

Toward an Understanding of De Dicto Subjunctive Necessity

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Draft of 1 November, 2011.

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This is an early draft, and many of my current formulations are probably inadequate.

This paper is written for a fairly specialized audience. I intend to give a more thorough and accessible treatment of these ideas in a projected book. Its working title is *Necessity and Conceptual Systems*.

The overall aim is to draw connections between modal concepts and broadly semantic concepts (the latter including the notion of a conceptual system). The basic idea is that necessarily true propositions are in some sense invariant through all configurations of the systems they belong to. (This is squared with the view that not all necessary truths can be known *a priori* by means of the notion of an *empirically defeasible concept-formation*.)

1. Introduction

I will outline an account of *de dicto* subjunctive (or metaphysical) modality. I will formulate the account in terms of the conditions under which a proposition P is necessarily true, but it should also be taken to apply to propositions like 'It could have been the case that ...', 'Necessarily, ...', where the modal terms are taken to express subjunctive or metaphysical modality. In Quinean terms: my account is supposed to apply at the first and second grades of modal involvement: predicates and sentence-level operators. Toward the end of the paper I make some tentative remarks about extending the account to *de re* modality - the third grade of modal involvement. This raises thorny issues which I am trying to remain open-minded about.

Regarding my use of the term 'proposition': I don't have any highly theoretical conception of propositions, but use 'proposition' to mean *something like* 'declarative sentence in use'. (My use of this term is roughly that used in English translations of Wittgenstein's post-*Tractatus* work, and can be seen as a liberalization of the Tractarian conception of a proposition as a propositional-sign in a projective relation to the world.)

What I will say should carry over readily to a conception of propositions as more abstract things - i.e. not signs, but their meanings. In that case, 'proposition' would mean something like what I mean by 'the sense of a proposition', or 'the intension of a proposition' - more neutrally, 'the intension of a sentence'.

One conception of propositions which will *not* fit easily with what I will say is the Russellian conception of propositions, on which 'Socrates is mortal' (insofar as this is really a subject-predicate proposition) *contains* Socrates himself, and not any concept or sense

corresponding to the name.

I am willing to shift between different modes of individuating "semantic content" (in some neutral sense): according to intension alone (on which 'Water is drinkable' = The Twin Earth proposition 'Water is drinkable'), extension alone (on which 'Hesperus is a planet' = 'Phosphorus is a planet'), both intension and extension (on which the previous two identities fail), as well as finer differences within these categories.

2. Preliminaries on Concepts and Language

2.1. Individual concepts

2.1.1. The basic idea

We have concepts of particular objects. The recognition of this piece of common sense enables us to solve a cardinal problem in the philosophy of language. Millianism, the view that the semantic content of a proper name is simply its referent, is apparently refuted by Frege's Puzzle (cf. Frege 1952). The major alternative, descriptivism - which comes in several varieties - is apparently refuted by Kripke's famous arguments (cf. Kripke 1980). The natural view that names are associated with individual concepts allows us to give a remarkably simple solution to Frege's Puzzle which is in line with Kripke's arguments against descriptivism, as well as his rigid designation thesis.

In brief, the solution of Frege's Puzzle is that 'Hesperus' and 'Phosphorus' are associated with different individual concepts, hence 'Hesperus is Phosphorus' differs semantically and cognitively from 'Hesperus is Hesperus'. Individual concepts are not descriptions, nor clusters thereof, hence the view is compatible with anti-descriptivism. Furthermore, it is not only compatible with Kripke's rigid designation thesis, but predicts it: if names are associated with individual concepts - concepts of particular objects - then it is immediate that they will designate the same object in all possible worlds where that object exists; designating *another* object is out of the question, since we are holding fixed the meaning of the proper name - the associated individual concept, which is a concept of a particular individual.

That's the basic idea. Now I will attempt to refine it and state it more clearly.

2.1.2. Individual concepts compared to Fregean senses

By saying that individual names are tied to, or associated with, individual concepts, I don't, of course, mean that names refer to concepts. Compare Frege's view that names have senses. For Frege, names are associated with, or tied to, senses. One can simply say that they *have* senses, too. (That construction doesn't work with the phrase 'individual concept'.)

My view is in many ways similar to this view of Frege's, and is motivated by some of the same considerations. The key differences are:

(i) I do not hold that the sense or meaning of a name can be given in the form of a definite description (or a cluster of descriptions, or any construction out of other concepts).¹

(ii) I do not hold that sense (e.g. individual concept) determines reference. In fact, I hold that it often does not. (This is what I mean by 'semantic externalism'. More on this to come.)

Further, I want to avoid being dogmatic about "the semantic values" of proper names. The notion of semantic content is a highly abstract notion which can play different roles in different sorts of account. I do not want to say that *the* semantic value' of a proper name is an individual concept (or anything else). Similarly, the sort of anti-Millianism I endorse is only *crudely* expressed by denying that "the semantic value" of a proper name is its referent.

One can have one sort of theory on which the semantic value of a proper name is just its referent, but this theory, at least unembellished, would have various limitations *qua* certain aims. And so one might also have other kinds of theories on which names are assigned concepts, or pairs of concepts and objects, or yet other things.

