

Abstract Objects and the Doctrine of Arbitrary Undetached Parts

MATTHEW KNAUFF

IN “The Doctrine of Arbitrary Undetached Parts,” Peter van Inwagen contends that the doctrine of arbitrary undetached parts (henceforward referred to as DAUP) is false. I will present van Inwagen’s argument for the falsity of DAUP. I will then argue that without qualification the term “Descartes” allows two interpretations: it can mean either “Descartes the man” (an abstract object) or “the body of Descartes” (a material object), the latter of which is itself ambiguous. Although van Inwagen claims to use the notion of object in only the material sense, I will show that, in formulating his identities, van Inwagen also uses the term “Descartes” in its abstract sense. That is, he uses the term “Descartes” in each of its separate senses. I will then show that disambiguating the term “Descartes,” no matter how it is done,¹ resolves the apparent violation of the transitivity of identity.

Van Inwagen states that adherents of DAUP “believe in such objects as the northern half of the Eiffel Tower” and “the middle two-thirds of the cigar Uncle Henry is smoking”; furthermore, they believe in *all* such undetached parts (123). Van Inwagen offers a statement of DAUP:

For every material object M, if R is the region of space occupied by M at time *t*, and if sub-R is *any* occupiable sub-region of R *whatever*, there exists a material object that occupies the region sub-R at *t*. (123)

Roughly put, this is the thesis that each part of a material object is itself also a material object. But one must be careful to note that van Inwagen’s

¹Disambiguation can be done either by using “Descartes” only in the abstract sense, using it only in the material sense, or using it in one sense in some places and in the other sense in other places.

Matthew Knauff is a senior majoring in philosophy at Princeton University. He will graduate in June 2008.

statement of this thesis is meant only to capture the “*generality* of the doctrine,” and is by his own admission “imperfect in some respects” (123). For example, it does not accommodate philosophers who, while subscribing to a version of DAUP, do not “admit regions of space into their ontologies.” But I agree with van Inwagen that “these defects are irrelevant to the points that will be raised,” and for the purposes of this paper I will be content to accept this imperfect definition. Thus, in the pages to come, I will be arguing against van Inwagen’s rejection of an imperfectly rendered DAUP.

Besides some intervening comments (to which I will return shortly), van Inwagen next shows that DAUP entails mereological near-essentialism (MNE), the thesis that “if a part is removed from an object, and no new part is added to the ‘remainder,’ then that object must therewith cease to exist” (124). His argument is a good one; it seems both intuitively and logically correct, and I accept it. And if an adherent of DAUP accepts MNE, then van Inwagen finds himself in an ostensibly powerful position: if he can show that there is some object which is capable of surviving the loss of a part, he will have shown that MNE is false. And because DAUP entails MNE, he will have shown that DAUP is also false.

Van Inwagen then claims that there is indeed such an object: “We ourselves, we men and women, are such objects” (125). If one accepts this claim, then by the above entailment he or she must also accept that DAUP is false. However, rather than convincing us that human beings are such objects (and thereby assuring the falsity of DAUP by virtue of the law of the contrapositive), van Inwagen opts for a *reductio ad absurdum*: he wishes to examine an episode of a human being losing a part on the assumption that DAUP is true. This examination “shall reach an absurd result—that identity is not transitive—and we shall therefore have to conclude that DAUP is false” (125).

The episode is as follows: consider Descartes and Descartes’ left leg. Consider two times, t_0 and t , the former earlier than the latter. Let us call “L” the thing that was Descartes’ leg at time t_0 . According to DAUP, at time t_0 there also exists a thing that occupies the region of space which is the set-theoretic difference between the space occupied by Descartes and the space occupied by L; call this thing “D-minus.” Suppose that at time t D-minus and L become separated from one another and that L is annihilated.

From this episode, van Inwagen constructs the following identities:

- (1) The thing that was D-minus before t = the thing that was D-minus after t .
- (2) The thing that was D-minus after t = the thing that was Descartes after t .

(3) The thing that was Descartes after t = the thing that was Descartes before t .

(4) The thing that was D-minus before $t \neq$ the thing that was Descartes before t .

