PHIL001. INTRODUCTION TO PHILOSOPHY – PHYSICAL OBJECTS & THE SPECIAL COMPOSITION QUESTION, PP.184–192

1. INTRODUCTION

(1) What distinguishes a physical object from a non-physical object?
(2) What is the relation of a thing's parts to its whole?

Giving a clear answer to (1) and (2) is important for a number of reasons. If you think that only physical objects exist, then answering (1) and (2) will determine what objects exist in your ontology of physical objects. If your definition of what a physical object is *narrow*, then the kinds of objects that exist in your ontology will be very small. If your definition of what a physical object is *broad*, then the kinds of objects that exist in your ontology will be large.

To illustrate, take a statue of clay and a pencil on a table. We might say that the number of objects on the table is much more than one for on the table, there is:

(i) the statue,
(ii) the pencil
(iii) various molecules that make up the statue and those that make up the pencil,
(iv) atoms that make up the statue and those that make up the table,
(v) subatomic particles that compose the statue and those that make up the table
(vi) the thing that is composed of both the statue and the pencil, call this the 'pentue'

On the other hand, we might say all that is *really* there is are (v) a mass of subatomic particles and the (i)–(iv) and (vi) are just fictions.

Slim Ontology	**Thick Ontology**
subatomic particles	subatomic particles
	atoms
	molecules
	a statue of clay
	pentue

2. PHYSICAL AND NON-PHYSICAL OBJECTS

What distinguishes a physical object from a non-physical object?

Solution #1 (Berkeley's answer): a physical object is the thing outside of our mind that can be sensed.
Objection #1 (1) This makes the notion of a physical object relative since (i) some objects are perceived differently by different organisms and (ii) some objects are not perceived at all by certain organisms.

Solution #2 (The Physicist's definition): physical objects are the things studied by physics.
Objection#1: the definition is circular: physics is the study of physical objects and physical objects are what are studied by physics.

Objection #2: the definition is too broad: physics studies objects that are non-physical: numbers, equations, etc.

Solution #3 (W.V.O. Quine's definition): physical objects are aggregates of material content of any portion of space-time.
Objection #1: Circular: the definition uses the notion of material content. It seems that the material is what is physical and physical is what is material.

Solution #4 (Revised Quinean Definition): physical objects are aggregates of the content of any portion of space-time.
Objection #1: Entails Universalism: for any group of objects, there is an object whose parts are the members of that group, e.g. the object consisting of my dirty gym shoes, my left hand, and the empire state building.
Objection #2: Impossible to distinguish between a particular physical object and an event that spatio-temporally coincides with that object.

Solution #5 (Peter Van Inwagen's Definition): physical objects are those objects that have some weighted most of a family of properties, e.g. located in space, having spatial extensions, persisting through time, etc. Thus, objects are physical objects to a degree.
Objection #1: Van Inwagen's definition seems to be a good definition to consider but it requires further refinement since it is too vague to really apply. One way of further clarifying van Inwagen's definition is by selecting a particular property that is commonly associated with physical objects and then seeing whether or not they accord with our intuitions about physical objects.

Solution #6 (Spatial Location Definition): physical objects are objects with spatial locations.
Objection #1: Many objects that occupy spatial locations are not typically classified as physical objects, e.g. shadows, mirror images, specters.
Objection #2: If you think that of space and time as composed of four, intrinsically similar dimensions of the world, then defining physical objects solely in terms of a spatial location treats space as if it is different from time.
Objection #3: The mind and soul are usually defined as nonphysical, but some think that they have spatial locations (e.g. in a certain point in the brain). Thus, this definition of physical objects makes the mind physical, which it is not.

Solution #7 (Spatial Extension Definition): physical objects are objects with spatial extensions, viz. objects that occupy more than a single point in space.
Objection #1: Point-sized objects are non-physical, and this seems to classify the particles that compose macroscopic objects as non-physical. This is problematic again because it means that macroscopic physical objects are composed of nonphysical objects.

