

Propositions

Those who believe in propositions take them to play a number of roles in philosophy of language and related areas.¹ Propositions are thought to be the information contents of natural language sentences. Thus, sentences of different languages that have the same information content, such as ‘Snow is white.’ and ‘Schnee ist weiss’, are thought to *express the same proposition*. The proposition expressed by a sentence is thought to be (at least one of the things) asserted by a serious utterance of the sentence. When one understands a sentence, one grasps the proposition it expresses. The proposition expressed by a sentence is its meaning: it is what a compositional semantics assigns to the sentence. Further, propositions are primary bearers of truth-values. A true sentence is one that expresses a proposition that is true; a true belief in one whose propositional content is true. Propositions are also thought to be the bearers of modal attributes: they are possible, necessary and impossible. They are also the things we doubt, believe, assume and hope. Indeed, believing, doubting and so on are often called *propositional attitudes* in virtue of the fact that many take them to be mental states the objects of which are propositions.² Further, propositions are thought to be designated by *that* clauses such as ‘that snow is white’. Hence a sentence like ‘It is true that snow is white’ is thought to predicate truth of the proposition that snow is white; a sentence like ‘Rebecca believes that snow is white’ is thought to assert that Rebecca stands in the relation of belief to the proposition that snow is white; and a sentence like ‘It is possible that snow is white’ is thought to predicate the attribute of *being possible* of the proposition that snow is white.

¹ It is not claimed that all proponents of propositions agree that they play all the roles listed in what follows. At least one does: the author of the present chapter. Also, for the moment contextual sensitivity is being ignored.

² For a recent view that denies this latter claim, see Moltmann [2014].

Finally, any account of *context of utterance*, such as that of Stalnaker [1999], on which contexts include a collection of propositions knowingly commonly accepted by conversational participants for the purposes of the conversation obviously requires propositions to characterize the notion of a *context of utterance*.

But what are these things, propositions, that many philosophers take to play all these roles? Most contemporary thought about propositions is traceable in one way or another to the classical views of propositions of the German mathematician and philosopher Gottlob Frege and the English logician and philosopher Bertrand Russell. Hence, we begin with their views.³

Frege held that linguistic expressions, whether syntactically simple or complex, had two entities associated with them by the rules of language: a *sense* and a *referent*. Frege does not give a lot of examples of the senses of different expressions, but he does at one point suggest that the sense of the proper name ‘Aristotle’ could be *the student of Plato and teacher of Alexander the Great*. Frege held that simple expressions are conventionally attached to senses, which in turn determine the referents of the expressions. Aristotle himself is the referent of ‘Aristotle’. Putting these points together suggests that the sense of an expression is something like a descriptive condition that is uniquely satisfied by the referent of the expression. Thus, Aristotle is the referent of ‘Aristotle’ in virtue of uniquely satisfying the descriptive condition *being the student of Plato and teacher of Alexander the Great* (assuming the sense of ‘Aristotle’ is as suggested above). Of course, an expression may have a sense, but lack a reference because nothing satisfies the descriptive condition that is the sense. Presumably, ‘the

³ Because Frege and Russell scholarship has become so sophisticated and contested, the following characterizations should be taken to reflect how Frege and Russell strike many philosophers of language rather than as a scholarly account of their views.

greatest natural number’ is an example. In understanding a linguistic expression, one *grasps* its sense.

Frege also held that there were two fundamentally different kinds of expressions in natural languages. On the one hand, there are expressions like ordinary proper names, definite descriptions (expressions of the form *the F*—e.g. ‘the greatest natural number’) and sentences that are what Frege calls *complete* or *saturated*.⁴ Frege calls such expressions *proper names*, which is, then, a bit of a technical term for Frege. On the other hand, there are expressions like verbs, adjectives and nouns that are *unsaturated* or *in need of supplementation*. Frege viewed the unsaturatedness of these expressions as their having “empty places”.⁵ Such unsaturated expressions can have different numbers of empty places. The transitive verb ‘loves’ has two, whereas the intransitive ‘swims’ has one. Frege calls unsaturated expressions with one argument place *concept expressions*; and those with more than one argument place *relation expressions*. One way to form a sentence is to take a concept or relation expression, e.g. the verb ‘swims’, and “fill” its empty places with appropriate proper names: ‘Rebecca swims’.