Or, to make clear van Inwagen's supposed violation of the transitivity of identity:

$$\begin{array}{ccc} \text{D-minus before } t = \text{D-minus after } t. & & \\ \neq & & = \\ \text{Descartes before } t = \text{Descartes after } t. & & \end{array}$$

I admit that at first glance these identities seem valid, and I grant that if each of these identities were valid, the above would constitute a violation of the transitivity of identity. Certainly, (1) appears to be true: it does seem correct to say that an object still exists after a different object that was not a part of it but simply a part of its environment (in this case, L) ceases to exist. (2) and (3) also appear to be true—in van Inwagen's words, "One can, after all, survive the loss of a leg"—as does (4): "Descartes and D-minus were not the same thing (at t_0), since, at t_0 , they were differently shaped" (126).

Let me now return to the "intervening comments" van Inwagen makes. Van Inwagen claims that what he wants to say about DAUP "involves only two components of that doctrine" (123). My concern is with the second of these—"the concreteness and materiality" of the parts. Van Inwagen states that some philosophers might say that arbitrary undetached parts exist, but that these philosophers will identify such items with an *abstract* object rather than with a *material* object. Van Inwagen then states that his paper is "not addressed to that philosopher's doctrine" (124). He claims that abstract objects are not his business.

But on closer examination we see that van Inwagen *does* make abstract objects his business. He makes both material objects and abstract objects his business, yet in each of the identities, he does not make it clear which type of object he is using. It is van Inwagen's failure to clarify his terms which allows the identities to appear valid, when in fact they are but cleverly misleading.

Let me make this point a little clearer by asking the following question: What does van Inwagen mean when he says "the thing" that was D-minus, or "the thing" that was Descartes? In the first case, the natural inclination is to say "the region of space" or "the part of Descartes' body" which is designated by D-minus. On the other hand, for "the thing that was Descartes," the inclination can go two different ways. In one sense, we

can understand van Inwagen to be referring to something like “Descartes the man” (or possibly “the concept of Descartes”). But we can *also* understand van Inwagen to mean “the material which comprises Descartes’ body” when he uses the term “Descartes.”² I believe that these two different inclinations are inclinations toward two different *types* of objects: things like D-minus or “the material which comprises Descartes body” are best described as *material* objects, whereas “Descartes the man” is best described as an *abstract* object. In formulating his identities, van Inwagen relies on each of the different inclinations regarding the interpretation of “Descartes,” but fails to distinguish between them: he uses the *same* term to designate *different* objects.

I will begin my argument by showing the following: (1) in different identities van Inwagen indeed uses the term “Descartes” in one of two different and nonidentical senses, yet does not clearly state which sense he intends; and (2) the violation of the transitivity of identity disappears if we disambiguate van Inwagen’s terms.³ Along the way I will also explain roughly what I mean when I use the terms “abstract object” and “material object.”

Beginning with the disambiguation of the first identity:

(1) The thing that was D-minus before t = the thing that was D-minus after t .

(1₁) The material object that was D-minus before t = the material object that was D-minus after t .

I accept (1) because I accept van Inwagen’s explanation for not distinguishing between these two objects on the basis that the former is attached to L while the latter is not. Nevertheless, because we are attempting to clarify van Inwagen’s use of terms, (1) should be rewritten as (1₁).

Then:

(2) The thing that was D-minus after t = the thing that was Descartes after t .

²More precisely, we would probably understand him to mean “all of the material which comprises Descartes’ body,” although it would be acceptable to select only some of this material. This is what I mean when I say that the term “Descartes,” taken in its material sense, is itself ambiguous. I return to this later.

³In the pages to come, when I disambiguate these terms I am making clear which sense of this term I believe van Inwagen intends. At the end of the paper I will show that no matter which sense he intends, as long as disambiguation occurs there is never a violation of the transitivity of identity.

(2₁) The material object that was D-minus after $t =$
the abstract object Descartes after t .

With the more precise formulation (2₁), we begin to see why van Inwagen's identities are misleading. I believe there are two ways to interpret (2₁). The first: because the right argument is an abstract object and the left argument is a material object, (2₁) is incoherent. Just as a mathematician might say that an equation between a vector (one-dimensional matrix) and an integer, say, "[5] = 5" is not true, nor false, but incoherent, so we might say the same for (2₁); generally speaking, the identity relation cannot take disparate arguments. The second interpretation: "[5] = 5" is a meaningful but false statement, and so is (2₁). Because D-minus is a material object, and because "Descartes" is an abstract object, the arguments differ in their properties; that is, they are not identical things. On the first interpretation, we must discard the identity; it is senseless. On the second interpretation, (2₁) is false, and therefore (2) should instead be rewritten as

(2₂) The material object that was D-minus after $t \neq$
the abstract object "Descartes" after t .

