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## Coinciding Objects

The problem of Coinciding Objects (sometimes called colocation) is whether two things can be in the same place at the same time. Common sense says that they cannot.

JOHN LOCKE described the impossibility that two things of the same kind should exist in the same place at the same time.

“ANOTHER occasion the mind often takes of comparing, is the very being of things, when, considering anything as existing at any determined time and place, we compare it with itself existing at another time, and thereon form the ideas of wherein identity and diversity. When we see anything to be in any identity place in any instant of time, we are sure (be it what it will) that it is that very thing, and not another which at that same time exists in another place, how like and undistinguishable soever it may be in all other respects: and in this consists identity, when the ideas it is attributed to vary not at all from what they were that moment wherein we consider their former existence, and to which we compare the present. For we never finding, nor conceiving it possible, that two things of the same kind should exist in the same place at the same time, we rightly conclude, that, whatever exists anywhere at any time, excludes all of the same kind, and is there itself alone.”<sup>1</sup>

In modern metaphysics, the problem of coinciding objects should be the question of whether one mass of material – what the Greeks called substrate or *ὑποκείμενον* (“the underlying”) – could contain the whole of two (or more) separate objects containing that same mass.

It is now common for many identity theorists to claim that the whole of one object and the whole of another can occupy just the same place at just the same time. Among them, according to MICHAEL BURKE, are RODERICK CHISHOLM, E. JONATHAN LOWE, SAUL KRIPKE, and DAVID WIGGINS.

<sup>1</sup> ‘Of Identity and Diversity,’ *Essay Concerning Human Understanding*, Book II, ch xxvii



But it is not clear that this was the ancient problem in debates between the Academic Sceptics and the Stoics. In modern times, multiple ancient puzzles are used to pose the problem of coinciding objects. One is the statue and the lump of clay from which it is sculpted. Another is Dion and Theon, known as the “body-minus” problem. Another is Tibbles, the Cat and a similar cat missing his tail. A third is the Stoic CHRYSIPPUS’s so-called “growing argument.”

All these modern claims that there can be two “coinciding objects” can be shown to be distinguishing between different aspects of a single object, in particular, the matter and form, giving them different names, and then arguing that they have different *persistence* conditions.

ARISTOTLE’S *Metaphysics* makes perhaps the earliest and clearest such distinction, using the example of a statue and its matter.

“The term “substance” (οὐσία) is used, if not in more, at least in four principal cases; for both the essence and the universal and the genus are held to be the substance of the particular (ἐκάστου), and fourthly the substrate (ὑποκείμενον). The substrate is that of which the rest are predicated, while it is not itself predicated of anything else. Hence we must first determine its nature, for the primary substrate (ὑποκείμενον) is considered to be in the truest sense substance.”<sup>2</sup>

Aristotle clearly sees a statue as a combination of its form/shape and its matter/clay.

“Now in one sense we call the matter (ὕλη) the substrate; in another, the shape (μορφή); and in a third, the combination. Both matter and form and their combination are said to be substrate. of the two. By matter I mean, for instance, bronze; by shape, the arrangement of the form (τὸ σχῆμα τῆς ιδέας); and by the combination of the two, the concrete thing: the statue (ἀνδριάς). Thus if the form is prior to the matter and more truly existent, by the same argument it will also be prior to the combination.”<sup>3</sup>

Aristotle sees no problem with the body and soul of a person being combined in one substance (οὐσία), but a hundred or so

<sup>2</sup> Aristotle, *Metaphysics*, Book VII, § iii, 1-2

<sup>3</sup> Ibid.



years after Aristotle, the Academic Skeptics attacked the Stoics, saying Stoics were making single things into dual beings, two objects in the same place at the same time, but indistinguishable. And this may have been the beginning of the modern problem.

The “two things” that bothered the Skeptics appeared first in the “growing argument” described by the later second century BCE Stoics, Posidonius and Mnesarchus, as reported by Stobaeus in the fifth century CE. What is it that grows, they asked, the material substance or the peculiar qualities of the individual? But note that this is still matter versus form. The substance (matter) does not grow. It is the individual that grows.

“The substance neither grows nor diminishes through addition or subtraction, but simply alters, just as in the case of numbers and measures. And it follows that it is in the case of peculiarly qualified individuals, such as Dion and Theon, that processes of both growth and diminution arise.

“Therefore each individual’s quality actually remains from its generation to its destruction, in the case of destructible animals, plants and the like. In the case of peculiarly qualified individuals they say that there are two receptive parts, the one pertaining to the presence of the substance, the other to that of the qualified individual...

“The peculiarly qualified thing is not the same as its constituent substance. Nor on the other hand is it different from it, but is all but the same, in that the substance both is a part of it and occupies the same place as it, whereas whatever is called different from something must be separated from it and not be thought of as even part of it...”<sup>4</sup>

Like Aristotle, the Stoics were distinguishing the individual’s “constituent substance” from the “peculiar qualifications” of the individual.

The Stoic term for “constituent substance” or substrate, following Aristotle, was *ὑποκείμενον*. Their term for the unique person, possibly separate from the material body, was *ἰδίος ποιὸν*, a particular individual “who,” for example, Socrates, as opposed to *κοινός ποιὸν*, a general “whoness,” for example, a human being.

