The problem of the unity of the proposition

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1 Russell on the problem of the unity of the proposition

The locus classicus for the problem of the unity of the proposition is Russell's discussion in the *Principles of Mathematics*.

Russell noted that sometimes substitution of one expression for another with the same content can transform a sentence — which expresses a proposition relative to a context — into a string of words which does not express a proposition. As Russell says, "By transforming the verb, as it occurs in a proposition, into a verbal noun, the whole proposition can be turned into a single logical subject, no longer asserted, and no longer containing in itself truth or falsehood." (§52) To use one of his examples,

> *A* differs from *B*

expresses a proposition and has a truth-value, whereas

> *A* difference *B*

does not express a proposition. But, intuitively, this is puzzling; for surely 'differs' and 'difference' have the same content, each being terms for the relation *difference*. But then how can the former string of words express a proposition, and the latter not?

This is in the first instance a problem about sentences: it is the problem of explaining what it takes for one string of words to be proposition-expressing, while another is not.

But it is plausible (though not uncontroversial — see Davidson (2005)) that there is a correlative puzzle here about propositions: it is the problem of saying what propositions could be, such that one is expressed by the first string of words rather than the second. What Russell's puzzle seems to show is that the proposition expressed by a sentence, while intimately connected with the entities which are the contents of the expressions which make up that sentence, must be something over and above those contents.

On this way of viewing Russell's remarks, they are not especially concerned with unity, but just are a particularly vivid way of stating a challenge to friends of propositions: the challenge of saying what propositions are, and how they are related to the contents of the expressions which make up those propositions.

I will call the contents of the expressions in a sentence which expresses some proposition p the *constituents* of p. This follows standard usage, but for our purposes should not be taken to imply anything very substantial about the relationship between propositions and these constituents — not, for example, that the relationship between propositions and their constituents is the same as or even analogous to the relationship between material things and their parts. I will take it for granted that there must be some intimate relationship between propositions and their constituents in this sense; but how this relationship is to be spelled out is something which we should be told by the theory that best answers Russell's challenge, not specified in advance.

2   Frege on concepts

One way of responding to this challenge, due to Frege, is to resist Russell's argument for the conclusion that a proposition must be something over and above its constituents. To do this one must deny Russell's premise that expressions of different syntactic categories can share a content.

This was Frege's view. Two problems:

1. The paradox of the concept horse.

2. The problem of self-refutation. As Russell suggests, someone who denies that expressions of different syntactic categories can ever share a content will still be tempted to make general claims about the meanings of predicates, such as

   > Every meaningful predicate has a content, and that content is not the content of any proper name.

   which seems to have the following form:

   > $\forall x$ (x is a meaningful predicate $\rightarrow \exists y$ (y is the content of x & $\forall z$ (z is a name $\rightarrow \neg$ (y is the content of z)))

   But, given that there are some meaningful predicates, for the above to be true, the open sentence

   > x is a meaningful predicate & y is the content of x

must be true relative to some assignment of values to x and y. So the content of some predicate must be such that it can be the value of a variable occurring in subject position. But if this is true, it seems that, if open sentences express propositions relative to an assignment of values to free variables, there must be a proposition which is such that the content of some predicate occurs in subject position. But then why couldn't there be some sentence which expresses that proposition, which would then have to contain some singular term whose content is the content of the predicate in question?

3 Propositions as primitive

One might accept Russell's argument for the conclusion that propositions must be something over and above their constituents without thinking that Russell's challenge to explain what this 'something more' consists in can be given any answer more informative than this: that propositions are a *sui generis* type of abstract object which essentially have the constituents that they have.

One worry about this view: it leaves it unexplained why, for example, it is a necessary truth that one who believes that Socrates is wise has a belief about Socrates. One might think that this sort of necessity could be explained by a substantial theory of propositions, but has to be taken as brute by the view of propositions as primitive.

But this argument rests on disputable assumptions about what a theory of propositions should and should not explain. I'll set the 'primitive' view aside to see whether we can come up with a more informative theory of propositions.