Frege thought that just as concept and relation expressions are unsaturated, so too are their senses and referents.⁶ A concept expression has a sense that is unsaturated and in need of completion. Its referent is a function from objects to truth-values. Frege thought that functions are unsaturated or in need of supplementation because they take arguments. Frege calls (one place) functions whose values are truth-values *concepts*. A relation expression also has an unsaturated sense and referent. For example, a relation word with two empty places expresses a doubly unsaturated sense and refers to a two-

⁴ Frege [1964] p. 36

⁵ Frege [1891a] p. 139

⁶ Frege [1891b] p. 174 note B

place function whose values are truth-values, which Frege calls a *relation*.⁷ By contrast, proper names—complete, saturated expressions—have complete senses and referents.

Frege calls such complete referents *objects*.

Frege seems to have held principles of compositionality for both senses and referents.⁸ The sense of a complex expression is a function of the senses of its component words and how they are put together. Similarly, the reference of a complex expression is a function of the referents of the words in it and how they are combined. In the case of the senses of complex expressions, Frege seems to have held that they are literally built out of the senses of the words in the complex expressions in the way that the complex expressions themselves are built out of words.⁹

Having discussed the senses and referents of the words in simple “atomic” sentences like ‘Rebecca swims’ and ‘Rebecca loves Carl’, we now turn to the senses and referents of such sentences. Frege thought that quite generally, “complex senses”, senses with other senses as parts, are the result of one or more senses “completing” or “saturating” an unsaturated sense.¹⁰ In the case of atomic sentences such as those above, we have the (singly or doubly) unsaturated sense of the verb being completed by the complete proper name senses. The result is once again a complete sense. Frege calls the complete senses of declarative senses *thoughts*. Thoughts are true or false; thoughts are what are grasped when one understands a sentence. Hence, Frege’s thoughts are what other philosophers call propositions. Frege famously held that the referents of sentences

⁷ Frege [1891a] p. 146

⁸ Frege [1892a] pp. 156-7

⁹ Frege [1919] pp. 364-65

¹⁰ Frege [1892b] p. 193, Frege [1919] p. 363

are truth-values. Since sentences are complete expressions, proper names, they must refer to objects.¹¹ Thus, the Fregean doctrine that the True and the False are objects.

As for thoughts expressed by non-atomic sentences, connectives like ‘not’ and ‘and’ for Frege express singly and doubly unsaturated senses, respectively. When you complete the unsaturated sense of ‘not’ with a thought, you once again get a thought: the negation of the original thought. Similarly, when you complete the doubly unsaturated sense of ‘and’ with two thoughts, the result is again a thought (their conjunction). Thus, the thought expressed by ‘It is not the case that snow is white.’ is a thought consisting of the thought that snow is white completing the unsaturated sense of ‘It is not the case’. Similar remarks apply to the thoughts expressed by conjunctive sentences. Connectives like these refer to one and two place functions from truth-values to truth-values. Hence, the connectives refer to concepts and relations (this is the special case where the objects that are the *arguments* of the concepts and relations are themselves truth-values).

Finally, determiners like ‘every’, ‘some’, ‘no’, etc. express doubly unsaturated senses.¹² However, to yield a thought, these senses must be combined with the senses of two (first level) concept words. Thus, the thought expressed by ‘Every dog barks’ is the result of completing the doubly unsaturated sense of ‘every’ with the senses of the (first level) concept expressions ‘dog’ and ‘barks’ (in that order). On the other hand, ‘every’ refers to a function from a pair of first level concepts (functions from objects to truth values) to truth-values. As such, the referent of ‘every’ is a *second level relation* (in virtue of taking first level concepts as arguments and yielding truth-values as values).

¹¹ Of course, just as Frege thought some ordinary proper names lack referents (e.g. ‘Odysseus’), so he thought some sentences lack referents (e.g. those containing ordinary proper names without referents). A sentence like ‘Odysseus was strong’ expresses a thought, but the thought does not determine any referent, and so is neither true nor false.

¹² Frege [1892b] p. 187

The relation ‘every’ refers to maps concepts A and B (in that order) to true iff every object that A maps to true, B maps to true as well.

We have now seen what the senses and references are of proper names, predicates (first level concept and relation expressions), truth functional connectives and determiner phrases. We have also seen what sorts of thoughts are expressed by “atomic” sentences, sentences containing truth functional connectives and quantified sentences. We now turn to general features of Frege’s view of thoughts.¹³

Obviously, thoughts are composed out of other senses, at least one of which must be unsaturated. Further Frege was quite explicit that thoughts exist timelessly and independently of any thinker. True thoughts are true prior to and independently of any thinker thinking them or recognizing their truth.¹⁴ Frege famously held that thoughts are not part of the external physical world, nor are they things, like subjective experiences, that belong to the consciousness of a thinker. They are non-spatial and non-temporal. They occupy, Frege claimed, a third realm. Of course, this means that the senses thoughts are constructed out of exist timelessly and independently of thinkers, and occupy this third realm as well.

