**On the Explanatory Demands of the Special Composition Question**

**Joshua Spencer**

## 1. Introduction

Let's start with a particular formulation of the Special Composition Question:

> **The Special Composition Question (SCQ):** For any xs whatsoever, what are the metaphysically necessary and jointly sufficient conditions in virtue of which there is a y such that those xs compose y?[1]

Typical answers to this question will fit the following schema:

> **Answer Schema:** Necessarily, for any xs whatsoever, there is a y such that those xs compose that y iff and in virtue of the fact that _____.

This formulation may not be canonical in letter, but I think it is canonical in spirit. Let me explain. Peter van Inwagen (1990) introduced and focused our contemporary debate around the Special Composition Question. But, as those of you who are familiar with van Inwagen already know, he may just eschew 'in virtue of" talk altogether. Certainly van Inwagen's own official formulation of the Special Composition Question deviates from the formulation above in that it lacks any explicit demand for explanatory conditions; his official formulation asks only for the individually necessary and jointly sufficient conditions under which composition occurs (30-31). Hence, insofar as van Inwagen has shaped our canon, the formulation above is not canonical in letter.

[1] The Special Composition Question was first formulated by Peter van Inwagen (1990). However, my formulation above more closely resembled the notational variants given by Ned Markosian (1998a, 1998b, 2008, 2014). Markosian (2014) eventually makes it explicit that he sees the Special Composition Question as one that contains explanatory demands.

However, even though van Inwagen's official formulation lacks any explanatory demands, his discussion of the question does seem to make some such demands. After all, van Inwagen admits that some answers to the Special Composition Question are not among "the best or most informative or most interesting" answers (47). It seems clear to me that any answer that is among the best or most informative or most interesting is one that meets certain explanatory demands. One might object that those explanatory demands are nothing like the highfalutin explanatory demands typically expressed by 'in virtue of'. Fair enough. However, I do not intend 'in virtue of' to bear any heavy metaphysical burden; or, at the very least, I intend to remain neutral about the metaphysical burden borne; or, to be a bit more honest, I intend to remain neutral for most of this paper. But I'll be sure to let you know when my neutrality begins to waiver. Until then, I claim, this formulation is canonical in spirit.

Once we recognize that the Special Composition Question includes explanatory demands, we might wonder what the scope of the sought after explanation ought to be.[2] Well, I wonder that anyway and the content of my wondering might best be conveyed by contrasting two closely related answers to the (SCQ), each of which is inspired by van Inwagen's proposed answer.

Van Inwagen, recall, believes that several things together compose something if their activities jointly constitute a life. Van Inwagen understands a life as a special sort of self-maintaining event, one that typically draws in and expels material particles. But van Inwagen also believes that when some xs are one in number, that is, when there is only one

[2] Just to be clear, I am interested in what the scope ought to be, not what van Inwagen thinks it is. I am not engaged in an interpretive project here.

x, it composes something or other as well; specifically, it composes itself. There are interesting questions we can ask about the relationship between these two conditions of composition. Are these two distinct or independent conditions of composition? In other words, could one legitimately say that there are two ways for some xs to compose a further object, one that obtains when the activities of those xs constitutes a life and one that obtains when those xs are just one in number? Or are these seeming independent conditions intimately related to one another? Do the activities of a single thing always constitute a life, in van Inwagen's special sense of "life"? I don't know how to answer these questions. But in order to streamline our discussion, I will just stipulate that whenever some xs are one in number, that is, whenever there is a single thing, x, the activities of that thing constitute a life. A life, in this sense, might turn out to be a fairly gerrymandered event and, consequently, it might be that none of the views expressed below correctly captures van Inwagen's proposed answer to the (SCQ).[3] Luckily, it doesn't matter, for our purposes,

[3] In fact, it's likely that none of them do. Van Inwagen seems to think that the second condition for composition, *being one in number*, is present merely to secure the reflexivity of parthood (288 n29). It may be, then, that van Inwagen doesn't see the second condition as doing any explanatory work at all. On the other hand, van Inwagen does consider the idea that an individual is caught up in its own life and suggests that whether or not we say so is merely conventional (289 n34). I am inclined, myself, to take the persistence of a single thing as a self-maintaining event. Here's a quick (and maybe provocative) argument. It is taken as an empirical fact that objects in motion remain in motion unless acted upon by an outside force and objects at rest remain at rest unless acted upon by an outside force. But it also seems like a necessary condition for something to be in motion or to be at rest is for it to exist. Hence, it seems to follow that an object in existence remains in existence unless acted upon by an outside force (ignoring, perhaps, those objects that are neither in motion nor at rest (such as abstract objects)). But that seems to suggest that a single thing is engaged in

whether any of the following views correctly captures van Inwagen's proposed answer. We just need two views that contrast with one another in a specific way so that we can draw out their explanatory differences.[4]

So, let's get started. Here's one answer to the (SCQ):

> **LIFE$_1$:** Necessarily, for any xs, there is a y such that those xs compose y iff and in virtue of the fact that the activities of those xs constitute a life.