2.1.3. A question about the solution of Frege's Puzzle²

'In virtue of what is the cognitive significance of our 'Hesperus' concept distinct from that of our 'Phosphorus' concept? The Fregean picture offers a nice explanation of this, in terms of the associated descriptions. What's the explanation on your account?'

As I see it, Frege's story isn't first and foremost a way of answering *that* question, but rather this one: In virtue of what do 'Hesperus is Hesperus' and 'Hesperus is Phosphorus' differ in cognitive significance?

To this question, Frege and I both have basic answers, and they are quite parallel. Frege says that these propositions differ in cognitive significance in virtue of the second one containing a different name 'Phosphorus' which has a different sense from 'Hesperus'. I say the same thing, with 'is associated with a different individual concept' in place of 'has a different sense'.

In both cases, the difference of significance at the propositional level is made by one at the level of names. And here, too, Frege and I are quite parallel. 'Hesperus' and 'Phosphorus' differ in cognitive significance in virtue of having different senses, and in virtue of being associated with different individual concepts, respectively.

However, because Frege holds that senses are associated with, or given by, definite descriptions, he gets a further level of difference-making, and thus gets to say things to which nothing in my account corresponds.

¹ Frege is at least commonly read, most notably by Kripke, as holding that senses can be given by definite descriptions. While some things Frege says definitely commit him to something like this, he expressed different views at different times, and insofar as he has an ultimate considered view on this matter, it may not involve this doctrine.

² Thanks to Richard Yettier Chappell for this question.

Frege uses senses as difference-makers, I use individual concepts. But Frege can also give difference-makers for his difference-makers. He can say something like: the sense of 'Hesperus' differs in cognitive significance from that of 'Phosphorus' in virtue of their being associated with different descriptions. But why do the descriptions have differing cognitive significance? There may be an answer in terms of further difference-makers for that question too, but at some point one has to stop cashing out the difference in terms of further entities which themselves have cognitive significance. On my account as it stands, we reach that point with individual concepts - and I say that's OK, because we're going to reach it pretty soon no matter what.

So, to this question about what makes the cognitive difference between the concept of Hesperus and the concept of Phosphorus, I don't think I can, or need to, say much. These concepts are different concepts, and so they differ in cognitive significance. (I think I'd say that it's of the nature of concepts that when you have two different ones, they differ in cognitive significance.)

2.2. Semantic externalism

2.2.1. Three kinds clarified, one particularly relevant

Putnam's catchphrase 'Meanings ain't in the head', and the associated label 'semantic externalism', are not without ambiguity, as many authors have pointed out. My aim here is *not* to separate and discuss everything which 'semantic externalism' could reasonably mean, or even everything it has meant to philosophers, but rather to identify three different true and insightful things it can mean.

We can look at language and thought on three levels:

1. Local marks and noises, local neural and sensory events.
2. Sense; game and moves; conceptual system and configuration; intension; internal content.³
3. Reference; extension; external content in abstraction from internal.

The three semantic externalisms which I want to identify and separate can all be seen as underdetermination theses. They are:

Wittgenstein externalism: 1 doesn't determine 2 (i.e. local happenings don't determine intension).

Intension-based Putnam externalism: 2 doesn't determine 3 (i.e. intension doesn't determine extension).

Happenings-based Putnam externalism: 1 doesn't determine 3 (i.e. local happenings don't

³ Note that the expression 'internal content' is not supposed to express the problematic notion of narrow content, but rather something like intension or conceptual content. *Narrow* content is often thought of as a kind of minimal intension, sense or internal content which *is* determined by happenings inside an agent's brain or body. That problematic notion isn't being discussed here.

determine extension).

I won't keep using those names, which are admittedly pretty bad; suffice to say it is the *second* form of externalism which is most important for our purposes. Other ways to put the second claim which for me are roughly equivalent: sense doesn't determine reference, concept doesn't determine object.

Note that the first two externalisms don't imply the third - while the relation of determining is presumably transitive, the relation of not determining isn't. Note also that 'determine' here means 'always determine' or 'generally determine' - determination in some cases is not being ruled out.

2.2.2. On the compatibility of semantic externalism with rigid designation

It may look as though there is a tension between the externalist claim that the extension of an individual concept is not in general determined by the concept itself, and the claim that names rigidly designate: if names are tied to individual concepts, and individual concepts do not in general determine their extension, it looks like a given individual concept can have different extensions in different environments, and thus, in some sense, in different possible worlds. This is so (when we individuate concepts internally) but there is no real tension here: the rigidity applies to names in use - names tied to individual concepts embedded in an environment. Individual concepts are not like general concepts: the whole point of them is to apply to one particular object. And so the contrast between names and (some) definite descriptions remains: when we consider counterfactual scenarios and hold the meaning of our terms fixed, our names which are tied to individual concepts always refer to 'the same object' (insofar as they refer to anything in those scenarios).

This is all perfectly compatible with the fact that the same concept, in a different environment, might be connected up to a different object. The extension of our individual concepts may in some cases even change over time: if an object we know is replaced with a substitute, and we don't notice, after a while it will become true to say that our individual concept has changed its extension. But we don't let the extension change "across possible worlds", i.e. when representing counterfactual scenarios using a particular individual concept in a particular environment.

