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Naturalism: Week 10

1) Introduction:
   a) In Stroud and Putnam we are seeing our first examples of philosophers who are *not* naturalists—at least in any narrow sense. Stroud is an *expanded-nature* naturalist. Putnam is not a naturalist about the *normative* because he is not a *descriptivist* about the normative. Compare Sellars, who is not a descriptivist about the *modal*, but *is* a naturalist about it. But for Sellars the normative is exclusively a part of the *manifest* image. Science deals only with "the dimension of describing and explaining," which excludes normative assessment. So he is *not* a scientific naturalist about the normative.
   b) We have looked for *via media* between various versions of generic Carnap-Nagel *reductionism* (definability + derivability) and *global supervenience*. One is *token-token identity* theories. Davidson proposes this in "Mental Events", under the rubric "anomalous monism". Sellars *might* endorse this in *scientia mensura*: "of what is *that* [not *what*] it is". And his practice in "synoptic philosophy" (=naturalism) seems to go along with this. For one hypothesis is that this is why his *nominalism* about predicates is so important to his system.
   c) We have worried about *descriptive* naturalism, and what *description* is. Now we will look at the notion of *description-relativity* of properties, and its bearing on the relation between *ontological* naturalism and *ideological* naturalism—for having the first without the second is what token-token identity theories aim at.
   d) This means that such theories take it that though all the *objects* there are are natural ones, for instance, in the sense that they can be referred to or picked out by a purely physicalistic vocabulary, not all the *facts* are natural (e.g. physical) facts. On the side of *definability* in the classical Carnap-Nagel reductionism, we put only *coreference* of terms, and we put *nothing* on the side of *derivability*.
   e) I said early on that I was suspicious of the conceptual stability and tenability of the token-token identity *via media* between type-type reductionism and global supervenience. The question is: How much ideology is involved in ontology? I now want to say what I had in mind, following up a remark and an argument that Putnam offers. I'll do that in a way that will:
      i) connect with the idea I have previously floated that there is a kind of tension between thinking in model-theoretic terms and thinking in modal terms of possible worlds;
      ii) add another piece to the puzzle about the relation between construing the world as a collection of *objects* and construing it as a constellation of *facts*; and
      iii) pick up the notion of *description* in connection with that of *modality* in the particular form of the idea that *modal* properties are *intensional* in the sense of being *description-relative*.

2) Putnam:
   a) I am going to be concerned with three issues Putnam raises:
      i. His suggestion, in the passage in (b) below, that the there is something wrong in principle with token-token identity theories; This is the suspicion about the

stability of positions that are *ontologically*, but not *ideologically* naturalistic—that is, that are naturalistic about *objects*, but not about *facts* (properties, relations, descriptions…).

ii. His invocation of a Kripkean argument I'll call the "modal separability" argument in passage (d) below;

iii. His flirtation with sortally relative notions of identity, in the footnote quoted in passage (e)

b) "Or would it be enough (to count as a "naturalist") to think that the token even of writing the unclear paragraph is identical with some token physical event (á la Davidson)? (Would thinking that "token identity" has no clear definition at all make one a "nonnaturalist"?)" [p. 60] I am largely going to be explicating this remark.

c) "The mereological sum of the atoms in my body exists whenever those atoms exist, and this means that the mereological sum of the atoms of my body existed a thousand years ago. By Leibniz's Law [BB: the indiscernibility of identicals], if I am that mereological sum, it follows that I existed a thousand years ago." [p.68]

d) "What alternatives are there, however, to "an ontology of time-slices of atoms (or of particles, or of fields and particles) and mereological sums thereof"? Kripke would say that I am not *identical* with the mereological sum of the atoms that are parts of me (or with the mereological sum of time-slices of atoms). I am a different thing from my matter, although I *consist* of my matter. I am a thing with different persistence conditions from my matter, and different identity conditions across possible worlds. I consist of certain matter, as things actually are, but had things been different, had I had pot roast for dinner last night, I would consist of different matter, but would be the very same person." [p.69]. When properly stated, this is a very powerful argument.

e) ftnt to the passage in (c): "I agree with this much, but in addition I am attracted to an idea that I know Kripke does not like, the idea of 'sortal' identity: that is, the idea that things can be *identical in a respect, but not in another respect*. For example, I am inclined to say (still idealizing the physics, by the way) that a certain mereological sum of time-slices of atoms *is*, as things actually stand (I didn't have pot roast for dinner last night), *identical to me qua physical system*, but *not identical with me qua person*. This doesn't rescue the ontology of basic physical entities and mereological sums thereof, at least as usually understood, because as usually understood the identity of formalized ontology isn't sortal identity. And if we do allow sortal identity, then the ontology only tells us what there is *in a respect* (say what there is, *qua* physical objects); sortal identity is essentially *pluralistic*, and unless we postulate that ht number of *sorts* can be limited in advance—which I would deny—sortal identity *subverts* the question "What is there?" by countering: "What is there in *which respect?*" [ftnt 27, on p. 289.]

f) In this passage, Putnam endorses Geach's (sortally) "relative identity." As we will see, there are good reasons to side with Kripke (and Gupta) in rejecting this idea: it is a bad way of following out a good insight.

3) On "token-token identity" theories:
   a) The type/token distinction for letters, words, etc..
   b) How this is supposed to work for Davidson in "Mental Events". Anomalous monism.
   c) Caveat: One must be careful about the substantive assumptions that are built into using the idiom of types and tokens. One is *not* entitled to use this idiom wherever there is a distinction between kinds and instances of those kinds—or, as I'll put it in the most neutral terminology I know, between repeatables and unrepeatables. Compare: One is *not* entitled, without further ado, to use the idiom of genus and species whenever there are kinds and sub-kinds. For species are defined *"per genus et differentiam*", by specifying a genus, and then the properties that differentiate one species of that genus from another. So humans are rational (differentia) animals (genus) or featherless (differentia) bipeds (genus). But now we can ask: is *red* a species of the genus *color*, or *scarlet* of *red*? If so, what are the differentia? There don't seem to be any, except being *red*, or *scarlet*. This led W.E. Johnson at the beginning of the twentieth century to distinguish these cases, of *determinables* and *determinates* from those of proper genus/species.
   d) The home language-game of the type/token distinction is *language*, where there is a proper *syntax*. The distinction will apply uncontroversially to *beliefs*—so we can talk about belief-*types* and belief-*tokens* (for instance, in order to say that each of the latter is identical with some physical state) if there is something that is to *beliefs* as the marks on the page or chalk-board, or the acoustic vibrations (what Sellars calls "sign-designs") are to *sentences*. (Compare Wittgenstein: "The sign-post thought of just as a piece of wood.") On some "language of thought" theories, there are (indeed, *must* be) such *vehicles* for intentional states. But others (Davidson and McDowell among them) deny that there are such vehicles, deny that *anything* stands to beliefs as syntactically articulated sign-designs stand to sentences. These "vehicleless" theories deny that beliefs (desires, intentions, and so on) have any *non-intentional*, *non-semantic* descriptions or characterizations. The *only* way, in principle, to specify them is in terms of their *content*: as the belief *that* things are thus-and-so. Talk of *token* beliefs can easily beg the question against such views. (Note that Kris Duda has pointed out that besides this sense of "vehiclelessness" ('Fahrzeuglosigkeit?'), there is another: that beliefs are states of *whole persons*, and cannot be identified with any *sub-personal* state, hence not with anything less spatially extended than the whole person.)
   e) And however it may be with the debate between vehicled and vehicleless ways of thinking about intentional states or propositional attitudes, is it clear what we mean by *tokens* of various belief-types in any case? Presumably my belief that the Washington Monument is 555 feet tall is a *different* token of that belief-type than is *your* belief (which you may have just acquired) that the Washington Monument is 555 feet tall. (That's how tall it really is.) But is my believing that today token-identical to my believing it yesterday? What if I briefly had doubts about the subject in between, so stopped believing it briefly until I reassured myself that my initial information on the topic was correct? Do belief tokens