And here's another:

> **LIFE$_2$:** Necessarily, for any xs, there is a y such that those xs compose y iff and in virtue of the fact that there is a y such that the activities of those xs constitute y's life.

These answers are not equivalent to one another. Let's just ignore the explanatory aspect of each and show that, under certain metaphysical assumptions, the conditions laid out by

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some sort of self-maintaining event. I submit that that sort of event is persistence. I don't know whether to think about this consequence as a metaphysical presupposition of the empirical principle or as a conceptual consequence of the empirical principle. Thanks to an anonymous referee for steering me toward the first of the two endnotes from van Inwagen.

[4] It might be that whenever some xs compose something or other, they do so in virtue of the whole disjunctive fact that their activities constitute a life or they are one in number. Alternatively, it may be that when they compose something or other they do so in virtue of just one of the disjuncts; if they are more than one in number, then they compose something in virtue of the fact that their activities constitute a life and, if they are not more than one in number, then they compose something in virtue of the fact that they are one in number. Finally, it might be that when some things compose something or other they do so in virtue of the fact that their activities constitute a life and, it just so happens, any one thing is such that it's activities always and necessarily constitute a life (in van Inwagen's special sense of "life"). By stipulating that "life" includes by definition those things that are one in number, I am blurring the complexities of this discussion.

$LIFE_1$ are not necessarily equivalent to those laid out by $LIFE_2$. For example, let's momentarily assume it's possible for the activities of some xs to constitute a life without that life being the life of any single thing and without those xs composing anything at all. This assumption doesn't seem outrageous. It would just involve the possibility of a certain sort of irreducibly plural life. What sort? The sort of irreducibly plural life that does not coincide with any single thing composed of the plurality caught up in a life. Arguably, there actually are such irreducibly plural lives. Arguably, there is no single thing that is a bacterial colony but, nevertheless, there may be a single life that is the life of the colony. Moreover, it seems like there needn't be anything composed of the bacteria when they are caught up in the irreducibly plural life; there needn't be any sort of coinciding bacterial blob made up of those bacteria when they are caught up in a plural life. In any case, the assumption that there could be such an irreducibly plural life without a corresponding composite is inconsistent with $LIFE_1$, but not with $LIFE_2$. Why? Well, $LIFE_1$ says that, necessarily, for any xs, those xs compose something if the activities of those xs constitute a life. It does not say that that life has to be the life of any single thing. According to the assumption, it's possible for the activities of some xs to constitute a life without that life being the life of any single thing and without those xs composing anything at all. It follows, given $LIFE_1$, that it's possible for some xs to compose something without composing anything at all. But clearly that's not possible. $LIFE_2$, however, is consistent with the assumption; $LIFE_2$ entails that, necessarily, some xs compose something or other if and only if there is a *single* thing such that the activities of those xs constitute *its* life. Since an irreducibly plural life wouldn't be the life of any single thing, it does not follow given $LIFE_2$

that the things whose activities constitute the irreducibly plural life compose anything at all. Hence, $LIFE_2$ is consistent with the assumption.

So, the conditions laid out in $LIFE_1$ and $LIFE_2$ need not be necessarily equivalent to one another. But they are also not explanatorily equivalent to one another. For one might argue against $LIFE_2$, but not against $LIFE_1$, on the grounds that $LIFE_2$ fails to informatively answer the (SCQ); that is, on the grounds that it fails to give us the correct conditions in virtue of which *there is a* y composed of some xs. The (SCQ), at least under one plausible reading, asks us to explain certain ontological facts in addition to compositional facts. But $LIFE_2$ doesn't explain those ontological facts, it presupposes those ontological facts. For any xs that compose something, $LIFE_2$ presupposes that there is a y in order to explain how those xs compose something; specifically, it presupposes that there is a y the life of which is constituted by the activities of those xs. $LIFE_1$ makes no such presupposition and, hence, seems to have a broader explanatory scope. And this contrast helps to convey the content of my wondering. Is the (SCQ) intended to demand a wide scope explanation met by $LIFE_1$, or is it merely intended to demand a narrow scope explanation met by $LIFE_2$.