There are two final points to stress about Frege’s view, since they are relevant to issues that will be discussed later. First, Frege seems to have held that thoughts are things that by their very natures and independently of mind and languages are true or false. Second, Frege thought he had a sort of explanation of how the constituents of thoughts—senses of subsentential expressions—are held together. It is a matter of senses “saturating” unsaturated senses. However, since Frege himself regarded talk of

¹³ Frege’s term ‘thoughts’ will continue to be used, but the reader should remember that what is being discussed is Frege’s view of what other philosophers would call *propositions*.

¹⁴ Frege [1918] p. 337

unsaturated senses as a metaphor¹⁵ and since he really gives no account of what unsaturatedness is, his account of what holds thoughts together seems more of a promissory note than a substantive account.

Despite the seminal importance of Frege's views on referents, thoughts and senses generally, it is fair to say that few contemporary philosophers are attracted to the idea of Fregean senses, thoughts included, at least as Frege construed them. Many have found the idea of these timelessly existing, mind and language independent occupiers of the third realm obscure. But the waning popularity of Fregean senses is most attributable to more direct arguments that they cannot do the theoretical work required of them. On the one hand, Saul Kripke [1980] gave powerful arguments against the view that ordinary proper names have anything like Fregean senses. Similarly, David Kaplan [1977] argued compellingly that indexicals ('I', 'here', 'yesterday') and demonstratives ('he', 'that') were most amenable to a non-Fregean treatment. Once it appeared that a significant number of types of words were not best treated as having senses, the idea of any words having Fregean senses became much less attractive. As will be discussed below, by the mid 1980's, many philosophers found themselves attracted to a more Russellian view of propositions. We turn now to Russell's view of propositions.

In *The Principles of Mathematics*, Bertrand Russell outlined what was to become a very influential account of propositions. Russell uses the expression 'term' for anything that is a constituent of a proposition. Since Russell says that a chimera is a term, terms apparently include things that in any ordinary sense don't exist. There is a fundamental distinction among terms between *things* and *concepts* for Russell. Things

¹⁵ Frege [1892b] p. 193

are *indicated* by proper names and concepts are indicated by all other words.¹⁶ Russell had the idea that for many propositions, we can distinguish between the *subject* and the *assertion about the subject*. In simple “subject-predicate” propositions, such as that expressed by ‘Socrates is human’, there is only one way of analyzing the proposition into subject (Socrates) and assertion (being human). In the case of “relational propositions” (that expressed by ‘A is larger than B’), there is more than one way of analyzing the proposition into subject and assertion: either A or B may be considered the subject. For Russell, the *terms of a proposition* (as opposed to terms *simpliciter*) are the terms in the proposition that can be considered subjects. Thus, in the proposition expressed by ‘Socrates is human’, Socrates is the term of the proposition; in that expressed by ‘A is larger than B’, A and B are both terms of the proposition. Now Russell thought that concepts can occur in two ways in propositions: they can either occur as terms of the proposition (‘Humanity belongs to Socrates’—humanity is a term of this proposition) or not (‘Socrates is human’). It is characteristic of things, as opposed to concepts, that they can only occur in propositions as terms of propositions. Among concepts, Russell distinguishes between *predicates*, which are indicated by adjectives, and *relations*, which are indicated by verbs.

Russell seems to have thought that relations were the key to explaining two central features of propositions. On the one hand, propositions, like that expressed by ‘Caesar died’, assert something, unlike what is expressed by ‘the death of Caesar’. Yet the words in both linguistic strings seem to indicate the same terms (Caesar and the

¹⁶ ‘Indication’ is the word Russell uses for the relation between a word and the term it contributes to propositions expressed by sentences in which it occurs.

concept *dying*).¹⁷ Russell thought that when a verb is used as a verb, as in ‘Caesar died’, we get a proposition in which something is asserted and so the proposition is capable of being true or false. However, when the verb is made into what Russell calls a *verbal noun*, as in ‘the death of Caesar’, we cease to have an assertion and so cease to have something capable of being true or false. Hence Russell thought that a verb being used *as a verb* in some sense is the key to why propositions assert something and so are true or false. Only when the relation indicated by the verb occurs in the proposition *in a certain way* do we get something asserted and an entity capable of being true or false.