4 Stobaeus, *The Hellenistic Philosophers*, Long and Sedley, v.1, p.168



But, in the vehement debates of the third century BCE, the Academic Sceptics laughed at the Stoics for seeing a dual nature in man. Their most famous puzzle was the coinciding objects of Dion and Theon (recently the puzzle of Tibbles, the Cat and a similar cat lacking a tail).

Plutarch, writing in the first century CE, accused the Stoics of “crazy arithmetic” and absurdity, that “each of us is a pair of twins, two-natured and double, joined in some parts but separate in others, two bodies sharing the same color, the same shape, the same weight, the same place,”

“Yet this difference and distinction in us no one has marked off or discriminated, nor have we perceived that we are born double, always in flux with one part of ourselves, while remaining the same people from birth to death with the other...”

“If when we hear Pentheus in the tragedy say that he sees two suns and a double Thebes we say he is not seeing but mis-seeing, going crazy in his arithmetic, then when these people propose that, not one city, but all men, animals, trees, furniture, implements and clothes are double and two-natured, shall we not reject them as forcing us to misthink rather than to think?”<sup>5</sup>

Another early statement is Stobaeus in the first century BCE.

“That what concerns the peculiarly qualified is not the same as what concerns the substance, Mnesarchus says is clear. For things which are the same should have the same properties. For if, for the sake of argument, someone were to mould a horse, squash it, then make a dog, it would be reasonable for us on seeing this to say that this previously did not exist but now does exist. So what is said when it comes to the qualified thing is different.

“So too in general when it comes to substance, to hold that we are the same as our substances seems unconvincing. For it often comes about that the substance exists before something’s generation, before Socrates’ generation, say, when Socrates does not yet exist, and that after Socrates’ destruction the substance remains although he no longer exists.”<sup>6</sup>

5 Plutarch ‘Against the Stoics on Common Conceptions,’ *The Hellenistic Philosophers*, p.166-7

6 Stobaeus (I,177,21 - 179,17), *The Hellenistic Philosophers*, p.168



## An Information Analysis of “Coinciding Objects”

Many of our metaphysical puzzles start with a single object, then separate it into its matter and its form, giving each of them names and declaring them to be two coinciding objects. Next we postulate a change in either the matter or the form, or both. It is of course impossible to make a change in one without the other changing, since we in fact have only one object.

But our puzzle maker asks us to focus on one and insist that the change has affected the status of only that one, usually claiming that the change has caused that one to cease to exist. This follows an ancient view that any change in material constitutes a change in identity. But the modern metaphysicist knows that all objects are always changing and that a change in identity may always preserve some information of an entity. The puzzle claims that an aspect of the object persists if the relative identity, or identity “in some respect” has not changed.

To create a paradox, we propose two axioms about identity,

*Id1. Everything is identical to everything else in some respects.*

*Id2. Everything is different from everything else in some other respects.*

We (in our minds) “pick out” one respect whose identity persists over time because of *Id1* and a second respect which changes in time because of .

We now have one object that both persists and does not persist (in different respects, of course), the very essence of a paradox. We call them different objects to create the puzzle.

For example, in the case of the statue and the clay, Mnesarchus’s original version assumes someone moulds a horse, then squashes it. We are asked to pick out the horse’s shape or form. The act of squashing changes that shape into another relatively amorphous shape. The object changes its identity with respect to its shape. Mnesarchus said it would be reasonable to see this sequence of events as something coming into existence and then ceasing to exist. The most obvious thing changing is the horse shape that we name “statue.”



By design, there is no change in the amount of clay, so the matter is identical over time with respect to the amount of clay. The clay persists.

We now claim to have seen a difference in persistence conditions. The object *qua* clay persists. The object *qua* statue goes in and out of existence.

But this is just a way of talking about what has happened because a human observer has “picked out” two different aspects of the one object. As the statue is being smashed beyond recognition, every part of the clay must move to a new position that accommodates the change in shape of the statue. There are changes in the clay with identical information to the change in the shape of the statue. These we ignore to set up the puzzle.

In more modern versions of the statue and clay puzzle, we can make a change in the matter, for example by breaking off an arm and replacing it with a new arm made of different material but restoring the shape. We ignore the change in form, although it was obviously a drastic change until the restoration, and we focus on the clay, making the claim that the original clay has ceased to exist and new clay come into existence.

In either case, the claim to see different persistence conditions is the result of focusing on different subsets of the total information.

When identity theorists say that the whole of one object and the whole of another can occupy just the same place at just the same time, they are never talking about two objects of the same type, kind, or sort. They are always “picking out” different aspects of a single object and giving them differing existential status.

The modern problem of coinciding objects is closely related to these metaphysical problems:

- *Persistence*. Is something the same thing one second later? Some metaphysicians think an object may consist of “temporal parts,” which they describe as “perduring” as different things at every instant of time. But temporarily successive objects always are identical “in some respect” and different in other respects.



- *Identity Over Time.* Different aspects of a single object may have different persistence conditions. Perdurantists deny the possibility of identity through time. Endurantists emphasize the subsets of total information that are unchanging over time.
- *Constitution.* For those metaphysicians who think that material constitution is identity, there is a doubt that Dion can survive the loss of his foot. Chrysippus's so-called "growing argument" was designed to show that Dion survives, despite Skeptic claims.
- *Composition.* If we remove something inessential (say one atom, or one plank from the Ship of Theseus), do we have the same thing? Or are some "proper parts" mereologically essential to the identity of the whole?