4 Soames on primitive mental acts of predication

5 Propositions as facts

5.1 Russell's two theories of the proposition

Russell made two quite different attempts to provide a theory of propositions by saying what this 'something more' could be. His first attempt was to explain the difference between strings of words such as

> A differs from B
>
> A difference B

in terms of the mode of combination of the constituents of the proposition expressed by the first. As he put it,

> "The twofold nature of the verb, as actual verb and as verbal noun, may be expressed, if all verbs are held to be relations, as the difference between a relation in itself and a relation actually relating. Consider, for example, the proposition 'A differs from B'. The constituents of this proposition, if we analyze it, appear to be only A, difference, B. Yet these constituents, thus placed side by side, do not reconstitute the proposition. The difference which occurs in the proposition actually relates A and B …" (§54)

While Russell's distinction between relations in themselves and relations actually relating can sound a bit obscure, his point is clear enough: the proposition expressed by 'A differs from B' is not simply a list of two objects and a relation, but rather two objects connected by, or standing in, that relation. In the case of a monadic predication, the analogous move would be to say that the proposition is not simply a list of an object and the property, but rather the object's instantiating that property. Because every proposition includes a property or relation, this strategy for solving the problem of the unity of the proposition will always be available.

Why this makes false propositions impossible. (This is the problem which eventually led Russell to abandon belief in propositions. See the discussion of 'false objectives' in Russell (1910).)

Russell's second response to the problem, which he mentions only in passing, is the suggestion that "There appears to be an ultimate notion of assertion, given by the verb, which is lost as soon as we substitute a verbal noun ..." (§52) There's one important similarity, and one important dissimilarity, between this and the treatment of 'A differs from B' discussed above.

This similarity is that, in each case, Russell appeals to a relation's holding between the constituents of the proposition to explain the unity of the proposition. The difference is that, in this case, the relation in question is not the content of any expression in the sentence, but rather an 'ultimate notion of assertion' which is, it seems, a multigrade relation which holds between the constituents of every proposition. To continue the example discussed above, the proposition expressed by 'A differs from B' would then the difference relation's *being asserted of A* and B. Assertion is a relation that really holds between difference, A, and B.

Russell's choice of assertion as the relation which binds together the constituents of the proposition was a poor one. Assertion is just one among several attitudes which one might take toward a proposition; propositions can exist unasserted, just as they can exist without being believed, or without being known. As such, propositions can hardly be defined in terms of this attitude. But the general strategy is promising: by finding some relation which actually holds between the constituents of a proposition, we can explain the unity of the proposition by analogy with the unity of facts; by letting this relation be something other than the relations (if any) which are constituents of the proposition, we can understand propositions as facts without assimilating them to the facts which would make those propositions true.

This seems like a plausible strategy, and has the advantage that we're assimilating propositions to a category of entity in which many people think we have independent reason to believe.

But if we're to solve the problem of the unity of the proposition in this way, we need to come up with a more plausible candidate for the needed unifying relation than the relation of assertion.

One might think, however, that the kinds of examples used above to illustrate the problem of the unity of the proposition give us some indication of where we should look: because these were all cases in which we moved from a proposition-expressing string of words to a non-proposition-expressing string by substituting expressions of different syntactic categories for one another, it would not be surprising if such substitutions failed precisely because the syntax of the sentence makes some contribution to the proposition it expresses. This suggests that the wanted relation, which holds between constituents of the proposition, should have something to do with the syntactic structure of sentences which express the proposition.

5.2   King's theory

This is the strategy pursued in King (2007). On King's view, the relation which binds the constituents of the proposition is determined in part by the syntactic relation which holds between

the expressions of a sentence which expresses the proposition.

Consider a simple sentence, 'Amelia talks.' In giving the semantics of this sentence, we take as input three facts about the sentence: that it contains the name 'Amelia', that it contains the predicate 'talks', and that the sentence is formed by concatenating the latter with the former. King's view is that the relation which obtains here between the name and the predicate is, along with the object Amelia and the property of talking, a constituent of the fact which is the proposition expressed by the sentence. We can, to a first approximation, describe the proposition expressed by this sentence as follows, letting 'R' be a name for the syntactic relation which holds between the name and predicate in this sentence: it is the fact of there being words x and y of some language such that x has Amelia as its content, y has the property of talking as its content, and $R(x, y)$.