In this paper, I will indicate what I take to be the different explanatory demands met by the representative answers above. I will argue that the wide scope explanatory demands can't be satisfied. Finally, I will show that this result has bearing on the current debate about composition.

## 2. Scope of Explanatory Demands

$LIFE_1$ and $LIFE_2$ both fit the Answer Schema laid out above. But one seems to have a broader explanatory scope than the other. One seems to explain an ontological fact that the

other presupposes. But what exactly is that difference? Or, to put the question differently, if $LIFE_1$ has wider explanatory scope than $LIFE_2$, then is it possible to distinguish two versions of the (SCQ), versions which have explanatory demands that correspond, respectively, to the explanatory scopes of $LIFE_1$ and $LIFE_2$? I believe so and I believe that by distinguishing these two versions of the (SCQ) we can get a better understanding of the difference between $LIFE_1$ and $LIFE_2$.

It turns out, though, to be fairly difficult to distinguish these two different versions of the (SCQ). Intuitively, it seems pretty straightforward. The weak version of the (SCQ) should ask just about compositional facts whereas the strong version should ask about both compositional facts and ontological facts.[5] I will take this bit of data at face value and,

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[5] Could this difference be captured simply by clarifying the scope of the *in virtue of* operator or by introducing a contrastive version of the *in virtue of* operator? No. As it turns out, the *in virtue of* operator does not play nice with the existential quantifier, which is already taking wide scope in the formula '∃y xs compose y'. For example, suppose we use a contrastive operator of the form *φ rather than ψ is true in virtue of the fact that χ*. Then we could try to distinguish one version of the Special Composition Question by saying that it asks us to fill in the blank in the following schema:

> Necessarily, for any xs whatsoever, there is some y such that those xs compose y rather than no y such that those xs compose y in virtue of the fact that _____)?

But what would the alternative version of The Special Composition Question be asking? It can't be asking us to fill in the blank in the following:

> Necessarily, for any xs whatsoever, there is a y such that those xs compose y rather than a y such that those xs compose don't compose y in virtue of the fact that _____)?

For this latter question asks us to explain why there should be a thing that the xs compose rather than there be a thing that they don't compose. But some xs might fail to compose anything without there being anything that they fail to compose. The problem is too complex and subtle to develop more fully in this paper. For now,

in order to distinguish different versions of the (SCQ), I will first distinguish between two sorts of facts. Let's say that every true sentence that results from a uniform replacement of the unbound variables in the following open formula corresponds to a compositional fact:

> **Compositional Fact Formula:** xs are such that there is a y that those xs compose.

On the other hand, let's say that any true sentence that results from a replacement of the unbound variables in the next open formula corresponds to an ontological fact:

> **Ontological Fact Formula:** there is a y such that xs compose y.

It turns out that any ontological fact will be modally equivalent to a corresponding compositional fact. For example, if Bits are some several things that together compose something or other, then the fact that Bits are such that there is a y that Bits compose and the fact that there is a y such that Bits compose y will be modally equivalent to one another; that is to say that, necessarily, the first is a fact if and only if the second is also a fact. Nevertheless, I maintain, these facts are distinct facts. I will assume that grammar is a defeasible guide to the underlying metaphysical structure; the grammar of the sentences that result from a uniform replacement of the unbound variables in the open formulae above indicates something about the grammar-like structure of the corresponding facts.[6] The first fact, the fact that Bits are such that there is a y that they compose, is a

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I will leave it to the reader to work out in more detail why we can't just clarify the scope of, or introduce a contrastive version of, *in virtue of*. I hope to show why this method won't work out in the future.

[6] For the record, I do not think that the facts have the structure they do because the sentences that correspond to them have a particular grammar. Rather, I think that the sentences likely have the grammar they do because the facts they correspond to have a particular structure.

compositional fact; since the sentence that corresponds with that fact includes 'Bits' in the subject position, the fact is primarily about Bits and whether or not *they* together compose something or other. The second fact, the fact that there is a y such that Bits compose y, is an ontological fact; since the sentence that corresponds with that fact does not include 'Bits' in the subject position, that fact is not primarily about Bits. Instead, since the sentence includes 'there is a y' in the subject position, the fact is primarily about whether or not *there is a y* that meets the condition of being composed of Bits.

