nor is there reason to identify ourselves with souls emerging from these neurological structures.

## 10. Fission, Fusion, and the Survival of the Soul

Zimmerman shows how fission is a problem for materialists—at least those who believe that the prefissioned person could survive division as either Lefty or Righty (the persons respectively with the left or right cerebral hemispheres). This seems intuitive but it runs afoul of a plausible account of supervenience that follows from Parfit-style reductionism. Zimmerman offers as an initial sketch “[t]he supervenience of personal identity upon microphysical facts or upon microphysical facts supplemented by impersonal psychological facts” (2010a).<sup>7</sup> If the fission is

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<sup>7</sup> Parfit himself claimed that there was no fact of the matter whether one survived fission as Lefty or Righty or both or went out of existence (1984).

symmetrical—producing physical and psychological duplicates—and the individual could survive as Lefty or Righty, then identity facts “float free” of the physical and psychological base. This Zimmerman claims, as Swinburne did earlier, provides some support for dualism. The arbitrariness that the materialist must accept of the original person being Lefty or Righty (or neither) without supervening upon physical or psychological differences can be avoided by recognizing a mereological difference, as the original person’s soul is a proper (or improper) part of either Lefty or Righty (or neither if fission brings an end to earthly existence). So, dualism has an advantage over materialism in such puzzle cases.

However, there is no emergentist dualist story of when the brain is divided and transplanted that explains why the original person’s soul goes with the left or right hemisphere. It is arbitrary. There is, of course, a fact of the matter for what Parfit called non-reductionist (soul) theories and that is it is the thoughts involving one transplanted cerebrum hemisphere or the other belong to the original pre-fission soul or neither if two new souls have emerged. But there is no *material causal story* for any such outcome available to the emergentist. Explanation ends prematurely for the emergent dualist. It is a brute fact whether and where the soul survives. Perhaps in some worlds the original emergent soul would be sustained by the left hemisphere but in others in the transplanted right hemisphere. On the other hand, a divine theory of ensoulment can provide a reason for why the soul went with the right hemisphere or left or neither. God chose it. Perhaps he didn’t want the original person to die just then and had a reason for providing him with one type of body rather than another. Maybe God chooses one hemisphere over the other because he wanted to preserve the mental content of that hemisphere which is quite different from the contents of the other.<sup>8</sup> Anyway, the explanation is in God’s choice as there is no neurological basis for the soul in symmetrical fission being produced by one hemisphere rather than the other and no neurological reason why it should not remain in existence

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<sup>8</sup> I had earlier followed Zimmerman and posited symmetry but that is not actually the case as our cerebral hemispheres are not duplicates in contents and capacities. The materialist still has a supervenience puzzle if she believes the person can survive reduced in size when losing either one or the other asymmetric cerebral hemisphere. The physical/psychological structures are the same when the original person survives with say the less dominant left hemisphere when the right is destroyed in the process of removing it for transplant and when that original person doesn’t survive as Lefty when the right cerebral hemisphere as well as the left are successfully removed and transplanted. The same structures preserve identity in one case but not the other. This violates principles of supervenience and the only x and y rule, as identity should depend only upon the intrinsic relationship of x and y.

A similar need for divine ensoulment is needed to make sense of fusion. Does the person with just one hemisphere (the other destroyed earlier by say cancer) survive when that hemisphere is fused with the one and only hemisphere of another person (whose earlier illness had also reduced that emergent person's base to a single hemisphere). Just as there is no causal emergentist story why the person's soul goes with the right or left hemisphere or neither in cases of fission, there is no explanation if whether it is the left or right hemisphere supported soul that remains in fusion.<sup>9</sup> Nonetheless, there could be a divine explanation. Perhaps God wants the older person to be with him and wants the younger possessor of the other cerebrum to remain on earth and deepen his spirituality or grow in virtue or support others. So, there is a sufficient reason in the divine case but not the emergent. That might appeal to certain theists who are partial to the principle of sufficient reason.

What could Zimmerman say about fusion? Perhaps each hemisphere prevents the other from giving rise to a soul. But the souls already exist so the nullification accomplished by the jealous souls would now be destructive as well as preventive. On the other hand, a merely preventive function would seem to prevent a *new* soul emerging from each fused hemisphere rather than keeping the two original souls from being sustained post-fusion by the two hemispheres. We would certainly think a fetal or newborn child's brain could grow and their soul become supported by more matter. We likewise would think a person with a single cerebral hemisphere could have parts of matter added that would themselves for the first time compose a second hemisphere but not give rise to a new soul. The original person (soul) would just have obtained a bigger brain. So why isn't the fusion of two cerebral hemispheres, both earlier supporting souls, the preservation of the two preexisting souls? The emergent dualist doesn't have an easy explanation of why this doesn't occur.

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<sup>9</sup> Could the overdetermination of an emergent soul also be destructive in the case of fusion? Would the existing souls of the unfused hemispheres be destroyed upon fusion and a new overdetermined soul created. The divinely created soul requires no answer to such fusion puzzles.

