

## **Descartes' Substance Dualism and Smart's Token Physicalism**

### **1. Materialism and Dualism**

1. Substance dualism vs. monism.

- Substance dualism: minds and material bodies are two distinct substances or entities. There is no material body (including brains and central nervous systems) to which minds are identical.

- Materialist substance monism: each mind is identical to some material body.

2. Token physicalism (i.e., the token identity theory): for every mental state or event *m*, there exists some physical state or event *p* such that *m* is identical to *p*.

3. Type physicalism (i.e., the type identity theory): for every type of mental state *M*, there exists a corresponding type of physical state *P* such that for every token mental state *m* of type *M*, there is a token physical state *p* of type *P* such that *m* is identical to *p*.

4. The property identity theory: for every mental property *M*, there exists some physical property *P* such that *M* is identical to *P*.

- Thinkers who reject the property identity theory are known as 'property dualists.' Note that one can consistently be a token physicalist and a property dualist. There is no inconsistency involved in accepting token physicalism and rejecting the property identity theory.

### **2. Descartes' substance dualism (Meditations 4 and 6)**

- Substance Dualism: minds and material bodies are two distinct substances or entities. There is no material body (including brains and central nervous systems) to which minds are identical. Thus, minds immaterial substances. The sole essential property of minds is thinking. The sole essential property of bodies is occupying space. Mental states and events are modifications of minds (immaterial substances). Though minds and bodies are distinct entities, they causally interact.

- Descartes on human beings and persons: Though we are prone to use these concepts interchangeably, Descartes implicitly distinguishes human beings from persons.<sup>1</sup> A human being is a *compound*, consisting of a material body that is joined to, and causally interacts with, an immaterial mind or soul. Modification to one's material body (e.g., neural firings) can cause modifications to one's immaterial soul (e.g., sensations of pain) and modifications to one's soul can cause modifications to one's material body, like the type of modification involved in motion. Nonetheless, your immaterial soul can survive the death of your physical body. Given that you (the person) are identical to your immaterial soul, Descartes view has the consequence that an afterlife is possible: You can survive the physical death of your body.

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<sup>1</sup> Descartes employs the word 'self' or the first-person pronoun 'I', as opposed to the term 'person'. I use the latter to bring Descartes into contact with contemporary discussions.

### 3. Logical laws

Most discussions of materialism and dualism appeal, either explicitly or implicitly, to the following logical laws.

1. Leibniz's Law: the indiscernibility of identicals:<sup>2</sup>

**(LL)**  $(x)(y)(P) (x=y \supset (Px \equiv Py))$ .

• If x is identical to (i.e., one and the same thing as) y, then x and y share all their properties.

2. The existence principle:

**(EP)**  $(x)(y) (x=y \supset \Box ((\exists z)(z=x) \equiv (\exists z)(z=y)))$ .

If x is identical to y, then necessarily x exists if and only if y exists. Equivalently: if x is identical to y, it is impossible for x to exist without y existing.

3. The necessity of identity:

**(NI)**  $(x)(y) (x=y \supset \Box (x=y))$ .

• If x is identical to y, then they are necessarily identical. That is, if x is one and the same thing as y, it is impossible for them to be distinct things.

• Both the existence principle (EP) and the principle of the necessity of identity (NI) can be derived from Leibniz's Law (LL).

### 4. Descartes' arguments for substance dualism

1. Descartes' epistemic argument:<sup>3</sup> (End of Meditation 1)

(1) I can know that my mind exists without knowing that my body exists.

(2) If I can know that x exist without knowing that y exists, then it is possible for x to exist without y existing.

(3) If x is identical to y, then it is impossible for x to exist without y existing. [(EP)]

(4) My mind is distinct from my body. [From (1), (2), (3)]

2. Descartes' conceivability argument:<sup>4</sup> (Meditation 6.78)

(1) I can clearly and distinctly conceive of my mind existing without my body existing.

(2) If I can clearly and distinctly conceive that P, then it is possible that P.

(3) It is possible for my mind to exist without my body existing. [From (1), (2)]

(4) If x is identical to y, then it is impossible for x to exist without y existing. [(EP)]

(5) My mind is distinct from my body. [From (3), (4)]

3. Descartes' argument from differing attributes: (Meditation 6.85-86)

(1) My mind is indivisible.

(2) All bodies are divisible.