I take no further stand on the particular compositional nature of facts. But if we, just for a moment, make a few minor assumptions about their nature, then we can see how compositional facts and ontological facts might be distinct from one another. Suppose, first, that facts are composed of the properties and individuals they involve such that one fact is distinct from another when they are compositionally different; that is, when one has a property or individual as a part that the other one lacks. Suppose, second, that quantificational facts are composed of a certain higher order property, the property of *being such that it has an instance*, and a lower order property. Finally, suppose that properties are abundant so that, at the very least, every grammatical and non-paradox inducing predicate of English corresponds to a property. Given these three assumptions, we can easily distinguish the two facts involving Bits from above. The first fact is composed of the property *being such that they compose something or other* together with Bits. The second fact is composed of the higher order property *being such that it has an instance* and the lower order property *being such that it is composed of Bits*. Since these two facts are compositionally different, it seems to follow from our assumptions that they are distinct. As I mentioned above, I take no stand on the compositional nature of facts, but these

assumptions aren't completely implausible and, if they are correct, then ontological facts and corresponding compositional facts are clearly distinct from one another.[7]

If compositional facts and ontological facts are distinct from one another, then we can clearly distinguish two versions of the (SCQ). The first version of the (SCQ) asks for an explanation of compositional facts, but not of ontological facts. We'll formulate this version as follows:

> **The Weak Special Composition Question (WSCQ):** For any xs whatsoever, what are the metaphysically necessary and jointly sufficient conditions in virtue of which those xs are such that there is a y that those xs compose?

An answer to the (WSCQ) will fit the following schema:

> **Weak Answer Schema:** Necessarily, for any xs whatsoever, those xs are such that there is a y that those xs compose iff and in virtue of the fact that _____.

Since 'xs are such that there is a y that those xs compose' is the Compositional Fact Formula and instances of that formula correspond to compositional facts, this question is clearly asking for an explanation of such compositional facts.

The second version of the (SCQ) asks for an explanation of both compositional facts and ontological facts. Let's formulate this strong version as follows:

> **The Strong Special Composition Question (SSCQ):** For any xs whatsoever, what are the metaphysically necessary and jointly sufficient conditions in virtue

[7] An anonymous referee has pointed out that in order for facts to be individuated in this compositional way, one must accept a fine-grained view of properties.

of which both those xs are such that there is a y that those xs compose and also in virtue of which there is a y such that y is composed of those xs?

An answer to the (SSCQ) will fit the following schema:

> **Strong Answer Schema:** Necessarily, for any xs whatsoever, both those xs are such that there is a y that those xs compose and there is a y such that those xs compose that y iff and in virtue of the fact that _____.

Since 'xs are such that there is a y that those xs compose' is the Compositional Fact Formula and instances of that formula correspond to compositional facts, this question is clearly asking for an explanation of such compositional facts. But, additionally, since 'there is a y such that those xs compose that y' is the Ontological Fact Formula and instances of that formula correspond to ontological facts, this question is also clearly asking for an explanation of those ontological facts. It may seem, at first blush, like the (SSCQ) and the corresponding Strong Answer Schema are a bit redundant. But that is only because it is very easy to confuse the Compositional Fact Formula and the Ontological Fact Formula. Once these are distinguished, we can see that the (SSCQ) and its corresponding answer schema are not redundant. The (SSCQ) is asking for the common condition, if there is one, in virtue of which compositional facts obtain and in virtue of which ontological facts obtain.

### 3. On the explanatory scope of $LIFE_1$ and $LIFE_2$

Once these questions have been distinguished from one another, we can look back at $LIFE_1$ and $LIFE_2$ to see whether and to what extent they may be modified into answers to the (WSCQ) and the (SSCQ).

Let's focus on the (SSCQ). We can reformulate $LIFE_1$ so that it fits the Strong Answer Schema as follows.

> **Strong $LIFE_1$:** Necessarily, for any xs whatsoever, both those xs are such that there is a y that those xs compose and also there is a y such that those xs compose that y iff and in virtue of the fact that the activities of those xs constitute a life.

Consider Bits, again, which are several things that together compose something or other. It follows from Strong $LIFE_1$ that Bits are such that there is a y that they compose in virtue of the fact that the activities of Bits constitute a life. It also follows from Strong $LIFE_1$ that there is a y such that Bits compose y in virtue of the fact that the activities of Bits constitute a life. In other words, if Strong $LIFE_1$ is correct, then both compositional facts and ontological facts are explained.