persist until I change my mind? Does it matter if I don't actually change my mind, but totally forget that I even have a belief on the topic, until reminded (perhaps by reading something I wrote some time ago)? It seems somewhat easier to answer questions such as this for conscious thinkings than for believings, for episodes, rather than states. But this distinction is not a sharp one either: aren't episodes a *kind* of state?

4) Sortals, adjectival predicates, and mass nouns:
   a) When Putnam suggests that "the notion of token identity may have no clear definition," his worry is not about the notion as applied in its home language-game, for instance, to letters and words. The worry is about the ultimately *analogical extension* of the notion to other cases, paradigmatically to claims such as Davidson's that some token (or we could just say: individual) *mental* event is identical with some token (or individual) *physical* event. Compare: As *types* we would not, I think, be tempted to say that the German word 'Ja', meaning 'yes', is *identical* (*type*-identical) with the Polish word 'Ja', meaning 'I'. For instance, one means 'yes' and the other means 'I', so they have quite different semantic properties. But could some individual token (or tokening [Not the same thing, as indexical or demonstrative uses of persistent tokens shows: I can point my sign "You are a sinner!" at different people, yielding different tokenings, with different contents, even though only one token is involved.]) of 'Ja' in German be *identical with* a tokening of 'Ja' in Polish? What would we be envisaging? Is it *easier* to understand how one and the same item could be both a token *mental* event and a token *physical* event than to understand how one unrepeatable *utterance* could be a token *German* utterance and a token *Polish* utterance? (Of course, people could misunderstand, be confused about, or simply disagree about which language some utterance belonged to, but could one *in fact* be *both*?)
   b) The thought behind "token-token identity theories" is that the same *particular* may fall under different *universals*, so that even if the universals ("types") don't line up, are not interdefinable, and so on, still it may be the same *things* that we are *classifying* under those universals. There is clearly something to this line of thought. "The women in the next room" and "the two most eminent economists on our faculty" are certainly not interdefinable descriptions, but they may pick out just the same people. But to see whether that idea can be used to make sense of the claim that my sudden occurrent thought that I forgot to turn off the oven when I left the house might *be*, be *identical to*, some event that can *also* be picked out (that very same event) in purely neurophysiological vocabulary—the kind of "token-token identity" claim characteristic of Davidson's anomalous monism—we need to look much more closely at the various sorts of relations there are between classifiers and what they classify.
   c) The first distinction is that between *adjectives* vs. *sortals* (a kind of common noun). 'Red', 'large', 'round', vs. 'dog', 'electron', 'person'. Both form predicates, adjectival and sortal predicates respectively: "…is red," "…is large," etc. vs. "…is a dog," "…is an electron," and so on. But the difference is that one can *count* dogs or electrons, but not 'large's or 'round's. ('Red' is a special case here, because—in some ways like 'square' thought of as an adjective—one *can* in a certain sense count reds. But this is really elliptical for "*shades* of red", and

'shade' is a sortal.) And, what is another manifestation of the same feature, it makes sense to ask whether *this* is the *same* dog as *that*, where it does *not* make sense to ask that about larges or rounds. (Again, we *can* ask that about *shades* of red, or degrees of curvature.)

d) Both of these sorts of predicate-forming expressions semantically come with *circimstances* of appropriate *application* (and with corresponding *consequences* of application). So we can sort things into those that are and those that are not red, large, or round, and are or are not dogs, electrons, or persons. We can accordingly use all of these expressions to *classify*, and to *describe* (not just to *label*).

e) But only the *sortal* expressions come, in addition, with *criteria of identity and individuation*, which settle whether two candidate Ks are or are not the *same* K. Without settling that issue, one cannot *count* Ks (since you need to know whether to count this one and that one as one or as two Ks). So to count things, you need a sortal K, whose criteria of identity-and-individuation can be invoked to distinguish and identify them.

f) Quine's slogan: "No entity without identity."

g) Mass nouns such as 'gold' and 'water' also form predicates with criteria (and consequences) of application (CofApp): "…is gold," and "…is water." So, like sortals, they are *common nouns*. They are *nouns* rather than *adjectives*, however, even though they are not *count* nouns (sortals), since without adding something, we don't have resources to answer questions about whether this is the *same* water as that. What we need to add is *auxiliary* sortals such as 'piece of' for solids, and 'bucket of' for liquids. Japanese classifiers. Solid, liquid, flat things, pointy things. (There is no such thing as one chopstick, any more than one can have less than a *pair* of pants.)

h) In his *Grundlagen*, Frege pointed out that *numbers* can be associated with *objects* only relative to individuating sortals. If we point to a deck of cards and ask: "How many?" the answer varies with the sortal: one deck, four suits, 52 cards. ('Type' and 'token' are themselves sortals, which is why we can't just point to the display [a,e,a] and ask "How many?": 3 letter-tokens, 2 letter-types. Indeed, they are what I will call—in (7) below—'*schematic*' sortals. And that they are schematic is one of the reasons mistakes can ensue from applying them outside their home language-game, for instance, to intentional states, without thinking hard about what further work needs to be done to *entitle* one to talk that way, in the sense of filling in the placeholders for criteria of identity and individuation in virtue of the lack of which they are schematic.) The questions "How many?" and "Is this the same as that?" are questions that can only be settled relative to criteria of identity and individuation, which is to say, only relative to some specified, individuating *sortal* concept.