This gloss on King's theory of propositions is only a first approximation because it leaves out the semantic contribution of the syntactic relation R. King brings out this point nicely via the example of a possible language, Nenglish, which is like English but for the fact that concatenation of a name and a predicate expresses a proposition which is true iff the referent of the name does *not* instantiate the property expressed by the predicate. The problem is that the account of propositions sketched above would seem to assign the same proposition to the string 'Amelia talks' in Nenglish as in English, despite this divergence in truth conditions. This seems clearly incorrect; so our theory of propositions will have to take account of the divergence in the semantic significance of concatenation of a name and simple predicate between the two languages.

As King suggests, we can think of the semantic significance of R in English as the following *instantiation function* from objects, properties, and worlds to truth values: the function which, given as argument an object o and property F, determines the truth value true at w iff o instantiates F at w. We can then describe the proposition expressed by 'Amelia talks' as follows: it is the fact of there being words x and y of some language such that x has Amelia as its content, y has the property of talking as its content, $R(x, y)$, and R encodes the instantiation function.

King's view has some clear virtues. It assimilates propositions to facts, and so shares the virtues, discussed above, of all versions of this sort of view. It also, as King says, makes it plausible that propositions exist — after all, no one (at least, no one who believes in facts) doubts that it is in fact the case that there are words x and y of some language such that x has Amelia as its content, y has the property of talking as its content, $R(x, y)$, and R encodes the instantiation function. And, as King says, we can see on this view why propositions are the sorts of things that can be true or false: the instantiation function has a kind of built in connection to truth at a world.

Some objections to King's view:

1. The immediate objection to the view is that it makes propositions metaphysically dependent on the existence of a sentence which expresses them, so that, for example, no propositions existed, and hence were true, before there were humans. King, rightly, emphasizes in reply that his view entails neither that no propositions are *now* true of those times, nor that there were no facts at those times. But even if we set aside the extensional worry — Are there times at which propositions exist but languages do not? — one might still be worried about the idea that propositions depend for their existence on languages which express them. Consider, for example, cases of term introduction. Isn't it possible that you have a thought at a time, and at a later time introduce some new expression into the language to express that thought? If you think that thoughts have propositions as their objects, and that having a thought with some proposition p as content does not entail having a sentence in an inner language which has p as its content, this sort of case looks puzzling.

2. If, as many think, it makes sense to think of perceptual experiences having propositional content, is it plausible to think that those contents are language-involving? The view is, on the face of it, unnatural.

3. As King points out (recall the example of English and Nenglish), we can, as in the case of linguistic expressions, distinguish between syntactic relations and their semantic contribution in a given language. This suggests that, just as we can have a pair of sentences

> Montreal is pretty.
> Montreal est jolie.

which contain different linguistic expressions but nonetheless express the same proposition, it should be possible to have a pair of sentences which differ with respect to the syntactic relations they involve, but nonetheless express just the same proposition. This should be possible for just the same reason that it is possible that sentences like the pair above can express the same proposition: just as two different linguistic expressions can have the same semantic content, so, it seems, two distinct syntactic relations can make the same semantic contribution.

For example, consider a language, Reverse-English, which is like English but for the fact that the order of singular terms in simple relational sentences is reversed, so that the sentence

> John loves Jane.

is true in English if and only if

> Jane loves John.

is true in Reverse-English. Intuitively, both sentences express the proposition that John loves Jane: they express the same proposition as surely as do 'Montreal is pretty' and 'Montreal est jolie.'

But, on King's theory of propositions, this is impossible. Although particular subsentential expressions are replaced in the fact which is the proposition expressed by a sentence by existential quantification over subsentential expressions, *both* the syntactic relation and its semantic contribution are constituents of the fact. The foregoing example brings out the oddness of this aspect of King's view. Why not think, instead, that the syntax of a sentence, like the words of the sentence, contribute only something other than themselves to the proposition expressed by the sentence?