3. Mereology and the Special Composition Question

Generally, we think that a physical object has parts, and the parts of a physical object *compose* the whole, e.g. how cells compose your body or how bits of clay compose a clay statue.

Mereology is a branch of metaphysics that deals with the general relation of a thing's parts to its whole. Very intuitively, it tries to answer the following question:

> How do certain physical things *x*s form together to compose another thing *y*?

To say that certain parts compose a whole is to say the following:

> *x*s compose *y*=df: (i) *x*s are parts of *y*, (ii) none of the *x*s overlap (i.e. no two *x*s share a common part), and (iii) every part of *y* overlaps at least one *x*.

The rationale behind clause (i) is simple: something does not compose an object unless it is a part of that object. For instance, it would be strange to say that some random hunk of metal on the side of the road composes you if that metal was not a part of you. Clause (ii) basically says that the parts that compose an object cannot share a common part. The idea here is that if A and B share a common part, then it is that common part that *composes* the whole, not A and B. Finally, clause (iii) says that every part of *y* overlaps at least one *x*. This clause seems to just reiterate clause (i) that says that the whole *y* must have *x* as a part.

In other cases, we think that parts *do not compose* a whole, e.g. how a pencil in your room and the President of the United States do not compose an object. This leads to the following three questions:

> SCQ_1: What is the general rule that governs when composition occurs and when it doesn't?
> SCQ_2: What are the necessary and sufficient conditions must parts *x*s satisfy in order to compose an object?
> SCQ_3: for any *xs*, there is an object composed of *xs* if and only if _____.

In answering SCQ, what we are looking for is an answer that does not yield counter-intuitive (implausible) results. Remember that there are three ways in which an answer to the above questions can fail: (i) if it *overdetermines* the number of composed objects, (ii) if it *underdetermines* the number of composed objects, and (iii) if it is trivial or uninformative. For example, suppose the following answer to SCA_3:

> SCA_3: for any *xs*, there is an object composed of *xs* if and only if *I have it in my hands.*

It might be objected that this theory of composition is implausible (not merely because it is arbitrary) because it underdetermines that the number of composed objects. We might think there is good reason that there are *more* objects than this theory says. What is needed is a theory that is more encompassing, one that says that *more* objects are composed.

In contrast, an answer *overdetermines* iff it says that there are *more* composed objects than there really are. For example,

> SCA_3: for any *xs*, there is an object composed of *xs* if and only if *I can think of it.*

Since you can think of a baseball, a building, and your own body, the above answer says there is an object composed of these parts. This is counterintuitive because we don't think such an object exists. What is needed is a theory that is more *restrictive*, one that says that *there are fewer* objects that are composed.

Group 1, pp.185–187: What is a Physical Object? (Solutions 1–4)

Your task is to answer the following question: what is a physical object? In order to do this, articulate solutions 1–4 and the objections to 1–4 (see above and pp.185–187). Once you have a clear understanding of each of these theories, pick one that you find particularly convincing. Next, (i) draw a diagram on the board illustrating this theory and (ii) develop a convincing case why you think that this theory answers the question.

Group 2, pp.187–190: What is a Physical Object? (Solutions 5–7)

Your task is to answer the following question: what is a physical object? In order to do this, articulate solutions 5–7 and the objections to 5–7 (see above and pp.187–190). Once you have a clear understanding of each of these theories, pick one that you find particularly convincing. Next, (i) draw a diagram on the board illustrating this theory and (ii) develop a convincing case why you think that this theory answers the question.

Group 3, pp.190–192: What is the Special Composition Question?

You have two tasks. First, your answer is to ask a variety of critical questions about various solutions proposed to the question: what is a physical object? In order to prepare yourself, quickly review the objections to the solutions 1–7 (see above and pp.185–190). Second, your task is to articulate the Special Composition Question (see pp.190–192) by (i) illustrating the question with a diagram on the board, and (ii) giving the gist of the question (there is no need to go into details right now).