(We may thus distinguish rigid designators such as ordinary proper names, which designate rigidly because they are directly associated with individual concepts, from other rigid designators such as definite descriptions in mathematics.)

2.2.3. Internal, external and hybrid views not mutually exclusive

There is a curious tendency for philosophical thinking about the determination of reference or extension to go to extremes. The area can look like this: one camp believes that reference is determined by intension (sense, concept, etc.), another believes that reference is determined by external factors (causal relations, etc.), while another camp believes that reference is determined by a hybrid of these factors.

On this picture, I would fall into the last camp, but I think it involves a false alternative. For a start: nothing in my conception of concepts and conceptual system prevents my accepting that these things are in some sense determined by physical happenings, causal relations, etc. Thus, I can in a sense accept that reference is determined by such things. (Here, in contrast to the discussion of different forms of externalism, 'happenings' includes a wide sweep of facts - not just stuff local to, e.g., an agent's skull.)

However, a need to get at the common factor shared by (for example) the Twin Earth proposition 'There is water here' and ours makes it very helpful to have some notion of concepts, senses, intensions etc. such that they do not determine reference all by themselves. (One might picture a concept in a system as having feelers: a particular set of feelers only detects certain sorts of things, by construction (the internal factor), but what they detect depends on where you extend them (the external factor). Similarly, one might see language as casting nets: a given net only catches certain sorts of things, but *where* it is cast also matters.)

This sort of conception does not prevent me from also adopting a "fully externalist" view of the situation, not using any notion of concepts, senses etc. Nor does it prevent me from having a "fully internalist" notion of object-involving senses, concepts which determine their extension; that is, concepts which are individuated such that being the same concept requires having the same extension, etc.

3. Necessity as involving conceptual invariance

3.1. The idea

In the Golden Age of analytic philosophy, necessarily true propositions were widely taken to be those which are satisfied by (or 'come out true' on) all configurations of some conceptual or linguistic system. Possibility was understood in terms of satisfaction by at least one configuration. Our conceptual system, our means of understanding the world, is here thought of as something like a model, or a machine, which has moving parts, and which can be put into various positions or configurations. Each configuration can be thought of as corresponding to, or satisfying, or even *being*, a set of propositions. (I have taken many liberties in the formulation of this description.)

Conceptual or linguistic systems of the kind in question were thought to be describable with "semantical rules" for a language, and necessary propositions were thus commonly taken to be *a priori* and true "in virtue of the meaning" of the terms involved (cf. Carnap's *Meaning and Necessity*, Ayer's *Language, Truth and Logic*). This yields a notion of necessity reminiscent of the notion of truth-functional tautologousness. (Earlier, in the *Tractatus* - which was a major inspiration to both Ayer and Carnap - this relationship is much closer than mere reminiscence.)

This sort of view was attacked by Quine in at least two ways (cf. his 'Truth by Convention', 'Two Dogmas of Empiricism'). Quine's undifferentiated picture of language had a sobering or worrying effect, but it did not stop people carrying on with some version of the view in

question. This is connected with the fact that it amounted to a kind of quietism or abstinence with respect to the relevant sorts of notions (semantic, modal), rather than a sustained attempt to attain positive insight about them.

The decisive blow to the Golden Age view of modality came from Kripke. His fundamental contribution was to persuasively argue that the *a priori* does not coincide with the (metaphysically) necessary, and relatedly, that epistemic modality ("what could be the case") is to be distinguished from subjunctive modality ("what could have been the case" in a certain unrestricted sense). (This contribution was closely bound up with Kripke's ideas concerning naming and reference, as should become clearer in a moment.) The recognition of the necessary *a posteriori* in particular, and the associated idea that conceivability doesn't entail possibility, has led to a reaction against views of modality of the Golden Age sort.

My approach to modality retains the view that necessity - subjunctive or metaphysical necessity - can be fruitfully understood in terms of invariance through all configurations of a conceptual system, all 'state-descriptions', or something of the kind. But it also takes Kripke's separation of the *a priori* and the metaphysically necessary fully to heart.

Broadly speaking, I manage this by doing two things. Firstly, I work with a much more fine-grained notion of 'conceptual system' than did the logical empiricists, taking individual concepts as basic items in a system. (The sense of 'fine-grained' here should become clearer in a moment.) Secondly, I embrace a particular form of semantic externalism, as explained above.

To give a crude, preliminary illustration of how this works with respect to a classic example of the necessary *a posteriori*, 'Hesperus is Phosphorus': once we recognize individual concepts, we can say that when someone accepts that Hesperus is Phosphorus (having previously taken them to be distinct), there is a change in their conceptual system - *in the relevant fine-grained sense*. That is, a change in the system itself, not merely a change of configuration. Of course, in a more coarse-grained (and more ordinary) sense, we can say that they have before and after the same conceptual system.