(3) If x is identical to y, then x and y share all their properties. [(LL)]

(4) There is no body that is identical to my mind. [From (1), (2), (3)]

(5) My mind is distinct from my body. [From (4)]

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<sup>2</sup> In this handout, I use the symbol '(x)' to abbreviate 'for all individuals x', the symbol '(P)' to abbreviate 'for all properties P', the symbol '(∃x)' to abbreviate 'there exists some individual x', the symbol '⊃' to abbreviate the material conditional (i.e., if p, then q), the symbol '≡' to abbreviate the material biconditional (i.e., p if and only if q), and the symbol '□' to abbreviate 'necessarily'. Leibniz's law should not be confused with the highly controversial principle known as 'the identity of indiscernibles':

**(II)**  $(x)(y)(P) ((Px \equiv Py) \supset x=y)$ .

This principle affirms that x and y are identical if they share all their properties.

<sup>3</sup> I don't think the following argument is to be found in Descartes, though many interpreters have attributed it to him.

<sup>4</sup> I've reconstructed this argument so that it does not involve an appeal to God.

## 5. Causal closure of the physical

- The following causal closure principle seems to be fundamental to physical science.  
(CC) There is a complete causal explanation, couched only in physical terms, for every physical phenomenon. For every physical state, event, or property, there is a complete physical explanation for why that state is realized, why that event occurs, or why that property is instantiated.
- By this, I do not merely mean that it is a governing principle of contemporary physics. Rather, this principle (or something close to it) has been central to physics ever since Newtonian mechanics. Indeed, I think it is very hard to envision what physics would look like if this principle were jettisoned.
- One worry one might have about Descartes substance dualism is the following: though the arguments for it may be compelling, substance dualism, in tandem with the claim that minds can exert causal influence on the world, has the consequence that (CC) is false. Thus, a proponent of substance dualism must be prepared to bite a very big bullet: a central principle of fundamental physics is false.

## 6. Smart defense of the token identity theory

- Smart defends a version of what I have referred to as token physicalism, or the token identity theory, as it applies to sensations:  
(TI<sub>s</sub>) For any sensation *s*, there exists some brain process *p* such that *s*=*p*.
- It is important that one is clear about how bold Smart's thesis (TI<sub>s</sub>) is. Smart is not merely saying that sensations are *correlated* with brain processes. (Descartes believed this.) Nor is Smart saying that sensations *causally interact* with brain processes. (Again, Descartes believed this.) Smart's view is the radical thesis that sensations are identical to—that is, they are one and the same thing as—brain processes. It is a consequence of this view that sensations *cannot* causally interact with those brain processes to which they are identical: If *x* is identical to *y*, then *x* cannot cause *y* and *y* cannot cause *x*.<sup>5</sup>
- Here's one natural worry about Smart's token physicalism that we'll return to in subsequent classes. How can sensations be identical to brain processes. Sensations feel a certain way. Brain processes do not. Thus, by (LL), they cannot be identical.<sup>6</sup>
- Most of Smart's article is devoted to defending (TI<sub>s</sub>) from various objections. As one would expect, several of these objections are actually variants on the standard arguments for substance dualism: Objection 1 is a variant on Descartes' epistemic argument. Objection 2 is a muddled version of Descartes' conceivability argument. Objections 4 and 5 are variants on Descartes' argument from differing attributes.

## 7. Smart on contingent identity

- In his remarks on identity (pp. 145-46), Smart is adamant about the fact that he is using identity in the strict sense. When he says that a given sensation is identical to some brain process, he means that they are literally one and the same thing.
- In responding to Objection 2—roughly, Descartes' conceivability argument—Smart seems forced to accept the claim that identity can be a contingent relation. The following seems to Smart's line of thought:  
(1) For any sensation *s*, there exists some brain process *p* such that *s*=*p*.  
(2) It is not *a priori* that *s*=*p*.  
(3) If  $\alpha$  is a necessary truth, then  $\alpha$  is an *a priori* truth.  
(4) It is not a necessary truth that *s*=*p*. [From (2), (3)]

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(5) For any sensation *s*, there exists some brain process *p* such that *s*=*p* but not  $\Box$  (*s*=*p*). [From (1), (4)]
- This should strike all of you as very problematic: Smart is committed to denying (NI), the necessity of identity. Given that (NI) follows from Leibniz's Law (LL), Smart is ultimately committed to rejecting the latter.

<sup>5</sup> The motion of a cue ball can cause the motion of the eight ball. However the motion of a cue ball cannot cause itself. (Of course, the motion of a cue ball at some earlier times may be among the causes of its motion at a later time, but this is beside the point.)

<sup>6</sup> Notice that this is a variant on Descartes' argument from differing attributes.