5) <u>Relative Identity (Geach)</u>:

a) And, as the Frege example perhaps already suggests, the answer to the questions "Same one, or different ones?" and the more general "How many?" can get *different* answers depending on the sortal that is specified, since sortals can differ not only in their CofApp (as adjectival predicates can do), but also in their CofI&I.

b) Indeed, one interesting case is where the CofApp are the *same*, or at least have a common core, for two sortals, but are associated with *different* CofI&I. So—to use an example of Gupta's in his 1977 book *The Logic of Common Nouns* (adapted from his Pitt Ph.D. dissertation)—USAirways alone flew over a billion American *passengers* last year, even though there are only 300 million American *people*, and most of them have never flown on USAir. Passengers are people too (dogs don't count). But the same person may get counted as more than one passenger. When I flew to Portland a week ago Thursday, and then to D.C. last Friday, USAir properly counted itself as having flown two passengers, even though there was only one person involved. Geach considers (in effect) the sortal concept of sur-person, according to whose CofI&I two people count as one sur-person iff they have the same surname. So when my sons Eric and Russell and I are in a room by ourselves, there are three persons in the room, but only one sur-person.

c) The conclusion Geach draws is that *identity* is *relative*—specifically, it is relative to *sortals*. Without specifying an individuating sortal, the question of whether Eric and I are *identical*, the *same*, is without sense. The same *what*? We *are* the same *sur-person*, but *not* the same *person*. Was Bob-on-his-way-to-Portland *the same as*, *identical to*, Bob-on-his-way-to-D.C.? Yes and no: the same *person*, but not the same *passenger*. This is the line that Putnam is expressing his inclination towards in the last passage quoted from him above.

d) Geach connects this point to the issue of whether we should think (with Frege, and most of the tradition since him—even though Frege is the one who sensitized us to the issue of sortals in the first place) of *quantification* as *unrestricted*, or as as *also* requiring the specification of a *sortal*: not for all x, if Fx then Gx, but for all *persons* (for all electrons, for all dogs)…. I'll return to this issue when we talk about how we should understand the *domains* of model theory.

e) Opposed to the *relative identity* approach is an *absolute identity* approach: identity is identity. The challenge Gupta sets himself in his book is to reconcile this claim with the sort of example Geach puts forward.

6) The issue we are shaping up to consider here is how we should think about *trans-sortal identity claims*.

a) Davidson must claim that an item picked out by *mental* or *psychological* sortals can be identical with an item picked out by *physical* sortals.

b) The considerations that lead Geach to and tempt Putnam by relative identity approaches are evidently relevant to this question. But they do not evidently settle it. For it seems that if the loudspeaker asks for the passenger going to Portland to approach the podium, I can correctly identify myself, me, this person, Bob, *as* that passenger. Each passenger *is* a person, a person flying from place to place. At any rate, one can't put all the people on one side of the room and all the passengers on the other. One can only separate the persons who *are* from the persons who are *not* passengers—only allowing the former through the security checkpoint, for instance.

c) But thinking about the two sorts of cases—Davidson's and the person/passenger case—makes it clear that there are two very different sorts of trans-sortal identity claims (of the sort token-token identity theories assert):

i. There are cases where one sortal *subsumes* the other, as persons do passengers, and sur-people do persons. In these cases, one sortal *subdivides* the other, individuating more finely. Passengers, we might think, are *time-slices* of persons. Sur-people are *equivalence classes* of people.

ii. Others are *non-subsuming* sortals. If I claim that persons are mereological sums of sub-atomic particles, I have not gotten the sortal 'particle' by subdividing people, or 'person' by collecting particles. Davidson's token-token identity claims relate items falling under two different sortals that are not known in advance to stand in subsumptive relations to one another.

d) We should notice that there are at least two kinds of subsumption relations that sortals can stand in to one another. 'Cat' is a sub-kind of 'mammal'. Cats are a kind of mammal. Passengers are not in this sense a kind of person. For time-slices of persons are not a kind of person. One way to see that is that if a and b are the same cat, they are the same mammal; and if a and b are the same passenger, they are the same person. But if a and b are the same mammal, and one of them is a cat, then they are the same mammal. But if a and b are the same person, and one of them is a passenger, then it does not follow that they are the same passenger. (a could be me on my way to Portland, and b me on my way to D.C.) We'll see later on what lies behind this distinction of kinds of subsumption. (It involves breaking down the subsumptions into those that concern criteria of *application*, and those that concern criteria of *identity*.)

e) One way in which one might look for trans-sortal "token-token" identities across sortals neither of which subsumes the other is in case there is a sortal that they both subsume. If it were correct to say that I am a sur-person, an instance ("token") of a sur-person, the *same* sur-person as my sons, and also an instance of a prof-person (defined by the CofI&I that two persons are the same prof-person if they are persons pursuing the same profession), the same prof-person that John McDowell is an instance of, then we could understand the "token-token" trans-sortal identity of sur-person Bob and prof-person Bob in terms of the identities of the *persons* involved (Bob=Bob), since that sortal is subsumed by *both* the sur-person and prof-person sortals. (Compare the example Haugeland uses—appealing to the loop language—in order to show how one could have global supervenience *without* token-token identity. It depends on a sortal, 'point', that is subsumed by both of the sortals he is concerned with.)

7) <u>Schematic sortals and auxiliary sortals</u>:

a) An important thing to realize is that there are some terms that function *grammatically* as sortals without functioning *semantically* as sortals. These are sortal expressions that do *not* carry with them associated criteria of identity-and-individuation. 'Object', 'thing', 'particular','item', 'unit', and 'entity' are like this. You cannot *count* objects, things, particulars, and so on. Are Bob-on-the-way-to-Portland and Bob-on-the-way-to-D.C. the *same* particular, thing…etc.? Yes and no: the same *person*, but not the same *passenger*. So *how many* things, particulars, etc. are there? The question is under-specified. It is because we still need CofI&I, which will only be supplied by some *determinate* sortal. In the past (e.g. in *MIE*) I have for this reason called expressions such as 'object' *pseudo*sortals, since they masquerade as sortals without being able to perform the

defining function of sortals. I have also called them *pro*sortals, since they can be thought of as *placeholders* for determinate sortals—as functioning so as to mark a place where a determinate sortal goes, without specifying which one goes there. Unless one is supplied, perhaps contextually, no CofI&I are actually put into play. Here I will call such expressions *schematic* sortals.

b) It seems to me that there can be intermediate cases between *completely* schematic sortals, such as 'object', and completely determinate sortals, such as 'dog'. For instance, I am inclined to think that 'event' and 'process' are examples of somewhat, but not wholly schematic sortals. *Events* are, I think, essentially *datable* (though not necessarily instantaneous). If so it is sufficient to *distinguish* two events that they happen at *different* times. Similarly, *processes* must have a *duration*; and it is sufficient to distinguish two processes that they have distinct durations. But offering sufficient conditions to *distinguish* Ks from one another is not enough to offer sufficient conditions to *identify* them. Thus questions could arise whether two candidate events that happened at the same time were really one event under two descriptions, or two distinct events. Davidson, according to his accordion principle, claims that flipping the switch, turning on the light, and alerting the burglar are one and the same event, specified in terms of more proximal or distant effects that that one datable event had. But Kim insists they are three events, even though he could concede that the various doings all happened at the same time, and are just specified in terms of later effects. My suspicion is that this dispute is not about a matter of fact: who is right about the CofI&I associated with the sortal 'event'. It is a partially schematic sortal, and can be made more determinate *either* in Davidson's way *or* in Kim's.