In this example, the fine-grained change consists in the connection or bringing-together of two individual concepts. Where before there are two separate concepts, a 'Hesperus' and a 'Phosphorus' concept,

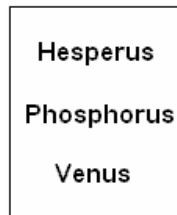


we may now regard them as connected:

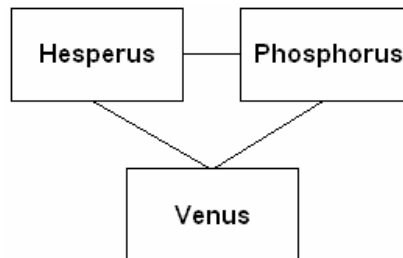


This 'connection or bringing-together' can be thought of in various other ways, of course.

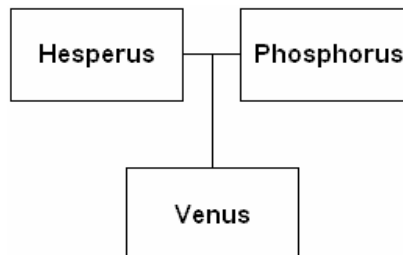
We might think of the two concepts as being merged, perhaps also adding a new name:



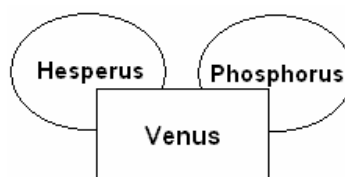
(The bringing in of a new name is a further, optional addition, of course. In the case of Lois Lane learning that Clark Kent is Superman, for example, this would seem less natural or called-for.) This form of representation, in which structure "gets lost" upon acceptance of identity, might make mind-changing harder to account for. We may also bring in a third concept - the concept of the object which is both Hesperus and Phosphorus, and regard all three as connected:



Or we may wish to capture the fact that this new, third concept is founded on the connection between the 'Hesperus' and 'Phosphorus' concepts, as follows:



Or, we may regard the 'Hesperus' and 'Phosphorus' concepts as no longer being full-blown individual concepts in their own right, but "aspect concepts" - concepts of aspects of objects - united under a "master concept".



(Aspect concepts may be regarded as detachable and transformable into individual concepts.) So we have seen at least five options: the simple connection, the merger, the triangle, the T-bar and the Mickey Mouse. For our purposes, it will be convenient to take the simple connection option. (There should be no in-principle difficulty in extending what is said to the other conceptions.)

Sticking to the simple connection representation: in the former conceptual system (the "Babylonian system"), where the 'Hesperus' concept is separated from the 'Phosphorus' concept, the distinctness of Hesperus and Phosphorus is invariant through all configurations of the system. Or better: no configuration of this system depicts Hesperus as being identical with Phosphorus.

We can try to put the point more linguistically, by saying that 'Hesperus is distinct from Phosphorus' is satisfied by all configurations of this system, and that 'Hesperus is Phosphorus' is satisfied by none.

Hence, if one positively believes that Hesperus and Phosphorus are distinct, one could say that, although it might conceivably turn out that Hesperus is Phosphorus after all, given that it isn't, Hesperus *could not have been* Phosphorus.

In the latter conceptual system - our system - where the 'Hesperus' and 'Phosphorus' concepts are connected, the identity of Hesperus and Phosphorus is invariant through all configurations of the system; when one knows that Hesperus is Phosphorus, one will say that, although it might conceivably turn out that Hesperus is distinct from Phosphorus after all, given that it isn't, Hesperus *could not have been other than* Phosphorus.

(The above formulations are rough, early attempts. Hopefully they will become clearer as we go on. For now: I am talking about something like our system for describing counterfactual scenarios (as well as presumed actuality - in the centre, so to speak), i.e. with 'configurations' of that system corresponding to scenarios.)

3.2. Preliminary statement of account

With our fine-grained understanding of conceptual systems in place, I maintain that we can say that all (subjunctively) necessarily true propositions are satisfied by all configurations of their host conceptual systems, and that no contingently true proposition has that feature.

We can even say that a truth is metaphysically necessary iff it is satisfied by all configurations of its host system.

We just can't say that all propositions which are satisfied by all configurations of their host systems are necessary truths.

Here one might (as I once did) take the following line of thought: so far, we can say what distinguishes necessary from contingent truths, but we can't say what distinguishes necessary truths from other propositions which are satisfied by all configurations of their

host systems - we might call these 'false propositions of necessary character'. What can we say that will do this?

What a strange question! We have *already* said what distinguishes these two classes, necessary truths and false propositions of necessary character: the members of the first class are true, while the members of the second class are false! Thus, if we want an account of the form 'A proposition P is necessary iff ...' - or equivalently, 'A proposition P is necessarily true iff ...' - we can simply say:

(1) A proposition P is necessary iff P is satisfied by all configurations of its host system and P is true.

This is very different from the proposal that a proposition P is necessary iff it is analytic, or true in virtue of meaning. But it is obviously related: on (1), necessities are satisfied by all configurations of their host conceptual systems: we can say that a necessity is satisfied, on any given configuration, in virtue of the structure of the conceptual system (something like 'meaning', in an intensional sense), rather than in virtue of the particular configuration assumed. But the *truth* of a necessary proposition, in the case where this proposition is *a posteriori*, does not belong to it purely in virtue of the structure of its host system. (This *does* arguably hold, on the other hand, for *a priori* propositions, whether necessary or contingent; for *a priori* propositions, intension determines truth-value. Thus the second condition in (1) - '...and P is true' - is redundant *for those cases*.)