We can reformulate $LIFE_2$ so that it fits the Strong Answer Schema as well:

> **Strong $LIFE_2$:** Necessarily, for any xs whatsoever, both those xs are such that there is a y that those xs compose and also there is a y such that those xs compose that y iff and in virtue of the fact that there is a y such that the activities of those xs constitute y's life.

It follows from Strong $LIFE_2$ that Bits are such that there is a y that they compose in virtue of the fact that there is a y such that the activities of Bits constitute y's life. It also follows from Strong $LIFE_2$ that there is a y such that Bits compose y in virtue of the fact that there is a y such that the activities of Bits constitute y's life.

Let's return, now, to the claim that $LIFE_2$ fails to informatively answer the (SCQ). Recall that, according to the objection, answers to the (SCQ), under one plausible reading,

are supposed to explain both compositional facts and ontological facts. But $LIFE_2$ presupposes rather than explains ontological facts. Hence, $LIFE_2$ is not an informative answer to the (SCQ). If the plausible reading of the (SCQ) in question is the (SSCQ) and, hence, $LIFE_2$ ought to be reformulated as Strong $LIFE_2$, then the objection, arguably, succeeds. Here's how the objection goes. If Strong $LIFE_2$ were correct, then there is a y such that Bits compose y would be true in virtue of the fact that there is a y such that the activities of Bits constitute y's life. But the fact that there is a y such that the activities of Bits constitute y's life presupposes what it is supposed to explain in the fact that there is a y such that Bits compose y. Hence, Strong $LIFE_2$ fails to be an informative answer to the (SSCQ).

The key premise in this argument is the premise that there is a y such that the activities of Bits constitute y's life presupposes what it is supposed to explain. Recall that an ontological fact is primarily about *what there is* and this is true regardless of how *what there is* is described. Since an ontological fact is primarily about *what there is*, an explanation of an ontological fact must meet certain constraints. For example an explanation of an ontological fact must explain what there is according to that fact without presupposing those very same things. But there is a y such that Bits compose y is true because of the same assignment of individuals to variables as there is a y such that the activities of Bits constitute y's life. Hence, the fact that there is a y such that the activities of Bits constitutes y's life presupposes exactly what is meant to be explained in the fact that

there is a y such that Bits compose y. In other words, it presupposes what it is supposed to explain.[8]

The argument isn't decisive. As I see it, there are two plausible responses to the argument above. First, one could admit that there is a y such that Bits compose y is true because of the same assignment of individuals to variables as there is a y such that the activities of Bits constitute y's life and deny that that fact indicates any unacceptable presupposition.[9] But it's hard to see how that could be true. After all, if the domains of quantification are the same, then it seems like the 'there is' that appears in the explanans

[8] In contrast, since the fact that Bits are such that there is a y that they compose is not a fact primarily about what there is, an explanation that presupposes what there is may be appropriate. Thanks to an anonymous referee for helping me to think through my main argument above and for noting this important contrast.

[9] Thanks to an anonymous referee for pressing me on this. The referee has suggested that the principle I seem to be invoking is subject to a counterexample. According to the referee, the fact that there is something colored is true in virtue of the fact that something is red. But clearly the first fact is made true by the same assignment of individuals to variables as the second fact. I have two things to say in response to this proposed counterexample. First, it is not obvious to me that anything ontological is being explained in this example. Rather, it seems like the ontology is being presupposed by the fact that there is something red and, if anything is being explained at all by that fact, then what is being explained is that there is something *colored*. Second, I am inclined to think that it is false that there is something colored is true in virtue of the fact that there is something red. Rather, I say that each of those is true in virtue of their instances. If o is a red thing, then there is something colored is true in virtue of the fact that o is colored and there is something red is true in virtue of the fact that o is red. I also claim that the fact that o is colored is true in virtue of the fact that o is red. Hence, I reject that there is something colored is true in virtue of the fact that there is something red and I offer, as an alternative, that both of those facts have a common explanation; both of them are true in virtue of the fact that o is red.

expresses the very same thing as the 'there is' that appears in the explanandum. Since what it is that we are trying to explain in an ontological fact is closely connected to whatever is expressed by 'there is', it looks like there's at least a prima facie reason to suspect that Strong $LIFE_2$ contains objectionable presuppositions. That suspicion is strengthened *if* we recognize that the explanans and explanandum are made true by the very same assignment of individuals to variables.