c) This category of *partly* schematic sortals may include the *auxiliary* sortals that form genuine sortals out of *mass nouns*. Thus 'piece', in its narrowest, original sense, indicates that the items that are pieces (of something) are *solid* and *extended*, and that tells us something about their CofI&I: two spatially disjoint or independent regions are not occupied by the *same* piece of anything. But pieces of gold are still individuated differently from pieces of machinery. For instance, any macroscopic spatially contiguous sub-chunk of a piece of gold is a piece of gold, but not every corresponding such is a piece of machinery. Similarly for 'bucket' and liquids. One may need to supply the mass noun in order to get a determinate sortal. Only some pieces of gold are pieces of art.

d) I will ask later whether 'cause' is not a *schematic* sortal.

e) 'Fact' is a *much* less schematic sortal than 'object'. For *facts*, as I think of them, are individuated by the *vocabularies* used to *state* them. Now here I don't mean that the fact stated by "La neige est blanche," has to be thought of as a different fact from the one stated by "Schnee ist weiss." We don't have to individuate vocabularies as finely as natural languages. I am thinking rather of the vocabulary of physics, of metallurgy, of normative, modal, semantic, psychological vocabularies. Some of these distinctions are disciplinary, some are semantic or functional. Drawing different boundaries around vocabularies will draw different boundaries around kinds of facts. But in general, facts are to be individuated by the expressions we use to state them. (Others will want to associate facts with equivalence classes of sentences used to express them. I

myself think it is too strong to see all necessarily equivalent statements as stating the same fact, but that is not an incoherent way of talking.) The fact that 'object' is a *purely* schematic sortal and 'fact' is not bears directly on the way we understand the relations between thinking of the world as a world of *objects* ("what there is") and as a world of *facts* ("Alles, was der Fall ist," "everything that is the case").

8) The null hypothesis that any fan of "token-token" identity theories (or of ontological naturalism without ideological naturalism) must confront is the claim that the *only* trans-sortal identities that are true are sub-kind subsumption identities of the "this cat = that mammal" sort. As already observed, it is not true that passengers are persons. (Which perhaps explains why airlines don't treat them as such.) For time-slices of persons are not persons. ("Time-slice" may not get 'passenger' exactly right, but it can do duty here for whatever the real relation is.) There is an intimate association, of a temporal-part-whole sort between the two categories, but it is not a sub-kind relation of the "women are persons" sort. (Women are not "gender-slices" of persons.)
   a) Why might one think this claim is true?
   b) There is a very powerful argument that at the least raises the bar very high for justifying a trans-sortal identity claim. It is the argument that Putnam adapts from Kripke and summarizes in the passage cited in (2d) above. I call it the *modal separability argument*.

9) <u>The modal separability argument</u>: We now have some of the conceptual raw materials we need to address the Lewis view that Putnam considers: the view that there is some notion of <u>basic object</u>, perhaps sub-atomic particles, or time-slices of them, or particles-and-fields [Made-up philosopher's physics alert!]—I'll just say 'particles' for short—such that "mereological sum of particles [basic objects]" is a sortal subsumed by *all* other sortals. Thus, for Lewis, all the objects there are are (identical with) such mereological sums of basic objects. So a possible world (thought of as a world of objects) just is a set of basic objects and their mereological sums.
   a) I think this cannot be right, and that the sort of argument Putnam attributes to Kripke shows that it cannot be right. But things are much more complicated than Putnam acknowledges—as the confusions Putnam falls into concerning relative identity show. (He thinks he can endorse *both* the modal separability argument *and* relative identity. But we will see that, when it is properly understood, the modal separability argument shows the relative identity approach to be mistaken in associating sortals with what is expressed by the identity sign rather than with the terms that flank it.) We must consider how to state the argument so as to immunize it from some obvious objections.
   b) Here is the argument in a form derived from Gibbard. A certain statue, the statue made by sculptor S at time t, spatially coincides with a lump of clay, the clay mined at t'. Are they identical? If they are identical, then any property of one is a property of the other. This is the form of Leibniz's Law that is the indiscernibility of identicals. (Its converse, the identity of indiscernibles, is much more controversial.) But the statue has the *modal* property that it *would* be destroyed if

we mashed it up. And the lump of clay does *not* have that property. It would survive as long as it wasn't scattered. (It is a lump, not a mereological sum, which *would* survive being scattered.) Since they have different properties, the sculpture and the lump are not identical. They stand in an intimate relation, which we may call "material constitution." But what I will call the "*modal separability argument*" shows that they are not *identical*.

c) Again, it is often said in favor of functionalism as a form of materialism that, for instance, all valves are (are identical) physical objects, even though what they have in common in virtue of which they are *valves* is a *functional* property, and not a *physical* property, so that the *fact that* some physical object *is* a valve is *not* a *physical* fact. That is, functionalism—even about valves, and *a fortiori* about psychological states—is thought of as token-token identity theory, with a materialist *ontology* but not a materialist *ideology*. Now any particular ("token") valve we examine is certainly intimately associated with some physical object. It is, as we say, *realized* by that object. Filling in the purely schematic pseudo-sortal 'object', let us say it is realized by a particular piece of metal machinery. But is *this* valve *identical to* this piece of metal machinery? What does the modal separability argument say? The piece of machinery could survive being removed from the environment in which it is functioning as, playing the functional role of, a valve, namely regulating the flow of some fluid. It could survive being removed and put in a museum as a "found object", now functioning as a piece of art. (I have an old Norden bombsight—my dad led the design team that came up with them—which I contemplate merely as an example of astonishing craftsmanship in design and manufacture. It is no more still a *bombsight* than, as Aristotle says, a detached human hand is a human hand. And the fact that it still, I suppose, *could be used* that way doesn't mean that it *now is* a bombsight. Similarly for the valve.) But the *valve*, *this* valve, this *valve*, could *not* survive a change in circumstance that involved its no longer functioning *as a valve*. So this valve and this piece of machinery are not *identical*. They stand in the intimate relation of *realization*. But that is not *identity*.