How do false propositions of necessary character come about? In a word: through empirically defeasible concept-formations - which in turn come about through semantic externalism, to speak loosely. In the following section, I will distinguish some fundamentally different types of concept-formations. This should shed considerable light on the contingent *a priori*, in addition to the necessary *a posteriori*.

3.3. Types of Concept-Formations

By 'a concept-formation' I mean 'a bit of conceptual structure'. For example, two individual concepts being connected is a concept formation, as is their being held separate.

I make two, crossing distinctions among concept-formations.

Empirically defeasible concept-formations vs. empirically indefeasible ones. This distinction is difficult to define, but hopefully the following two examples will help. The connection between the 'bachelor' concept and the 'male' concept is empirically indefeasible; it could not turn out empirically that some bachelors are in fact not male. The connection between the 'cat' concept and the 'animal' concept, by contrast, is empirically defeasible; it *could* conceivably turn out empirically that not all cats are animals (as Kripke argued). The distinction becomes more difficult to make out when dealing with cases of what might be called the synthetic *a priori* (instead of the analytic), but I believe it applies there; indeed, it seems to be the very thing underlying the a prioricity of those propositions. One way of thinking of the difference between *a priori* and *a posteriori* necessities is that semantic

internalism is true of the former - sense/intension determines truth-value - whereas semantic externalism is true of the latter; roughly speaking, the latter are Twin-Earthable.

Counterfactually-invariant concept-formations vs. counterfactually variable ones - the formations we hold fixed when describing counterfactual scenarios vs. the ones we hold fixed only for describing actuality. Examples: the 'bachelor'-'male' connection mentioned above (as well as the cat-animal one, for that matter) is counterfactually-invariant: we don't talk about 'counterfactual scenarios in which there are female bachelors'. By contrast, detectives might be investigating a murder, known to be committed by one person, and might use the name 'N' to refer to the killer. As they profile the killer, they form an individual concept of this person and begin to form beliefs and hypotheses about them. There will then be an (empirically-indefeasible) connection between this individual concept and, among other things, the concept of a murderer. This connection will be counterfactually variable: the detectives should have no qualms - at least, no conceptual qualms - about discussing counterfactual scenarios in which N never comes to commit murder.

These attributes of concept-formations correspond in some intuitive sense, I hope, to attributes of propositions, as follows: counterfactual invariance to (subjunctive) necessity, counterfactual variability to contingency, empirical indefeasibility to a prioricity, and empirical defeasibility to a posterioricity.

I will now say something about the four (in-principle) combinations arising from these distinctions, before discussing further the combination of counterfactual-invariance with empirical defeasibility which gives rise to the necessary *a posteriori*. This will, I hope, make it clearer how there can be false propositions of necessary character, and how this doesn't happen in the realm of the *a priori* - at least, not in the relevant sense.

(1) Counterfactually-invariant and empirically indefeasible: example: the connection between the 'bachelor' concept and the 'male' concept. Such formations give rise to necessary *a priori* propositions, e.g. 'All bachelors are male'.

(2) Counterfactually variable and empirically indefeasible: examples: the connection between the 'N' concept and the 'murderer' concept, the connection between the 'Julius' concept and the 'inventor' concept⁴, and (simplifying matters) the connection between the 'S' concept and the '1m-long-at-*t*' concept.⁵ Such formations give rise to contingent *a priori* propositions: 'N is a murderer', 'Julius invented the zip', 'S is 1m long at *t*'.

(3) Counterfactually-invariant and empirically defeasible: examples: the separation of our 'Jupiter' concept from our 'Mars' concept, the connection between our 'cat' concept and our 'animal' concept. Such formations give rise to necessary *a posteriori* propositions.

(4?) Counterfactually variable and empirically defeasible: it is not clear that we should

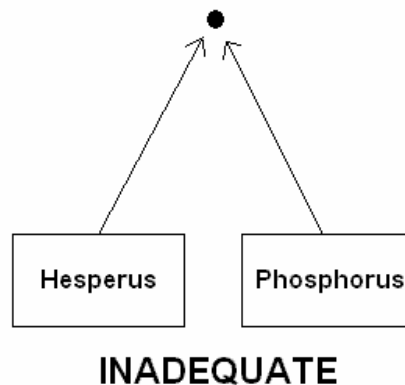
⁴ This usage of name 'Julius' derives from Gareth Evans, who stipulated that it refers to the inventor of the zip (if there was one).

⁵ This is an allusion to the famous Wittgenstein-inspired Kripke example of the contingent *a priori*, 'S' being a name for the standard metre in Paris.