On the other hand, and related to these points, Russell was puzzled by the difference between the proposition that A differs from B and what he considered the analysis of the proposition, which consisted of simply specifying its constituents: A, difference, B.¹⁸ Because the analysis is not the proposition, we must explain what distinguishes the proposition from the mere sum of its constituents. The problem of providing such an explanation is called by many *the problem of the unity of the proposition*.¹⁹ Russell seems to have thought that relations, indicated by verbs, provided the explanation of the difference between a proposition and a mere sum of its constituents. In the proposition that A differs from B, the relation of difference actually relates A and B. What Russell seems to mean by this is that the proposition consists of A

¹⁷ How Russell could have held that all verbs express relations, by which he seems to have meant two-place relations in Russell [1903], is a matter of some obscurity.

¹⁸ This seems to be a bad way to think of the analysis of a proposition, since it would seem to entail that distinct propositions have the same analysis. If the proposition that John loves Sue and the proposition that Sue loves John have the same constituents, as would seem to be the case for Russell, then both propositions have as their analysis: John, loving, Sue.

¹⁹ See King [2009] for an argument that there is no single problem that uniquely deserves the epithet *the problem of the unity of the proposition*.

and B standing in the difference relation, (in that order).²⁰ However, in the mere sum of the proposition's constituents—A, difference, B—the difference relation is not relating A and B. Thus Russell writes:

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*, whereas the difference after analysis is a notion which has no connection with *A* and *B*. It may be said that we ought, in the analysis, to mention the relations which difference has to *A* and *B*, relations which are expressed by *is* and *from* when we say “*A* is different from *B*”. These relations consist in the fact that *A* is referent and *B* relatum with respect to difference. But “*A*, referent, difference, relatum, *B*” is still merely a list of terms, not a proposition. A proposition, in fact, is essentially a unity, and when analysis has destroyed the unity, no enumeration of constituents will restore the proposition. The verb, when used as a verb, embodies the unity of the proposition, and is thus distinguishable from the verb considered as a term, though I do not know how to give a clear account of the precise nature of the distinction.²¹

An obvious problem with such an account of the unity of propositions is that it is unclear how to account for false propositions. Consider the proposition that A is larger than B. This is to be the entity consisting of A standing in the *larger than* relation to B. But one would think that if A stands in the *larger than* relation to B, A must in fact be larger than B, so that the proposition is true. But if A fails to be larger than B, then A does not stand in the *larger than* relation to B. But the proposition that A is larger than B was just supposed to be A standing in that relation to B. So it appears that when A is not larger than B, there is nothing that is the proposition that A is larger than B. These

²⁰ Here the relation indicated by the verb is symmetrical, and so order isn't crucial. But of course when we move to things like the proposition that A is larger than B, order becomes crucial.

²¹ Russell [1903] pp. 49-50

considerations appear to be related to Russell's own reasons for rejecting his 1903 theory of propositions, and propositions generally, by 1910.²²

In any case, it is worth summarizing the features of Russell's account of propositions that proved significant historically.²³ Russell held that individuals like Socrates were constituents of propositions such as the proposition that Socrates was human. Similarly, the *taller than* relation is a constituent of the proposition that Aristotle was taller than Plato. So for Russell, individuals and relations were constituents of propositions, where these elements were bound together in the proposition, presumably yielding a complex structured entity. As we'll see, many contemporary philosophers follow Russell in thinking of propositions in this way.

Developments in modal logic in the late 1950s and early 1960s led philosophers to think of propositions in a way very different from the way Russell and Frege thought of them. Though an exposition of modal logic is beyond the scope of the present work, presentation of some of the basic ideas of model theory for propositional modal logic will be helpful. Some familiarity with propositional logic is presupposed.

Let, P, Q and R with or without numerical subscripts be atomic formulae. Complex formulae are built up with \sim , $\&$ and \Box as follows: if A and B are formulae, so are $\sim A$, $A\&B$ and $\Box A$. $\Box A$ should be thought of as *necessarily A*. We want to formally implement the idea that to be necessary is to be true no matter how the world happens to be: to be true in all possible worlds. Hence, for $\Box A$ to be true—true in the actual world—A must be true in all *possible worlds*. For our semantics, we begin with a pair

²² In Russell [1910].

²³ I have only considered "atomic proposition" in discussing Russell's view mainly because it is the features of his account of such propositions that ended up having the most influence. Russell abandoned his [1903] account of "quantified propositions" by 1905 and the [1903] account is currently of only historical interest.