10) There are two arguments against the modal separability argument that turn on the claim that it is not appropriate to appeal to modal-dispositional properties to disprove identity claims via the indiscernibility of identicals:

a) Insisting that identity requires indistinguishability by modal-dispositional properties has the effect of collapsing the concept of <u>identity</u> into the much narrower concept of <u>necessary identity</u>, thereby rendering unintelligible *contingent* identities.

b) Modal-dispositional properties are *intensional*, in the sense of being *description-relative*. For this reason, they belong in the same box as properties involving *propositional attitude-ascriptions*, such as *…is believed by Bob to be identical to Tully*. But identity requires only indiscernability by *extensional* properties. According to this argument, insisting that identity requires indistinguishability by modal-dispositional properties has the effect of collapsing the concept of <u>identity</u> into the much narrower concept of <u>*a priori* identity</u>, that is, of identities that can be known *a priori*.

c) There are two concepts of intensionality in play, and failure to distinguish them results in serious philosophical misunderstanding in the area we are concerned with. In one sense—the one at issue in (b)—intensionality is description-relativity, in the sense that the applicability of a concept or property depends not only on the object to which it is applied, but also on how that object is described or presented. In the other sense, a concept is intensional if its applicability does not depend just on the extension of some other properties in *this* world, but also on their extension in *other* worlds.

d) It might seem that the difficulty we are addressing here could be short-circuited by appeal to *extensional* properties. After all, the concept of extensional property at least seems to be clear, however things stand with the contrasting intensional property. But in this context, we cannot appeal to extensionality. For a property is extensional just in case if a=b, then P(a) iff P(b). And we are trying to understand what the identity a=b means, by appeal to the indiscernibility of identicals: the principle, namely, that if there is some *suitable* property P such that P(a) and ~P(b), then that is a *sufficient* condition for a≠b. What we are fighting over is precisely which properties are *suitable* for the invocation of discernibility with respect to those properties being sufficient for non-identity. This is a way of asking which properties are 'extensional' in *that* sense of 'extensional'.

11) First objection to the modal separability argument: It proves too much. If this is a good argument, the only *true* identities are *necessary* identities.

a) The fact that *if things were* different—the statue got mashed—the statue and the lump *would not* have been *identical*, so that it is *possible* for them not to be identical, does *not* show that *as things are* they are not *in fact* identical.

b) I suppose we agree that, at least by now, George W. Bush *is* (=) the President of the U.S.. We could write this as GWB = ιxDx. But GWB *might not* have been the President of the U.S.—a few more votes, or a different counting procedure in 2000, and he would not have been. GWB *would have* survived that counterfactual eventuality (as the lump of clay *would have* survived the statue being mashed). He would still have been GWB. So he has the property: ◊~D(GWB). But ~◊~D(ιxDx). In every possible world, the President of the United States is the President of the United States.

c) More generally, for *any* contingent identity ιxDx=ιyFy, since it *is* contingent ◊[ιxDx ≠ ιyFy]. But it is *not* possible that ιxDx ≠ ιxDx. So ιyFy has a property that ιxDx does *not* have, namely the modal property of possibly not being identical to ιxDx.

12) Reply to first objection to the modal separability argument:

a) If you had the sense that this objection was playing fast and loose with the *de dicto/de re* distinction, you were right.

b) To guard against just this objection, Gibbard adds a step to his argument that I did not go through in my summary: he *names* the statue and the lump. The statue is named 'Goliath', and the lump is named 'Lumpl'. The difference this makes is that, as Kripke argues, proper names are *rigid* designators. They pick out the *same* object (lump or statue) in *all* possible worlds. So we have settled on *them*, that very lump and that very statue, and follow *them* through various

counterfactual vicissitudes. This is very different from looking at whoever, in the counterfactual world being considered, *would* be ιxDx.

c) And now we can say: Lumpl *would*, and Goliath would *not* survive mashing the statue. So Lumpl now has a modal-dispositional property that Goliath does not. So they are not identical.

d) We can get the same effect by using Kaplan's rigidifying 'dthat' operator on our definite descriptions. And we would find that it is *not* necessary that D(dthat(ιxDx)). In this sense the President of the United States need not be or have been the President of the United States. For dthat(the President of the United States) = GWB, and *he* might *not* have been (=) the President of the United States.

13) Second objection to the modal separability argument: modal properties are description-relative (Quine), and hence discernibility with respect to *them* does *not* show non-identity.

a) Suppose that an identity involving two definite descriptions is true: ιxDx = ιyFy, for instance, the inventor of bifocals is (=) the inventor of the lightning-rod. Now Henry Adams knew that Ben Franklin invented bifocals. But he believed that no-one from Philadelphia could have invented the lightning-rod (only someone from Boston could have had the wit) and that B.F. was a Philadelphian. So he believes that Ben Franklin did not invent (but only popularized) the lightning-rod, and hence that the inventor of bifocals did not invent the lightning-rod.

b) But now it seems that by the same sort of application of the indiscernibility of identicals argument that the modal separability argument depends on, we can show that the inventor of bifocals is *not* (≠) the inventor of the lightning rod: ιxDx ≠ ιyFy. For the inventor of bifocals has a property that the inventor of the lightning-rod does not, namely *being believed by Henry Adams to be identical to Ben Franklin* (or, for that matter, *being a Philadelphian*).

c) Where the previous objection complained that the modal separability argument confused *identity* with the much stronger relation of *necessary identity*, this objection complains that an argument of the same form confuses *identity* with something like *identity known a priori*. For *whenever* ιxDx = ιyFy is true, but not known to be true by *everyone*, there will be some S s.t. S believes (ιxDx = ιxDx) and ~(S believes (ιyFy = ιxDx)), and so a property: S believes (….= ιxDx) that ιxDx has and ιyFy lacks.

d) Furthermore, this phenomenon is *not* a consequence of our having picked *descriptions*, which are *not modally rigid*, to run the argument on. For in just the same way, as long as we can find someone who does not know that Cicero = Tully, or that Bob Dylan = Bob Zimmerman, we can form propositional-attitude-ascriptional property that distinguishes the two.

e) What has gone wrong here is that properties like this are *description*- or *specification*-relative. Henry Adams believes *of* B.F. (or, we could say, since *this* position *is* extensional and B.F. *is*, in fact, the inventor of the lightning-rod, *of* the inventor of the lightning-rod) *as* the inventor of bifocals that he is not identical to the inventor of the lightning-rod. These propositional-attitude-ascriptional properties depend not just one what we are thinking *about*, but also *how* we are

thinking about it, how we are picking it out. And since there can be different ways of picking out or thinking about one object that we don't *know* are ways of picking out or thinking about the same object, *these* 'properties' will individuate things not just by *their* identity conditions, but *also* by the identity conditions of the *modes of presentation*, description, specification, or way of thinking about or picking them out. What distinguishability by *such* properties (the ones that are intensional in the sense of being relative to a mode of presentation) shows is *not* that the object thought about or picked out in *one* way fails to be identical with the object thought about or picked out in *another* way, but just that the ways of picking out or thinking about the object are not identical.