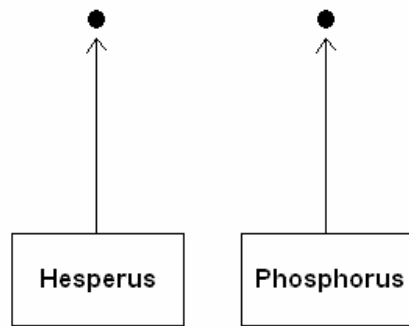
recognize (the possibility of) concept-formations of this kind. If we carry these categories over to propositions, there are clearly counterfactually variable and empirically defeasible propositions; the contingent *a posteriori* ones. But it is not clear that any of these propositions are "given rise to" by their conceptual systems, as in the above examples (which are all either necessary or *a priori*, or both) - indeed, it seems like we should think of contingent *a posteriori* propositions as the ones that are decidedly not "given rise to" in this way - as propositions which, roughly speaking, depend on the particular configuration of the system of concept-formations they belong to. However, the following sort of case comes to mind as a candidate: someone says, where '*p*' is some empirical proposition: 'Let '*M*' designate the tallest tree in the world if *p*, otherwise let it designate the tallest building in the world.' Suppose one accepts this stipulation, and firmly believes *p*, in that case one gets a proposition '*M* is the tallest tree in the world' which is similar to well known examples of the contingent *a priori*, but arguably not *a priori*. The proposition 'If *p*, *M* is the tallest tree in the world' would arguably be *a priori*, however. (This is a curious sort of stipulation, and could be discussed at length.)

Before concluding the main part of this outline, it may be useful to go into greater detail with some examples of counterfactually-invariant empirically defeasible concept-formations, and the propositions, true and false, of necessary *a posteriori* character which they give rise to. Diagrams will help with this.

Consider the proposition 'Hesperus is not Phosphorus' in the Babylonian system - that is, in a system where the 'Hesperus' and 'Phosphorus' concepts are held distinct. (These two concepts, and their being separate, can be thought of as a concept formation - perhaps in a slightly abstract or attenuated sense - reflecting a belief that Hesperus is not Phosphorus.)



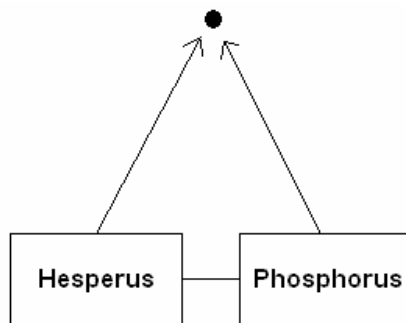
Given that their two concepts are of the same object, this formation is inadequate - that is, externally. There is nothing intrinsically wrong with such a formation; on a Twin Earth, where the concepts are connected to different objects, the formation would be adequate:



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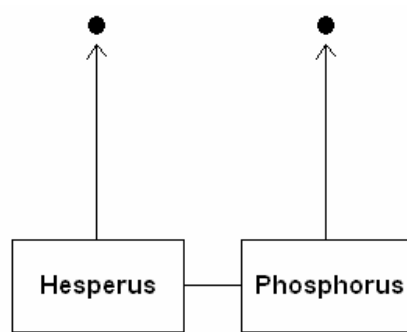
In either case, all the configuration of their system will represent Phosphorus and Hesperus as being distinct (if they exist), Thus their proposition 'Hesperus is not Phosphorus' is of necessary character. Since their two concepts were in fact used in our solar system, and since they had the same extension, this proposition was false. (The adequacy condition for a pair of concepts being connected or separated is a metalinguistic counterpart of the identity/distinctness statement they give rise to. I.e. the counterpart of 'A is B' is 'The "A" concept is co-extensive with the "B" concept'.)

So, since our 'Hesperus' and 'Phosphorus' concepts (insofar as we have them) are connected, our system gives rise to the proposition of necessary character 'Hesperus is Phosphorus'. And since these two concepts have the same extension, the formation is adequate.



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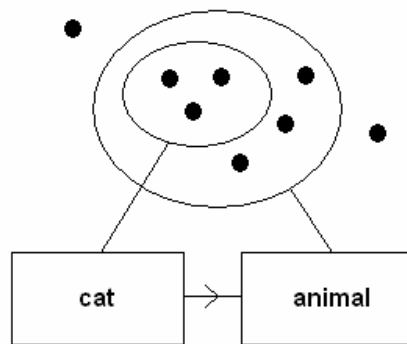
If we are wrong about this, or on the aforementioned Twin Earth (where the Babylonian formation is adequate), things stand like this:



INADEQUATE

Important: The empirical defeasibility of these formations is bound up with the fact that the 'Hesperus' and 'Phosphorus' concepts each have their own connections to reality, their own "feelers". The fact that they can be said to have feelers at all comes down to semantic externalism holding of them.