But this leads me to the second possible objection. Even though the explanans and explanandum involve the same domains of quantification, it might be that whatever it is in that domain that makes the explanans true is distinct from whatever makes the explanandum true. Maybe the thing whose life the activities of Bits constitute is distinct from the thing that Bits thereby compose.[10] But that thing whose life is constituted by Bits might itself be composed of Bits or it might not. If it is composed of Bits, then it seems like, in some sense, the fact that there is a y such that y is composed of Bits remains unexplained by $LIFE_2$. In that case, it looks like $LIFE_2$ is not an informative answer to the (SSCQ). On the other hand, if the thing whose life is constituted by Bits is not itself composed of Bits, then we can consider an instance of $LIFE_2$ that focuses on those things that do compose that object, call them 'Bits*'. If $LIFE_2$ is correct, then the ontological fact there is a y such that Bits* compose y is true in virtue of the fact that there is a y such that the activities of Bits* constitute y's life. Either the explanans is made true by the same assignment of individuals to variables as the explanandum or it is not. If it is, then we have, again, objectionable presupposition. If it is not, then either Bits* also compose the thing whose life Bits* constitutes or they do not. It looks like we are on our way toward a regress that either

[10] Thanks to an anonymous referee for this objection.

terminates in an objectionable presupposition or goes on forever. Either way, it looks like $LIFE_2$ is not an informative answer to the (SSCQ).

This argument against Strong $LIFE_2$ may seem academic if there are no plausible answers to the (SSCQ) that fail to be informative in the way that Strong $LIFE_2$ fails to be informative. But it turns out that there are plausible answers to the (SSCQ) that fail to be informative in exactly that way. Or, at least, there are answers to the (SCQ) which, when reformulated as answers to the (SSCQ), fail to be informative in exactly that way.

Ned Markosian (2014) has recently defended the following answer to the (SCQ):

> **Regionalism:** Necessarily, for any xs, there is a y composed of those xs iff and in virtue of the fact that there is an object, z, and a region, r, such that r is the fusion of the regions occupied by the xs and z occupies r.

This answer may seem unsatisfying in exactly the say that $LIFE_2$ is unsatisfying;[11] it presupposes in its explanation part of what we ought to explain in answering the (SCQ).[12]

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[11] Certainly van Inwagen found it unsatisfying. Van Inwagen (1990, 46-47) talks about a slight variant of Regionalism while discussing the General Composition Question (GCQ): For any xs whatsoever and any y, what are the individually necessary and jointly sufficient conditions which those xs compose that y? Van Inwagen introduces a view, which we might call "General Regionalism" as an answer to the (GCQ): Necessarily, for any xs and any y, those xs compose that y iff y occupies the sum of the regions of space occupied by those xs. He then notes that an answer to the (SCQ) immediately follows from any answer to the (SCQ). Specifically, he notes of a certain slight variant of Regionalism that it follows from a variant of General Regionalism. But then says:

> . . . although any answer to the General Composition Question automatically provides an answer to the Special Composition Question, the answer it provides will not necessarily be the best or most interesting or most informative answer to the Special Composition Question—not even if that answer

Again, suppose we read the (SCQ) as asking what's asked in the (SSCQ), then Regionalism should be reformulated into an answer to the (SSCQ) as follows:

> **Strong Regionalism:** Necessarily, for any xs whatsoever, both those xs are such that there is a y that those xs compose and also there is a y such that those xs compose that y iff and in virtue of the fact that there is an object, z, and a region, r, such that r is the fusion of the regions occupied by the xs and z occupies r.

Focusing on Bits again, it clearly follows from Strong Regionalism that there is a y such that Bits compose y in virtue of the fact that there is a region, r, and an object, z, such that r is the fusion of the regions occupied by Bits and z occupies r. Or, in other words, If Strong Regionalism were true, then the ontological fact that there is a y such that Bits compose y would be true in virtue of the fact that there is an object, z, and a region, r, such that r is the fusion of the regions occupied by Bits and z occupies r. But that latter fact presupposes

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> to the General Composition Question is the best and most interesting and most informative answer to the General Composition Question. And that should not be too surprising. 'y is a reciprocal of x ↔ y is a result of dividing 1 by x' entails '∃y y is a reciprocal of x ↔ ∃y y is a result of dividing 1 by x'; but this is in an obvious sense a less interesting answer to the question, Which numbers have reciprocals? than '∃y y is a reciprocal of x ↔ x is a number other than 0. (47)

Clearly van Inwagen believes Regionalism fails to meet the explanatory demands of the (SCQ). What is far less clear is how he thinks it has failed to meet those explanatory demands. The quoted paragraph above is far from illuminating. Luckily, I am not engaged in van Inwagen interpretation for this paper. I leave it to the reader to determine what van Inwagen might be saying in this quoted passage and to what extent what he says fits with my claims in this paper.