f) This much is not controversial in the current context—though it is exceptionally difficult to find a way of describing this phenomenon that is not fraught with extraneous and possibly fallacious collateral commitments. What *is* at least potentially controversial is whether these *same* considerations rule out *modal-dispositional* properties from being invoked in using the indiscernibility of identicals to argue that two *objects*—rather than just two *modes of presentation*—are not identical. This is the question of whether such modal properties are *intensional* in the specific sense of being *description*- or *specification*-relative. They are, of course, intensional in the sense that their extension varies from possible world to possible world (the possibility that distinguishes *intensional logic* and *semantics* from *extensional* logic and semantics). But we ought not to assume that intensionality in the one sense entails intensionality in the other.

g) Quine claims that modal properties *are* intensional in the sense of being relative to mode of presentation, and that *therefore*, like properties involving ascriptions of propositional attitude, should *not* be used to individuate objects (as opposed to objects-under-a-description).

h) His famous example [I forget exactly which essay in *From a Logical Point of View* it is from]—adapted slightly (because of the worry that the underlying sortal might be 'person', and include a rationality consequence)—is this. Quine has a friend N.N., who is both a mathematician and a bicyclist. Now mathematicians are necessarily *numerate* (as literary critics are necessarily literate). So *qua* mathematician, N.N. is necessarily numerate. But bicyclists are *not* necessarily numerate. Some of them can't count beyond 10 without taking off their shoes. (And try *that* on a bike!) But bicyclists *are* necessarily *bipedal*. (Even unicyclists are.) So *qua* bicyclist, N.N. is necessarily bipedal. But what about N.N. himself, just as the *person* he is? Quine says *he* is not necessarily either numerate or bipedal. It is only him *as described as a mathematician* or *as described as a bicyclist*, who, *relative to those descriptions*, i.e. *given that he falls under those descriptions*, has the property of being necessarily numerate or necessarily bipedal.

i) Quine's conclusion is that while N.N. *no matter how he is described*, either has or lacks his *non-modal* properties—for instance, being a mathematician or a bicyclist—his *modal* properties, being *necessarily* numerate or bipedal, he has only in a *description-relative* way. Just as with the properties that involve ascriptions of propositional attitude, they are really properties of him *plus some way of thinking about him or picking him out*. And for just that reason, they

should *not* be used, via the principle of the indiscernibility of identicals, to individuate *objects*. Otherwise we could prove that the mathematician N.N ≠ the bicyclist N.N., since the first has a property the second lacks, namely being necessarily numerate.

j) In the present context, then (though this is *not* what Quine was concerned to argue), the conclusion would be that just as it would be disastrous and wrong to individuate objects by properties they are *believed* to have (by an "intentional separability argument"), so it would be disastrous and wrong to individuate them by properties they *possibly* or *necessarily* have (by a *modal* separability argument).

14) Reply to second objection to the modal separability argument:

a) What is true is that
   i. □∀x[Math(x)→Numerate(x)] and
   ii. □∀x[Bicyclist(x)→Bipedal(x)].
   Quine adds the premises:
   iv. Math(N.N.), and
   v. Bicyclist(N.N.)
   And concludes from (i) and (iv):
   vi. □Numerate(N.N.)
   And from (ii) and (v):
   vii. □Bipedal(N.N.).

b) So he can say that it is only *qua* mathematician, i.e. because and insofar as the description Math(N.N.) is true that the modal description □Numerate(N.N.) is true, and similarly for Bicyclist(N.N.) and the modal description □Bipedal(N.N.).

c) But this line of argument depends on a *modal fallacy*—indeed, the most notorious modal howler of them all. (Though strangely, so far as I am aware, it does not have a popular or catchy name, in the way that "affirming the consequent" does in the non-modal case. For my own purposes, I call it "mis-distribution", or, less formally "dropping the box.") For it is of the form: □(p→q), p ∴□q. But in fact, □(p→q) only entails □p→□q. (That this consequence holds is the axiom M, which is part of all monotonic modal logics, and hence all the classical modal logics.) Drawing the conclusion □q requires the premise □p, not just p. ("Dropping the box" because the fallacy consists in going from □(p→q) to p→□q instead of □p→□q.)

d) So what Quine would need for the consequence that N.N. was necessarily numerate is not the premise that he *is in fact* a mathematician, but rather that he is *necessarily* a mathematician. This, of course, is not true. For N.N. might have gone into a different line of work, or have been strangled at birth. And IEDs have taught us that *no-one* is necessarily bipedal. N.N. would be necessarily numerate only *qua* (in Quine's sense) *necessarily* a mathematician.

e) So Quine's conclusion about necessary properties characterizing a thing only under some descriptions follows only on a defective modal logic. N.N. is a *person*, or perhaps a *human being*. That is the sortal associated with the name when it was attached to him *as* a name. To find out what is necessarily true *of him*, the object named by N.N. (who might, of course, have had a *different* name,

it is *not* an essential feature of *him*, the person it is contingently a name *of*) we need to perform modal separability experiments. If *person* and *human being* can come apart, since, for instance, human beings are identified and individuated in the way all other mammals are (e.g. by Kripke's "essentiality of origin": it is *not* possible for N.N., that very human being, to have had different parents), but persons are individuated by intentional states or normative statuses, then we would first have to settle which sort of object 'N.N.' is being thought of as a name *of*. But the lesson of our meditations on relative identity is that there would *not* be some *one* thing, N.N., whom we could identify and individuate now as a human being and again, differently, as a person. Insofar as there is not a fact of the matter as to which individuating sortal *is* associated with N.N., it is a *schematic* sortal, which can be made *less schematic* in more than one way. But that is *not* "relative identity."

15) Consequences of the Modal Separability Argument:
   a) For relative identity theories;
   b) For trans-sortal identifications generally;
   c) For identification of objects with their material constituents;
   d) For "world of objects" vs. "world of facts".

16) Relative Identity Revisited:
   a) The relative identity theory depends on the claim that *the very same object*, *one and the same thing*, can be considered now as identical to a *person* and again as identical to a *passenger*. Without saying what sortal *it* is being thought of as falling under, *qua what* it is being assessed, there is no answer to the question of what it is identical to. Quine's slogan "No entity without identity," expresses the insight the relative identity theoriest want to exploit. But in fact it shows that the view they end up with is incoherent.
   b) But we are now in a position to see that the idea of such an indeterminate thing, whose identity conditions are description-, specification-, or sortal-relative, is a chimera.
   c) The modal separability argument shows, what we could in any case have figured out, that passengers are not persons, not a special kind of persons.
   d) If that is right, then what *is* the sortal under which we pick out the *thing* that is, under one sortal identical with a passenger, and under another identical with a person?
   e) The use of the *purely schematic* sortal 'thing' here (we could have used 'object', or 'particular', and so on) shows that there is no such *thing*. It would be a *bare* particular, a hypokeimenon.
   f) Of course, the relative identity theorist denies that he is committed to making sense of this idea. The view is that identity claims are intelligible *only when relativized* to a sortal.
   g) But what we can now see is that any term we could licitly put on one side of an identity, any genuine singular term, must already come with an associated sortal. Otherwise it does not qualify semantically as a term. The true identities *it* stands in do not require any relativization. For anything else we put on the other side of the identity, the result is either true or not. And it *can* only be true if the sortal

that governs the other term stands in a very special subsumptive relation to the sortal associated with the original term.

h) The challenge, then, is to say what that very special sortal-subsumption relation is. For characterizing that relation will tell us what class of trans-sortal identities are not shown in advance to be false by the modal separability argument.