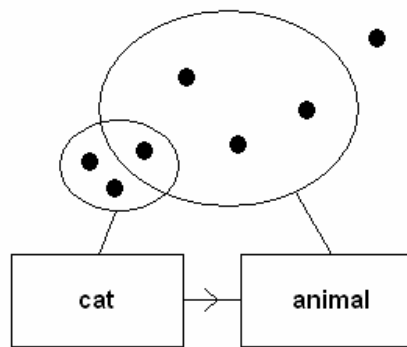
Consider the case of 'Cats are animals' (or 'All cats are animals').⁶ We can imagine the relevant formation as being a (directed) connection between the 'cat' concept and the 'animal' concept:



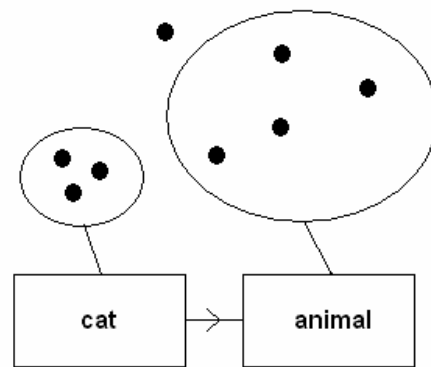
ADEQUATE

Adequacy requires that all the objects in the extension of the 'cat' concept are in the extension of the 'animal' concept. (Again, a metalinguistic counterpart of the resulting proposition of necessary character, 'All cats are animals'.) So:

⁶ Here I am considering a 'cat' concept which works in the familiar Kripke-Putnam way. For my purposes, it only matters that such a concept is possible. I am also willing to countenance a more functional or phenomenological 'cat' concept which leads to 'Cats are animals' coming out contingent. (Likewise for 'water is H₂O' and similar cases.)



INADEQUATE



INADEQUATE

3.4. Bringing adequacy out front

The initial proposal about necessity was:

(1) A proposition P is necessary iff P is satisfied by all configurations of its host system and P is true.

In addition, we may want to have something which brings out the fact that, for a proposition of necessary character to be true, the concept-formations which give rise to it need to be externally adequate. Thus we might want to say:

(2) A proposition P is necessary iff P is satisfied by all configurations of its host system and the relevant concept formations (the ones sustaining P) are adequate.

This might seem overly hand-wavy in lieu of a proper definition of adequacy. I have not attempted such a definition here, largely because I do not want to prejudge or foreclose the range of different sorts of concept formation. (Here I am thinking of "formal" categories like 'connection', 'separation', not "status" categories like 'empirically defeasible'.) What we have seen so far suggests the following rules: (1) When one concept is connected to another (individual concept interconnections being regarded as two-way connections), adequacy

requires that the extension of the first concept is, or is contained within, the extension of the second. (2) When two individual concepts are held separate, adequacy requires that they not have the same extension.

Insofar as all concept formations can be understood in terms of simple connections and separations, that would do the trick, giving us an account of necessity in terms of conceptual invariance and adequacy, the latter in turn coming down to matters of conceptual structure and extension.

This could be thought of as a kind of reversal of Chalmers' programme in two-dimensional semantics: where he takes a space of (subjunctively, metaphysically) possible worlds as basic, using it to explicate semantic notions such as that of intension, I take semantic notions as basic, using them to explicate the notion of necessity. (These two projects need not be seen in competition. Ultimately, they could perhaps even be unified.)

Two sorts of examples which make me fight shy of this (for now) are:

- Cases involving mediated connections. The case of 'Cats are spatiotemporally located', for example, seems oversimply represented in terms of a direct (presumably empirically infeasible) connection between the 'cat' concept and the 'spatiotemporally-located' concept. Rather, it seems more realistic to think of there being something like a chain of connections, such as 'cat'-'animal'-'spatiotemporally-located'. This might make trouble for a simple of definition of adequacy based on the two rules above: if the cat-animal connection is inadequate, then the chain as a whole will be inadequate, but we would still want to recognize the holding-fixed of cats as spatiotemporally-located as adequate.

- Cases involving the notion of existence. Examples: 'It is contingent that Socrates exists', 'It is necessary that there are numbers'. Regarding existence as just another concept gives rise to chronic confusions (as Kant warned), and it seems very superficial to say that the first example is true because the 'Socrates' concept is not connected to the 'existence' concept, and that the second is true because the 'number' concept is so connected.

4. Loose ends

That concludes the outline of the account as it stands now. Immediately below is a kind of methodological disclaimer, followed by brief descriptions of some further issues arising in connection with the account.

4.1. The indefiniteness of necessity

The account of necessity sketched here may give the impression that I think a sharp boundary can be drawn between necessary and contingent truths. It is important to realize that this is not the case.

One response to this would be to try to loosen our picture of modality - instead of picturing a conceptual system as being like a mechanical apparatus which can be put into a definite set

of configurations, one might imagine a device with an indefinite set of configurations; one might, for example, imagine growing resistance as one manipulates the apparatus into further out configurations (i.e. further from what we think is actually the case).

This sort of response has its place, but we needn't respond like that. We can also hold on to our simpler, more definite picture, but with due regard to the indefiniteness of its application.

Either way, it is important to note that there are clear cases. Some propositions are clearly necessary, and some are clearly contingent, and this distinction between them is of fundamental importance.

The following analogies from Wittgenstein seem helpful in connection with this theme:

The use of the words 'proposition', 'language', etc. has the haziness of the normal use of concept-words in our language. To think this makes them unusable, or ill-adapted to their purpose, would be like wanting to say 'the warmth this stove gives is no use, because you can't feel where it begins and where it ends'.

from *Philosophical Grammar*, Part 1. p. 120.