[12] If I am right in my diagnosis, then another answer to the (SCQ) that people should find unsatisfying is one that I have argued a defender of Composition as Identity ought to endorse. See Spencer (2017) for details.

what it is supposed to explain in the ontological fact. Hence, Strong Regionalism fails to be an informative answer to the (SSCQ).

## 5. Against the (SSCQ)

If the (SCQ) is understood as asking what is asked in the (SSCQ), then certain views about composition, like Regionalism, fail to be informative. So much the worse for Regionalism, one might say. But that's not what I say. I actually think that the (SSCQ) is too strong. I think that any putatively correct answer to the (SSCQ) will entail an unacceptable overdetermination of explanation. Hence there is no correct answer to the (SSCQ). Before I spell out why I think the (SSCQ) is too strong, let me note that I may be leaving behind my neutrality about explanation. In what follows, I will make some assumptions about explanation which might be plausible only if the explanations sought are the highfalutin metaphysical explanations that I eschewed at the beginning of this paper and I will be assuming that the kind of explanation putatively provided by answers to the (SSCQ) are full explanations rather than partial explanations.[13, 14]

So, why should we think that there is no correct answer to the (SSCQ)? It is commonly assumed that ontological facts are true in virtue of their instances.[15] But if there

[13] Though I do hope to avoid some singularly special *grounding* relation and, hence, I hope everything I say here is compatible with the conclusion of Wilson's (2014).

[14] The argument of this section is closely related to a puzzle I introduce and discuss in "A Special Composition Puzzle". See Spencer (ms.) for more details.

[15] The principle that facts involving existential quantifiers as their main operators are true in virtue of their instances is endorsed by Correia and Schnieder (2012), Fine (2012), and Rosen (2010). For an interesting argument against this principle see Melamedoff (2018).

is a correct answer to the (SSCQ), then that answer will entail that ontological facts are true in virtue of the conditions of composition laid out in that answer. Hence, it seems to follow that if there is a correct answer to the (SSCQ), then ontological facts will be true both in virtue of their instances and in virtue of the conditions of composition laid out in that answer. But it cannot be that ontological facts are true both in virtue of their instances and in virtue of the conditions of composition laid out by a putatively correct answer to the (SSCQ); that would involve objectionable explanatory overdetermination. Hence, there is no correct answer to the (SSCQ).

I am not in principle opposed to explanatory overdetermination. In fact, if any fact that has an existential quantifier as the main operator is true in virtue of its instances, then there is widespread explanatory overdetermination. Galileo is a cat and Wesley is a cat; they are both my cats. Given that Galileo and Wesley are both cats, the fact that there is a cat is true in virtue of the fact that Galileo is a cat and also in virtue of the fact that Wesley is a cat. Hence, the fact that there is a cat is explanatorily overdetermined. But this overdetermination is acceptable. After all, the fact that Galileo is a cat and the fact that Wesley is a cat are independent of one another, neither of them is a cause or ground of the other and neither has a common cause or ground. So, the overdetermination of the fact that there is a cat is merely accidental rather than systematic or law-like.

The overdetermination of ontological facts noted above, on the other hand, is objectionable. To see why let's suppose, just for the sake of an example, that Strong $\text{LIFE}_1$ is correct. And suppose that Bits compose Wesley. Then, since ontological facts are true in virtue of their instances, there is a y such that Bits compose y is true in virtue of the fact that Bits compose Wesley. But, given Strong $\text{LIFE}_1$, there is a y such that Bits compose y is