17) Trans-sortal identifications:

a) The *only* sort of trans-sortal identifications that seem to be immune to being shown false, via the indiscernibility of identicals, by the modal separation argument, are ones involving subsuming sortals that are *not* like person/passenger or sur-person/person, but like mammal/cat or person/woman.

b) For this special class, not only does a being the same cat as b mean that a is the same mammal as b, but also that if a is the same mammal as b, and a is a cat, then a is the same cat as b.

c) Q: How do these sortal subsumptions differ from the person/passenger cases?

d) A: In the person/passenger type case, what is subsumed is the CofI&I. One sortal individuates in a strictly finer way. In the mammal/cat case, *the CofI&I are exactly the same for the two sortals*. The subsumption occurs in the CofApp. Among things individuated in the same way, only some of the ones to which 'mammal' is appropriately applied are ones to which 'cat' is also appropriately applied.

e) Apparently, then, it is the difference between these two sorts of sortal-subsumption that makes the difference as to the applicability of the modal separability argument. *Only* sortals whose criteria of identity and individuation completely coincide will support trans-sortal identities that are not shown to be false by the modal separability argument.

f) This fact is why relative identity theories fail. Every term picks out an object (anything, any*thing*) *only* if it is associated with an individuating sortal. And it is associated with a *unique* sortal, since if the individuating CofI&I of *two* sortals associated with *it* are *at all different*, the modal separability argument will show that the objects that fall under those sortals *cannot* be identical. So *it* can*not* fall under *two* sortals with different CofI&I. When something *does* fall under two sortals, they are always both stand in a subsumptive relation *and* the subsumption concerns exclusively the circumstances and consequences of *application*, *not* the *common* criteria of identity and individuation that articulate the semantic content of that sortal.

g) Diagnosis: Relative identity theories correctly recognize that the truth of identity claims involving a term depend on the criteria of identity and individuation associated with it, and not just on the criteria of application. They see that terms can have criteria of application that stand in subsumptive relations ('passenger'/'person', 'sur-person'/'person'), and have *different* CofI&I. But they mistakenly act as though the criteria of application by themselves can pick out a *thing*, which then is associated with *different* criteria of identity and individuation. One factor that contributes to making this move look OK is using an unsortalized 'this'. "Is *this* identical to *that*?" one asks. And it can look as though the 'this' is picking out something, and that something can be *either* a passenger or a person. But in fact, though the expression may be ambiguous, it is elliptical *either* for

"this person" or "this passenger." It does *not* pick out something that might be either a person or a passenger; it either picks out a person or a passenger. The proper response is to realize that no *term* has been introduced, no *thing* picked out, until one has *both* criteria of application *and* criteria of identity-and-individuation. The point is that the sortal *already* attaches to the terms that are involved in the identity. It is a mistake to associate it instead with the identity relation itself.

18) On this understanding, the modal separability argument *does* show that material constitution is not identity.
   a) Material constitution is just *one* way in which an object of one kind can be intimately associated with an object of another kind.
   b) Being the *material realizer* of a *functional* kind is another—the way this piece of machinery can be what *plays the role* of this particular valve in my car's engine.
   c) And *being a time-slice of* and *being an equivalence class of* are further such relations, as the person/passenger and sur-person/person cases show.
   d) It seems, then, that a good deal of contemporary analytic metaphysics is put into question by the modal separability argument.

19) It follows from these considerations that Putnam is seriously confused in thinking that he can endorse the Kripke-Gibbard modal separability argument, in order (properly) to argue that material constitution is not identity, and then turn around and *also* endorse sortal-relative identity idioms. For when it is thought through, the modal separability argument is seen to rule out the basic claim of relative identity theories: the claim that something, *one and the same* thing, *this very* thing, can intelligibly count as identical to that other thing under one sortal, but distinct from it under another. *That* thing, whatever it is, is a K, for some one determinate sortal K. And it is not identical with anything that does not have the same criteria of identity and individuation as K's (though it may have different circumstances and consequences of application from K's).

20) Since the modal separability argument shows that even *subsumptive* trans-sortal identity claims will *all* be *false* except in the very special case where the CofI&I of the two sortals are identical and the subsumption concerns *only* the CofApp, follows *a fortiori* that *non-subsumptive* trans-sortal identities—where the criteria of identity and individuation are not only different, but do not stand in a subsumptive relation to one another—are one and all false.
   a) In particular, Davidson's anomalous monism is shown to be false by the modal separability argument.

21) There might be a worry from a different direction than those already considered, to the effect that this way of exploiting the argument from modal separability cannot be right because it would prove too much. For don't we know of some non-subsumptive trans-sortal identity claims that are *true*? What about the paradigms that led philosophers to reductionism and token-token identity theories in the first place? Don't we know that water = H_2O, and that lightning = atmospheric electrical discharge?

a) One thing to observe is that these are supposed to be *necessary* identities. Though the *term* 'water' might, of course, have been used differently, and might be used differently in other possible worlds—for instance, to refer to XYZ—the worlds that don't have H_2O in them don't have *water* in them either, and for just that reason. And that is to say that 'water' and 'H_2O' are *not* modally separable, as Goliath and Lumpl are. They have exactly the *same* criteria both of application and of identity and individuation. (Well, these are mass nouns, so they will need auxiliary sortals to individuate, but every bucket of water is a bucket of H_2O, and *vice versa*.) Although the objection fails for that reason (the necessity of the identities involved), there are other important issues in the vicinity.
b) It might be thought that *water* is actually picked out as *whatever stuff causes* certain effects. [I think we should reject the idea that those effects must be specified in *phenomenal* terms, as certain *experiences*. But that reservation is not crucial for the current point.] 'Stuff' is a schematic mass noun—in that regard, analogous to 'object'. It is really place-holding for something less schematic. One way to see that is that it doesn't really have a corresponding auxiliary sortal: 'piece' or 'chunk' of stuff commits us to its being *solid* stuff, 'cup' or 'bucket' to its being liquid (and it is even worse in Japanese). We don't seem to have a suitably schematic auxiliary sortal.
c) But perhaps more important is the possibility that 'cause' is itself a very schematic sortal. Davidson, like many others, is committed to all causes having CofI&I expressible in purely *physical* vocabulary. And while that is right for *some* causes, others—as the fans of "agent causation" remind us—are individuated the way persons, or intentional states are. And it is the whole gravamen of our discussion thus far that *nothing* can be individuated *both* ways.
d) If 'cause' is a schematic sortal, then mistakes will ensue if its grammatical status *as* a sortal is treated as licensing the assumption that there are genuine, determinate criteria of identity and individuation associated with it. One way to do that would be to assume that questions such as whether this K is (=, is identical to) 'the' cause of phenomenon P *come* with a definite sense, rather than having to be *given* such a sense (by replacing the schematic sortal by a less schematic, genuinely individuating one).