It is essential to logic to draw boundaries, but no such boundaries are drawn in the language we speak. But this doesn't mean that logic represents language incorrectly, or that it represents an ideal language. Its task is to portray a colourful, blurred reality as a pen-and-ink drawing.

from *The Big Typescript*, p. 144.

4.2. Further issues

- **De re modality and essentialism:** *De dicto* modality can be seen as a special case of *de re*, the *res* being a *dictum* or proposition. (For this to work for necessary *a posteriori* propositions, they would have to be individuated in a manner requiring identity of extension, as well as intension.)

However, there are also prospects for seeing *de re* modality as a kind of generalization from *de dicto*. (This appears most clearly not with modality, but with intentional contexts: in a *de dicto* reading, 'S believes that Hesperus is visible now' can be understood as specifying the particular concept involved in the belief, whereas in a *de re* reading all one gets is that there is *some* belief-content whose object is Hesperus.)

In the modal case, the idea would be, very roughly: a statement that some individual *a* is necessarily F can get a *de dicto* reading, where it is treated as, in effect, a statement that '*a* is F' is necessary. However, it can also get a reading which requires that *all* (possible?) concepts which have *a* as their object, or all concepts fulfilling certain formal and adequacy constraints, are somehow connected to a concept of F-ness. Something like this strategy

could perhaps be used to make sense of quantification into modal contexts. (This rough indication barely scratches the surface, there being several further crucial distinctions and notions in this ballpark.)

- **Epistemic modality and ascriptions of intentional content:** Epistemic modality in general should be discussed, at least briefly. In connection with intentional content, one striking thing is that statements of the form 'John believes <something metaphysically impossible>' can be metaphysically possible. Thus, in a sense, epistemic modal space could be said to be contained in - or pointed to from within - the metaphysical, due to intentional contexts.

It is interesting to compare Russell's treatment in the Logical Atomism lectures of 'propositions with more than one verb', and his remark about Wittgenstein's 'discovery' that propositions like 'A believes that *p*' are 'a new beast for our zoo' (p. 226, *Logic and Knowledge*).

- **Existence and identity:** The special role played by existence and identity statements needs to be clarified. The puzzle of empty names needs to be discussed. Kant on existence needs to be discussed.

Regarding identity:

The simple, orthodox, relational view overemphasizes the analogies between identity statements and (other) relational statements ('John loves Mary' etc.), obscuring the disanalogies - obscuring the special role of identity statements.

The name view (Frege in the *Begriffsschrift* i.e. before sense and reference, Geach, Heathcote), construed in a certain way, is false, construed in another way it is right but doesn't properly bring out the disanalogies either. (The two ways correspond to two ways of thinking about truth-conditions: roughly, conditions under which what the sign says to be the case is the case vs. conditions under which the propositional sign exists, has its actual meaning, and is true. The latter set of conditions will most often be a proper subset of the former - i.e. when the statement in question is not self-referential - and always a subset.)

The early Wittgensteinian view that identity statements are eliminable, since you should only have one name per object, is inadequate to real language. (In trying to understand this view, it is instructive to consider simple, real life language-games for which it is correct.)

The reactionary views, on which identity statements have their own logical form, on which identity "is not a relation", etc. (Strawson in *Subject Predicate in Logic and Grammar*, Thomas V. Morris's book *Understanding Identity Statements*, Francois Recanati's work, my former self). This approach succeeds in bringing out the disanalogies, and what is special about identity statements, but fails to properly acknowledge the analogies.

- **Reference:** The philosophy of the determination of reference needs to be discussed further. Also, the stranger question of "how reference is possible", connections to the problem of intentionality, etc. (Various methods will be used here, not least of all the old-fashioned one

of looking at the ways reference-propositions may be verified, neglected due to its association with a dogmatic theory of meaningfulness (verificationism).)

- ***The apriori***: In a sense, the account given above makes some cases of the necessary *a priori* more puzzling than the necessary *a posteriori*. This is, I think, inevitable. Many cases involving "empirical concepts", like 'All bachelors are male', seem quite tractable: they can be understood in terms of a concept (the 'bachelor' concept, in this case) not having its own feelers, but getting connected to reality by means of connections to concepts with their own feelers. But other cases bring us, more or less, up to Kant's question of how the synthetic *a priori* is possible. I think the present framework gives us a potentially illuminating basis for consideration of this question. (Compare Wittgenstein's *Remarks on the Foundations of Mathematics*, particularly the ones about concept-formation, proofs bringing about spontaneous concept-formation, the importance of the question of the role of error in mathematics, etc.)

References

(Still to be written out properly...)

Kripke, *Naming and Necessity*

Frege, 'On Sense and Reference'

Quine on grades of modal involvement

Russell, the logical atomism lectures, in *Logic and Knowledge*

Wittgenstein: *Philosophical Grammar*, *The Big Typescript*

Chalmers on 2D semantics

Secondary:

For existence, Kant's *Critique of Pure Reason*

For identity:

Strawson, *Subject Predicate in Logic and Grammar*

Thomas V. Morris, *Understanding Identity Statements*

Francois Recanati on mental files and identity