true in virtue of the fact that the activities of Bits constitute a life. Hence, there is a y such that Bits compose y is true *both* in virtue of the fact that Bits compose Wesley *and* in virtue of the fact that the activities of Bits constitute a life. But there is a counterfactual dependence between these latter two facts. If the activities of Bits had not constituted a life, then, given Strong $LIFE_1$, they would not have satisfied the conditions of composition and, hence, would not have composed Wesley. This first counterfactual follows from the fact that, given Strong $LIFE_1$, it's necessary that if the activities of Bits do not constitute a life, then Bits do not compose anything. But it's also true that if Bits had not composed Wesley, then they would not have composed anything at all. This second counterfactual is more subtle and does not follow from any necessary claim that easily falls out of Strong $LIFE_1$. But we can see that it is true by reflecting on what nearby possible scenarios, scenarios in which Bits don't compose Wesley, are like. Those are scenarios in which Wesley exists, but in which Bits don't ever come to compose him; instead they remain loosely scattered, some of them parts of an uneaten or improperly digested cat treat and others still parts of Wesley.[16] Hence, there is a counterfactual dependence between the two facts. Moreover, that counterfactual dependence seems to be unexplained. It cannot be explained by claiming that Bits compose Wesley is true in virtue of the fact that the activities of Bits constitutes a life. After all, *in virtue of* connections imply necessary connections, but the

[16] This does not imply that necessarily, if Bits do not compose Wesley, then they do not compose anything at all. After all, there might be even more distant scenarios in which Bits do compose something. But those scenarios would have had radically different histories or laws of nature to ensure that all the Bits that in fact compose Wesley end up composing something other than Wesley. Given Strong $LIFE_1$, those scenarios would have different histories or laws to ensure that the activities of bits constitute a life even though they don't end up constituting Wesley's life. Thanks to an anonymous referee for asking me to clarify these issues.

activities of Bits could have constituted a life without Bits composing Wesley; the activities of Bits could have constitute a life and thereby compose a completely different organism.[17, 18] Moreover, it cannot be explained by claiming that the fact that the activities of Bits constitute a life is true in virtue of the fact that Bits compose Wesley. That would seem to leave the compositional fact that Bits compose Wesley itself unexplained and, hence, seemingly explanatorily basic. But compositional facts are not explanatorily basic. Finally, it doesn't seem like there could be a third fact that grounds both the fact that Bits compose Wesley and the fact that the activities of Bits constitute a life. Or, at the very least, no one has ever defended that there is such a third fact and it isn't obvious what that third fact could be. So, it looks like the counterfactual dependence remains unexplained.

Why, one might wonder, should we care about whether the overdetermining facts are counterfactually dependent on one another? Well, if we indulge in a little harmless anthropomorphizing, it looks like the two overdetermining facts are conspiring together. But it also looks like there are no explanatory connections underlying that conspiracy. Suppose detective Poirot tells us that a man was killed when he was simultaneously shot in the heart and in the head. Suppose, further, Poirot tells us that if the victim had not been

[17] The claim that grounding connections imply necessary connections is defended by Audi (2012a, 2012b), Correia and Schnieder (2012), deRosset (2010, 2013), Rosen (2010), and Trogdon (2013). Fine (2012) endorses similar principles. Skiles (2015), on the other hand, rejects the claim that grounding connections imply necessary connections.

[18] It's possible two slowly replace Bits in a sort of Ship of Theseus transformation and then integrate Bits so that they constitute another life. Since Wesley will be composed of other particles at the end of the transformation, Bits will meet the conditions of composition without composing Wesley. See Skiles (2015, 722).

shot in the head, then he would not have been shot in the heart and vice versa. But Poirot insists that there were no causal connections between the two shootings. It looks, then, like the shooters conspired together without any causal connections underlying that conspiracy. I submit that Poirot's hypotheses are at least prima facie unacceptable because they involve such a seemingly unexplained conspiracy. Similarly, the claim that ontological facts are systematically overdetermined by independent facts that are nevertheless counterfactually dependent is prima facie unacceptable. [19]

## 6. Conclusion

The Special Composition Question seems to have certain explanatory demands. But the question could be understood as a demanding a wide scope of explanation or as demanding a narrow scope of explanation; we could understand the demands to be as they are presented in the Weak Special Composition Question or we could understand them to be as they are presented the Strong Special Composition Question. If they are understood to be strong demands, then certain answers to the (SCQ) fail to be informative. However, there is reason to believe that the strong demands cannot be met. Instead we should focus on the (WSCQ) and leave open the possibility that answers that seem to be informatively deficient are in fact as informatively rich as we ought to expect.[20]

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[19] For a more detailed defense of the claim that this kind of overdetermination is unacceptable see my "A Special Composition Puzzle" (ms.).

[20] Thanks to audiences at the 2017 Midwest Annual Workshop in Metaphysics in Madison, Wisconsin; University of California, Irvine; New Mexico State University; the State University of New York at Buffalo; the University of Notre Dame Metaphysics Reading Group; and University of Massachusetts, Amherst. Thanks to

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