22) <u>Model theory in terms of domains vs. modal theory in terms of possible worlds</u>:
a) The domains of the relational structures that we deal with in model theory consist, we are told, of *objects*. They are distinct from one another, and re-identifiable, but nothing is said about what sortals provide the criteria of identity and individuation. They are distinguished independently of and in advance of the definition of any *properties* of or *relations* between them. (The properties and relations are represented by sets and sets of tuples of those domain objects.) Domain elements can be *counted*, and there are facts about whether we have picked out two different ones or the same one twice. Yet, as we have seen, 'object' is a purely schematic sortal, which provides no CofI&I capable of underwriting all these claims. And 'element', even 'domain element' is no better, except insofar as it picks things out as members of a certain set. But the members of a set must be identified and individuated prior to defining the set, and the question we want to think about is how that is supposed to have been done in the

case of the members of the set that is the domain of a model-theoretic relational structure. (Recall the earlier observation that even *numbers* are not bare particulars that are "merely numerically distinct." Numbers of all sorts have CofI&I defined in terms of their order properties and relations to one another.)

b) The only way this can work, as far as I can see, is that it is implicitly assumed that in the metalanguage in which we specify the models, we have at our disposal genuine, non-schematic, sortals sufficient to identify and individuate the members of the sets that are our domains, and hence the elements of those domains. The point then is that for the purposes of the work we will do with the resulting relational structures in our model theory, it doesn't matter at all *what* those sortals are. Since it does not, we can just talk about the elements as *objects*, i.e. as *merely* identified and individuated.

c) So there is a sense in which model theory can do without sortals, and a sense in which it cannot. The sense in which it cannot—that the metalanguage in which we specify the models must deploy genuinely individuating sortals—is philosophically important in various contexts. It means, for instance, that we cannot think of the semantics of *all* of our languages in purely model-theoretic terms. For model-theoretic semantics is *parasitic on* languages with individuating sortals, which can accordingly serve as metalanguages for specifying domains and relational structures. Of course, once the enterprise is off the ground, there is nothing to stop us from giving a model-theoretic account of sortals and sortal predicates. But that possibility arises only downstream from the specification of models in the first place.

d) The sortals that get the model-theoretic enterprise off the ground to begin with remain implicit, offstage, functioning as ladders we can throw away after we have climbed up with them. By contrast, in the case of possible worlds we should keep in mind Kripke's point that possible worlds should not be thought of as things we look on as through a funny kind of telescope, unsure how to identify what we find there. Rather, we *say* what possible world we are talking about. Saying what objects are in it requires using genuine, non-schematic, individuating sortals, or expressions (such as proper names) that have such sortals associated with them. I *stipulate* that the world I am talking about is one which *Ben Franklin* did not invent bifocals. And in saying that it is *Ben Franklin* I am talking about, I commit myself (whether or not I fully understand the content of that commitment) to the criteria of identity and individuation that go with *that* person. In this setting the sortals are front-and-center, explicit and on-stage, not implicitly presupposed as part of the antecedent activity of setting the stage.

e) In fact there is an issue here of some significance. Am I a person, or a human being? I'm thinking of "human being" as picking out a *biological* kind: *homo sapiens sapiens*, a special sort of mammal. The modal separability argument says that if there are any *possible* circumstances under which the human being would be destroyed and the person survive, or *vice versa*, then it is *never* true that any person is *identical* to a human being. I don't know whether there are such circumstances. Is a human being who has lost her mind still a human being? Is it in principle possible to transplant a human brain—which is *surely*, by the modal separability argument, not *identical* either to a person or to a human being—into

another body so that while the original human being is destroyed, the person survives? But if the two categories *can* come apart under *any* circumstances, then the modal separability argument tells us that *no* person is *ever identical* to *any* human being. It would follow that we are not human beings. For I take it that we *are* persons: normative subjects of knowledge, and intentional agents. *That* is what each of us refers to by 'I'. And it would follow that *we* are *not* rational animals. For, though we (persons) are rational, we are *not* animals—not mammals, not even biological creatures, in the sense that we are not *identical* to anything of any one of those kinds. Of course, each person is *intimately associated with* a human being, in a relation that bears similarities to, but also differences from, material constitution and functional realization. This is not the way we usually talk about ourselves, and clearly puts significant constraints on debates about personal identity. But that is just to say that the modal separability argument has radical consequences.

23) <u>World of facts vs. World of objects</u>:

a) If there really is "no entity without identity," then a world of *objects* must come with *sortals* specifying their CofI&I. So they cannot be *bare* objects, as in model theory—*merely* distinct. (Note that even *numbers* are not "merely numerically distinct." They *always* come with *order* properties and relations.)

b) And the CofI&I are specified in terms of various *adjectival predicates/properties*. So *because* they are sortalized, the objects will also come with at least *some* properties (descriptions true of them).

c) This is all moving them in the direction of *facts*. That is, the notion of a world *merely* of objects is incoherent.

d) *Stipulating* a world of *basic objects* (say—madeup philosophers' physics alert—particles-and-fields) and mereological sums of them, as *all* the objects in a world—i.e. stipulating that *every* object in the world is *identical* to one of *these* objects—is, whether one knows it or not, stipulating that there are *not* certain kinds of objects in the world: biological objects, or intentional-hermeneutic ones. (At least, this is true *if* the argument from modal separability for distinguishing <u>identity</u> from <u>constitution</u> holds up.)

e) The same question will come for any world-of-objects fan (a view that Kotarbinski called 'reism': that all there is, ontologically, is things of the category of *thing*, res) that comes up for model theorists: How are the ^{s}objects^{s} identified and individuated? *Some* sortal must be being applied, at least implicitly, *by us* when *we* talk *about* this world of objects. For there is no entity without identity, and identity is intelligible only in the context of determinate individuating sortals. And 'object' is not such a sortal, being purely schematic. It seems that we need at least some properties and relations of those objects, for the criteria of identity and individuation to appeal to. And that means that there *will* be facts *about* those objects, as well as the objects themselves.

f) Indeed, it seems that the necessity to individuate the objects by specifying associated individuating sortals provides an *argument* for the *priority* of the world as everything that is the case over the world as a collection of objects.