King could respond to this problem by treating syntactic relations in the same way he treats subsentential expressions, and replacing each occurrence of a syntactic relation in a proposition with existential quantification over syntactic relations. On such a view, the proposition expressed by 'Amelia talks' would be, roughly, the fact that there are expressions x and y such that x has Amelia as its content, y has the property of talking as its content, and there is some syntactic relation of some language such that x and y stand in that relation, and the relation encodes the instantiation function.

But this seems to make it clear that it is the semantic contributions of subsentential expressions and the syntactic relations in which they stand, rather than the expressions and syntactic relations themselves, which are doing all the work. Since the inclusion of existential quantification over these expressions and relations as constituents of the relevant facts is what leads to the problems with King's view discussed above, why not identify propositions with facts whose only constituents are the semantic contributions of subsentential expressions and the syntactic relations in which they stand?

But it is not easy to construct such a theory.

On this sort of view, the semantic contribution of the syntactic form of a sentence would play the role of the unifying relation which genuinely holds between the constituents of the proposition. But this raises an immediate question: how, exactly, should we think about the semantic contributions of syntactic relations, on this sort of view? Or, what comes to the same thing, exactly which fact, on this sort of view, would be the proposition expressed by 'Amelia talks'?

Here, it seems, we run into a genuine difficulty. Whereas King is able to explain quite clearly which relation holds between the constituents of the facts with which he identifies propositions, it is very hard to describe a relation which is contributed by the syntax of a sentence, and genuinely holds between the constituents of the proposition. Consider again the proposition that Amelia talks. One is tempted to express the relation which is supposed to hold between Amelia and the property of talking with an open sentence like

There is a proposition which represents x as instantiating y.

but this is clearly incoherent; we're supposed to be identifying the proposition expressed by 'Amelia talks' with a fact; this fact can't be one which predicates a property of that very proposition. Maybe instead we could try

x is represented as instantiating y.

or

y is predicated of x.

but on the only obvious interpretations of these sentences, they make the existence of the fact dependent on someone's having predicated the property of talking of Amelia, which is the kind of thing we were trying to avoid. And of course we can't think of the relevant relation contributed by syntax as

x instantiates y.

without repeating Russell's mistake of identifying propositions with facts whose existence entails their truth.

So, one the one hand, it is very plausible that syntactic relations make semantic contributions, and it would be extremely convenient if we could think of those semantic contributions as relations which held between the constituents of the proposition expressed by the relevant sentence; but, on the other hand, our inability to express these relations gives rise to the worry that this is just wishful thinking. In a way, this line of thought seems to lead us back to a view like King's. After all, what sort of fact involving Amelia and the property of talking can be guaranteed to exist whether or not Amelia talks other than the fact that (in effect) some language represents it as being the case that Amelia talks?

6 The property view

I think that we can do better by assimilating propositions to properties, rather than facts.

6.1 Chisholm's theory

The property view was defended by Roderick Chisholm in *The First Person*, who expressed the theory like this:

> "Believing must be construed as a relation between a believer and *some* other thing ...What kind of thing, then? ...The simplest conception, I suggest, is one which construes believing as a relation between a believer and a property — a property which he may be said to attribute to himself." (Chisholm (1981), 27. A similar theory is defended in Lewis (1979).)

This ties the view that propositions are properties to a particular view about what the relevant properties are properties of. And it is understandable why the view was introduced in this way, since its principal initial motivation was the explanation of the distinction between first-personal beliefs and third-personal beliefs about oneself — or, as Chisholm put it, between the emphatic and non-emphatic reflexive.

But we can detach the view that propositions are properties from the view that they are always properties ascribed to oneself; and, as Nolan (2006) has argued, there's good reason why we should. Nolan points out that while in many cases we can think of a propositional attitude with the content p as a belief that I am such that p is the case, but that, in other cases, understanding the content of the belief requires that we consider worlds where p is the case, but in which *I* am not such that p is the case, because I do not exist. The most striking case is perhaps the example of the desire that I not exist. This is not the desire that I have the property of nonexistence, and still less that I be such that I do not exist; the desire is that I not exist, and hence that I not be any way — not have *any* property — at all. Similar worries arise even in cases where my belief is not, intuitively, a 'first-personal' belief; it seems as though I can desire that such-and-such be the case without desiring that I be around when it does. And, on a more intuitive level, there is something unnatural about the view that all of my mental states are attributions of properties to myself; it should be possible for my thinking to be less self-involving than that.