The above is a nonidentity. But because (2) as given by van Inwagen is not a nonidentity but an identity, it must have been the case that van Inwagen used "Descartes" in a material sense and really meant the following:

(2₃) The material object that was D-minus after $t =$
the material object "Descartes" after t .⁴

Continuing with the third statement:

(3) The thing that was Descartes after $t =$ the thing
that was Descartes before t .

(3₁) The abstract object that was Descartes after $t =$
the abstract object that was Descartes before t .

I believe van Inwagen is right when he claims that human beings are things which can survive the loss of a part, but I do not think he explores this idea carefully enough. I think if van Inwagen wishes to make such a

⁴Because (2) is an identity, I suppose it is also possible that van Inwagen meant: "(2₄) The abstract object that was D-minus after $t =$ the abstract object Descartes after t ." I will not discuss this possibility here but simply state that a) I do not believe van Inwagen really did mean this, and b) if he did, it would not rebut my argument.

claim, he must write (3) as (3₁). That is, when van Inwagen claims that human beings are objects which can survive the loss of a part, he necessarily invokes the notion of an abstract object.

Let me clarify. When we say “Descartes is able to survive the loss of his left leg,” what we mean is that at two different times there are two *different* material objects, (D-minus + L) and D-minus, both of which satisfy⁵ the *same* predicate “Descartes₁; ___ is Descartes.” This predicate is roughly what I am referring to when I say, “Descartes the man” or, “Descartes the abstract object.”⁶

It is here that van Inwagen becomes inconsistent in his use of the term “Descartes.” In order for (3) to be an identity, van Inwagen must have been using the term “Descartes” in its abstract sense, even though in (2) it was shown that he must have used this term in its material sense.

Consider the following statements:

- (a) “Descartes₁; ___ is Descartes” is an abstract object which always equals itself.⁷
- (b) Descartes₁ (D-minus + L) evaluates to true;
Descartes₁ (D-minus) evaluates to true.
- (c) (D-minus + L) ≠ D-minus.

Van Inwagen’s (3) essentially states that the thing “Descartes the man” is the same thing before and after the loss of a leg, despite the fact that a body with a leg and a body without a leg are different material objects. That is, in using (3) as I believe he intends to, van Inwagen tacitly accepts (a)–(c);⁸ thus in (3) van Inwagen is using “Descartes” in its abstract sense. He could not have used “Descartes” in a material sense; otherwise (3) would have been a *nonidentity*—it would have appeared as something essentially like (c). Again, van Inwagen has here used the term “Descartes” in an abstract sense, even though it was shown that in (2) he must have used this same term in a material sense. Then there is van Inwagen’s fourth identity:

⁵A material object *x* satisfies a predicate *P*¹ if *P*¹*x* evaluates to true.

⁶I say “roughly” only because in this paper I will not address the questions, what constitutes this predicate? how do we go about determining whether a material object satisfies this predicate? how exactly do an abstract object and a material object “interact”? etc.

⁷This should not be all that hard to swallow. After all, the moment after Descartes died, it is not the case that *Meditations* ceased to have an author.

⁸Though to be precise, it is not because of the way van Inwagen uses (3) that he accepts (c). Nevertheless, (c) is unassailable, and we can be certain that he does in fact accept it.

(4) The thing that was D-minus before $t \neq$ the thing that was Descartes before t .

How do we decipher which sense of “Descartes” is being used in this identity? Van Inwagen tells us: he claims that the arguments are not identical because they are differently shaped. That is, van Inwagen must be interpreting the rightmost argument of (4) to mean a material object because abstract objects do not have shapes. So I think van Inwagen really means:

(4₁) The material object that was D-minus before $t \neq$ the material object that was Descartes before t .