## 11. Objections

A referee made the clever objection that a flaw in my project was due to my focus on synchronically arising souls from overlapping or disjoint brain matter. An Unger-style problem of too many souls and too many thinkers arises from focusing on synchronically overlapping or disjoint brain structures. But a proper focus on the diachronic emergence of a soul would allegedly avoid the objection of too many thinkers. Let "A" be an aggregate of neurons that have just become appropriately arranged to produce thought. A moment earlier they were too underdeveloped. A single soul would diachronically emerge at the later moment. That is the datum. It doesn't matter that later a somewhat different but still overlapping mass of neurons would realize that same soul or gradually all new neurons would be the emergent base of the same soul that emerged from A. There wouldn't be additional souls emerging from those distinct aggregates of neurons.

The referee suggests that I might respond but what if there was a subset of A's neurons, call it A<sup>1</sup>, that would have supported a slightly less qualitatively complex soul. Would that not mean the existence of an additional soul, one emerging from A<sup>1</sup> as well as the soul emerging from A? The referee's response is that the datum is that the soul originally emerged from A and that soul is then later sustained by A<sup>1</sup>. The referee adds that if A<sup>1</sup> could have supported a soul, and A<sup>1</sup> existed prior to A, then a different soul would have emerged from A<sup>1</sup> rather than the later soul that emerged from A. The soul emerging from A<sup>1</sup> might be less sophisticated than the soul that would have emerged from A but it would be the only soul that emerges. That is, the referee insists, the datum. There wouldn't later be two souls when additional, appropriately complex brain matter A was present. The soul emerging from A<sup>1</sup> would just later become perhaps more qualitatively sophisticated rather than a distinct soul produced by a subset of the neurons composing A. So, my alleged mistake is to focus upon two sufficient distinct or overlapping aggregates of neurons that synchronically coexist when the diachronic approach is to take whatever minimally sufficient aggregates of atoms is needed to produce the one and only soul

My response is two-fold: The first is to deny the alleged datum while the second is to accept it and generate a diachronic problem of the thinking many. Regarding the first, let's assume that A and A<sup>1</sup> come into existence at the same time. It is not that the aggregate of A<sup>1</sup> developed sufficiently to produce thought before or later than the more sophisticated larger aggregate designated by A did. I don't see why we should just assume there is only one soul, generated by A rather than two souls, one emerging from A<sup>1</sup> and another from A. We can't appeal to experience showing

that there is just one soul because each soul won't experience the other's thoughts, internally "hearing" two thoughts at a time rather than one. It can just be asserted that there is just one soul emerging from the maximal aggregate of interconnected brain matter, but why should that be the case? And in response we can introduce  $A^2$  that consists of neurons that merely overlap those of  $A^1$  and  $A$  rather than are parts of maximal  $A$ . The neurons of  $A^2$  became sufficiently developed for thought to arise at the same time as the neurons of  $A$  and  $A^1$ . Thus one can't appeal to maximality to say there is but one soul and that is the one emerging from  $A$ . Of course, the response might be that the maximal aggregate was composed of  $A$  *and* the neurons of  $A^2$  that didn't overlap  $A$ . Let's call that aggregate  $AA$ . The only soul on the scene emerges from  $AA$ . I would again just question why the datum was that  $AA$  produced the only soul in the setup.

But let's grant the referee's datum, perhaps helping ourselves to Zimmerman's claim the matter of  $AA$  would overdetermine the one and only soul. One can still generate a diachronic problem of the thinking many. Recall my earlier example that hypothesized that early in fetal development one part of the fetus's brain is sufficiently developed to produce a soul with minimal sentience. Call that aggregate of neurons  $B$ . One and only soul emerges from  $B$ . There are no other souls at that time related to the fetus's brain. Later a different, non-overlapping part of the fetus's brain, call it  $B^*$  develops sufficiently to produce a minimally sentient soul. Then still later, the neurons located between the two aggregates  $B$  and  $B^*$  are sufficiently developed to participate in the production of thought of either a new soul or the thought of the souls produced by  $B$  and  $B^*$ .<sup>10</sup> We then have a problem of the thinking many. If we want there to be one soul, then the soul emerging from either  $B$  or  $B^*$  must go out of existence and there is no neurological/emergentist reason why one rather than the other should cease. Nor is there any neurological/emergentist reason why the combined matter of  $B$ ,  $B^*$  and the neurons between the two become the overdetermining base of a new soul rather than one or both of the two souls realized earlier respectively by  $B$  and  $B^*$ . It would seem we are faced with a diachronic puzzle of there being two or three emergent souls where we want just one soul.

## 12. Conclusion

The divinely created souls of Augustine, Aquinas, and Descartes avoid the materialist's too many thinkers problem that Zimmerman so carefully and

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<sup>10</sup> Brains obviously can increase in size and different neurons can be involved in the production of thought that weren't earlier.

compellingly displayed. They also, unlike emergent dualism, avoid the replacement difficulties and the problems of overdetermination, fission, and fusion. God pairs the soul and the overlapping brain structures at the outset.<sup>11</sup> If there is a pair of disjoint bodily structures, each with a cerebral hemisphere of a fissioned brain, God chooses which disjoint mass retains the original soul and which acquires a new soul. God similarly chooses which soul to retain in fusion, if any. Likewise, God ensouls the body of the reassembled matter.

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<sup>11</sup> Hylomorphic thinkers can redescribe this with the divinely created soul configuring or reconfiguring matter and neurological structures being the result.



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