The Special Composition Question
April 2, 2001

1. Mereological Vocabulary

Mereology is the theory of parts and wholes. We can define the distinctive vocabulary of that theory in terms of just one relation, "**x is part of y**." [NB: Van Inwagen understands "x is part of y" in such a way that each thing is part of itself.]

Definition 1: "**x is a proper part of y**" is defined as "x is part of y and x is not identical to y."
Definition 2: "**x overlaps y**" is defined as "there is a z such that z is part of x and z is part of y."
Definition 3: "**the xs compose y**" is defined as "the xs are all parts of y and no two of the xs overlap and every part of y overlaps at least one of the xs."
Definition 4: "**x is simple**" is defined as "there is no y such that y is a proper part of x."
Definition 5: "**x is composite**" is defined as "x is not simple." (that is, x is composite if and only if there is a y such that y is a proper part of x.)

[NB: actually Van Inwagen's primitive is not "x is part of y" but "x is part of y at t," and the first three definitions should also be indexed to times. That is because Van Inwagen is a Three-Dimensionalist; recall that Sider said that Three-Dimensionalists index parthood to times.]

2. The Special Composition Question

He gives us a couple of different ways to think about the question. Here is the official version:

> When is it true that there is something the xs compose?

And here is the "practical" version:

> Suppose one had certain nonoverlapping objects, the xs, at one's disposal; what would one have to do--what *could* one do--to get the xs to compose something?

3. Answer 1: Contact

> To get the xs to compose something, one need only bring them into contact; if the xs are in contact, they compose something; and if they are not in contact, they do not compose anything.

What does "the xs are in contact" mean?

> "The xs are in contact if (1) no two of them overlap spatially, and (2) if y and z are among the xs, then y is in contact with z, or y is in contact with w, which is one of the xs, and w is in contact with z--and so on."

This defines "the xs are in contact" in terms of "x and y are in contact." He does not define "x and y are in contact." Here is one possible definition:

> x and y are in contact if and only if there is a path through space such that one end of the path falls inside x, the other end of the path falls inside y, and no point on the path falls outside x and falls outside y.

4. The First Argument Against Contact

1. Suppose contact is the correct answer to the Special Composition Question.
2. For anything at all, if it is a composite material object, it is composed of quarks and electrons.
3. No quarks and electrons are in contact.
4. Therefore, there is no thing such that quarks and electrons compose it.
5. Therefore, there are no composite material objects.
6. But there are composite material objects--this table, for example.
7. So contact is not the correct answer to the Special Composition Question.

5. The Second Argument Against Contact

1. Suppose contact is the correct answer to the Special Composition Question.
2. Then when George Bush and Al Gore shake hands, they compose something.
3. But when George Bush and Al Gore shake hands, they do not compose something.
("There is no object that fits just exactly into the region of space that Gore and Bush jointly occupy.")
4. So contact is not the correct answer to the Special Composition Question.

What if you disagree with Van Inwagen about premise 3? He says:

> It is a basic conviction of mine that this theory is wrong and that its being wrong is in no sense a matter of convention. I cannot prove this thesis, for I know of no propositions more plausible than itself from which it could be derived...I will content myself for the present by pointing out that if you disagree with me about Contact, you face a host of metaphysical problems that I avoid...For example, suppose that I were to touch your knee with my elbow. Would the object that came into existence when this happened be the same one that came into existence when we shook hands or a different one? (p. 36)

6. Undergeneration and Overgeneration

7. Does the Question have a correct answer?

Consider a proton and electron off in space. One person says, "the electron and proton do not compose anything." Another person says, "the electron and proton do compose something--they compose a hydrogen atom." Could it be that these two do not really disagree? Could it be that they are both right? Or both wrong? Or neither is right or wrong?

Here is one reason to think that they do disagree, and that only one of them can be right: If the first person's answer is correct, then there are exactly two things in that region of space. (Pretend that protons are simple.) If the second person's answer is correct, then there are exactly three things in that region of space. But there cannot be exactly two things in a region of space, and also exactly three things in a region of space. So they cannot both be right.

8. Fastening, Cohesion, Fusion

9. Nihilism

> It is impossible for one to bring it about that something is such that the xs compose it, because, necessarily (if the xs are two or more), nothing is such that the xs compose it. (73).

On this view, everything is simple; nothing is composite.

Van Inwagen's argument against Nihilism:

1. I exist, and I am a composite object.
2. Therefore, Nihilism is false.

Another argument against Nihilism:

1. The Empire State building exists, and is a composite object.
2. Therefore, Nihilism is false.

10. Universalism

> It is impossible for one to bring it about that something is such that the xs compose it, because, necessarily (if the xs are disjoint), something is such that the xs compose it. (74)