But what does van Inwagen intend to designate by the right argument?⁹ The answer: without a *specific spatial designation*, the material sense of “Descartes” can designate a number of different objects—it is imprecise, unclear, and ambiguous. And within van Inwagen’s argument, it *must* be the case that the right argument can select any of a number of different material objects, for two reasons:

1) Above it was shown that van Inwagen tacitly accepts statements (a)–(c) in formulating (3). And if (b) is true, then before t there is not one but many objects which satisfy the predicate “Descartes₁: ___ is Descartes.”

2) More crucially: *because DAUP was assumed to be true*, we are permitted to say that many such objects—Descartes’ body without a left kidney, Descartes’ body without a right toe, Descartes’ body minus a single strand of hair—exist and that each is Descartes.¹⁰ Van Inwagen admits as much in his paper: “The adherent of DAUP is going to have a certain amount of trouble with Descartes’ left leg: there are, according to DAUP, an enormous number of objects that are equally good candidates for the office of ‘Descartes’ left leg’”(125). However, van Inwagen fails to adequately appreciate a very basic idea: because his argument is a *reductio ad absurdum*, within the argument he must behave like an adherent of DAUP. He does not.

Finally, since in its material sense the term “Descartes” can mean a number of different things, unless we precisely specify this term we cannot determine whether or not an identity relation holds between this term and a different term. Using van Inwagen’s terms, (4₁) should therefore be:

⁹I suspect he means (D-minus +L), otherwise known as the whole of Descartes’ body before t . This meaning is indeed what one would first be inclined to say, but that does not make it the only correct thing to say: it is simply by default that in selecting a region of space which satisfies a predicate at a time t one usually designates the *largest* region of space which satisfies that predicate at time t .

¹⁰It is the word “is” which got us into trouble in the first place because this word suggests identity. What I really mean is that each of these many objects satisfies the predicate “Descartes₁: ___ is Descartes.”

(4₁) The material object that was D-minus before t (?)
the material object that was Descartes before t .

Thus, after figuring out what van Inwagen really means by (1)–(4) and clarifying these statements, we are left with (1₁), (2₂), (3₁), and (4₁):

(1₁) the material object that was D-minus before t =
the material object that was D-minus after t .

(2₂) The material object that was D-minus after t ≠
the abstract object “Descartes” after t .

(3₁) The abstract object that was Descartes after t =
the abstract object that was Descartes before t .

(4₁) The material object that was D-minus before t (?)
the material object that was Descartes before t .

which do not constitute a violation of the transitivity of identity, no matter how or if the ambiguous right argument from (4₁) is specified.

Indeed, so long as one

i) accepts the existence of both abstract and material objects,¹¹

and therefore

ii) either chooses to discard because the identities in which the arguments are two different types of objects or claims the relation between disparate arguments is coherent but that the identity will be false,

one will never be able to formulate a set of identities which constitutes a violation of the transitivity of identity. Therefore, no matter how we disambiguate van Inwagen’s identities (1)–(4), only so long as we do—and we must, because it was shown that van Inwagen in fact uses the same term in two different senses, i.e., commits to i)—it will always be the case that the identities are consistent with the transitivity of identity. Therefore we do

¹¹I will not explore the possibility here, but I think on my account DAUP entails the existence of abstract objects (see footnote 12).

not reach an absurd result, and we should not, on the basis of his argument alone, reject the assumption that DAUP is true.¹²

¹²I leave it to the reader to verify that this is true for all the possible disambiguations. E.g., if we consistently use “Descartes” in the abstract sense, we get the following, which is consistent with the transitivity of identity:

D-minus (material) before t = D-minus (material) after t .
 \neq \neq
 Descartes (abstract) before t = Descartes (abstract) after t .

Or, always using “Descartes” in its default material sense:

(all of) Descartes (material) before t = D-minus + L.
 (all of) Descartes (material) after t = D-minus.
 D-minus (material) before t = D-minus (material) after t .
 \neq $=$
 D-minus + L (material) before t \neq D-minus (material) after t .

Or one of the possible combinations:

(all of) Descartes (material) after t = D-minus.
 D-minus (material) before t = D-minus (material) after t .
 \neq $=$
 Descartes (abstract) before t \neq D-minus (material) after t .

Works Cited

van Inwagen, Peter. "The Doctrine of Arbitrary Undetached Parts." *Pacific Philosophical Quarterly* 62.2 (1981): 123–37.