6.2 Properties of worlds

But there is no reason why the view that propositions are properties should be tied to the view that all thought is self-ascription. Consider again the example of 'Amelia talks.' If we think of the assertion of this sentence as the ascription of a property, one natural view is that I am ascribing to the world the property of being such that Amelia talks. On this kind of view, propositions are complex properties, rather than facts. Then, intuitively, what is contributed by the syntax of a simple predication is something like the three-place relation expressed by '___ is such that ___ instantiates ___ ' which holds between a world, an object, and a property. In the case of the sentence 'Amelia talks', the contents of the name and predicate fill in the second two slots to deliver the monadic property of worlds expressed by '___ is such that Amelia instantiates the property of talking.'

One might reasonably want more information about these properties of worlds. One might try to get at them with the following locutions: 'the property of being such that, according to w,

Amelia instantiates the property of talking'; 'the property of being such that, were w actual, Amelia would instantiate the property of talking'.

Why this view requires that there be uninstantiated properties, and indeed properties which could not be instantiated. Otherwise, there would be no account of the propositions expressed by necessarily false sentences. I'm OK with this consequence.

How is this account supposed to solve Russell's original problem? What, for example, is the explanation of the fact that

A differs from B

expresses a proposition and has a truth-value, whereas

A difference B

does not? The explanation, like King's, is given in terms of the syntax of English. 'differs from' is a two place predicate, 'difference' is a singular term; let 'A' and 'B' be stand-ins for names. Then we can give a (no doubt over-simple) explanation of the fact that the first expresses a proposition as follows: in English, concatenating a name with a two-place predicate and another name has the semantic significance that it encodes the four-place relation expressed by 'w is such that x stands in relation R to y'. So, once we fill in the semantic contents of the relevant terms, we get the property of worlds which is the property of being such that A stands in the difference relation to B. However, in English concatenating a name with an abstract singular term and another name encodes nothing; it has no semantic significance. So we are left with, effectively, a list of items, which is not the sort of thing which could be instantiated, and hence is not the sort of thing which could be true of anything.

On this view, a proposition is true with respect to a world w iff w instantiates the relevant property. Note that w must actually instantiate the relevant property; the view is not that, were w actual, it would instantiate the relevant property. The reasons for this will become clear when we talk about Plantinga's argument against existentialism.

This view of propositions might also be developed in such a way as to capture some of the explanatory advantages of Chisholm's view of propositions as properties that one ascribes to oneself.

Though in the standard case propositions are monadic properties of worlds, there's no reason why they *always* have to be such. There seems nothing to block the idea that propositions could sometimes be ascribed to a pair of a world and and individual — that is, there seems nothing to block the idea that propositions could sometimes work in something like the way that Chisholm and Lewis thought that they always work. On one natural way of developing this view, the proposition expressed by, for example,

Jeff Speaks's pants are on fire.

might be though of as the property of worlds expressed by the open sentence

w is such that o's pants are on fire

relative to an assignment of me to 'o', while the proposition expressed by

My pants are on fire.

might be thought of as the relation between worlds and individuals expressed by the open sentence

w is such that x's pants are on fire.

The intuitive difference in content between an assertion of these two sentences might be explained by the fact that an utterance of the former is an ascription to the world of the property of being such that a certain object's pants are on fire, whereas an utterance of the latter is an ascription of a certain relation to oneself and the world. This gives the present view a way to give a natural treatment of the distinction between first-personal beliefs and third-personal beliefs about oneself: the former are ascriptions of properties to oneself, and the latter are ascriptions of properties involving oneself to the world.

This should help the Russellian intentionalist deal with the problem of self-representation posed by Peacocke's examples. One natural idea is that the contents of perceptual experiences are always relations ascribed to oneself and the world — that they are always, in this way, analogous to the contents of sentences involving indexicals.

This view gives rise to some difficult problems about the analysis of attitude ascriptions. (See my paper linked from the course web site for some discussion of these.)

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