$\langle W, @ \rangle$ where W is a set and $@ \in W$. Intuitively, W is the set of all possible worlds and $@$ is the actual world. Next, we introduce a function f such that for any atomic formula A and any $w \in W$, $f(A,w) = T$ or F . We extend the domain of f to all formulae in the usual way (let A, B be formulae):

1. $f(\sim A,w) = T$ if $f(A,w)=F$; otherwise $f(\sim A,w)=F$.
2. $f(A\&B, w)=T$ if $f(A,w)=f(B,w)=T$; otherwise $f(A\&B,w)=F$.
3. $f(\Box A,w)=T$ if for all $w' \in W$, $f(A,w')=T$; otherwise $f(\Box A,w)=F$.²⁴

Clause 3 captures the idea that to be necessarily true is to be true in all possible worlds. We'll call a pair $\langle \langle W, @ \rangle, f \rangle$ a model for our language. Obviously, as f 's initial domain and clauses 1-3 make clear, in a model, formulae of our language have truth-values only relative to worlds (members of W). So given a model M , and any formulae A , we can define a function $g_{A,M}$ whose domain is W as follows: for any $w \in W$, $g_{A,M}(w) = T$ if A is T at w relative to M ; otherwise, $g_{A,M}(w) = F$. Following established usage, we can call $g_{A,M}$ the *intension of A relative to M* . Once intensions are in the picture, it is natural to think of \Box as an operator on intensions: \Box "looks at" the intension of the formulae it embeds. If that intension maps every $w \in W$ to T , the \Box -formula is T relative to M at the world where it is being evaluated. This in turn makes it natural to think of the intension as being the thing with modal attributes. An intension I is *necessary* at a world w iff for all w' , $I(w')=T$. Recall that propositions were supposed to be the things that possess modal attributes. But then from this perspective, it becomes natural to identify the proposition expressed by a formulae A in a model M with the intension of A relative to

²⁴ Here I suppress the fact that one often introduces an accessibility relation R on the set W and writes clause 3 as follows: $f(\Box A,w)=T$ if for all $w' \in W$ **such that wRw'** , $f(A,w')=T$; otherwise $f(\Box A,w)=F$.

M. Thus, it is natural to view propositions as functions from possible worlds to truth-values (or as the sets of worlds whose characteristic functions they are).

The sort of approach to the semantics of modal logic outlined above is often called *possible worlds semantics*. Impressed by the successes of possible worlds semantics in modal logic, logically minded philosophers of language began to formulate possible world semantics for natural languages.

Prominent examples include Montague [1968] and Lewis [1970], though both of these works represent a generalization of possible worlds semantics. Instead of having sentence intensions be functions from worlds to truth-values, Montague's [1968] sentence intensions are functions from worlds and times to truth-values, whereas Lewis's [1970] are functions from worlds, contexts, times, places, and so on to truth-values. These arguments for sentence intensions were typically represented as tuples. So on Montague's view we would have a pair of a world and time: $\langle w, t \rangle$, whereas for Lewis we would have a bigger tuple of a world, context, time place and so on. Such tuples were usually called *indices* and these semantic approaches generalizing possible world semantics were sometimes called *index semantics*. Having said this, we'll restrict ourselves to possible world semantics here.

On such an approach to the semantics of natural language, expressions of the natural language get assigned *extensions* relative to possible worlds, just as in our modal logic formulae get assigned truth values—extensions of formulae—relative to possible worlds. Thus, names, n-place predicates and sentences will be assigned individuals, sets of n-tuples of individuals and truth-values, respectively, as extensions relative to possible worlds. For many expressions, we should expect their extensions to vary from world to

world. Take the predicate ‘dog’. Given that different possible worlds contain different dogs, the extension of ‘dog’—the set of things that are dogs at the world in question—will vary from world to world. But it is natural to think of such expressions as having meanings that determine their extensions at different worlds. Such a meaning must determine a function from worlds to the expression’s extensions at worlds. For sentences, these functions would be functions from worlds to truth-values. On analogy with the functions from worlds to truth-values associated with formulae (relative to a model) discussed above, functions from worlds to extensions associated with expressions are called *intensions*.

Above it was said that meanings of expressions must determine intensions. The simplest way meanings could do this is by *being* intensions. Thus, within the framework of possible world semantics as applied to natural language, it is very natural to identify an expression’s meaning with its intension. Similarly, we know that the proposition expressed by a sentence must determine its intension. Again, the simplest way it could do this is by being the intension. Thus, we arrive at the view that propositions are sentence intensions: functions from possible worlds to truth-values, or sets of possible worlds. Robert Stalnaker [1987, 1999, 2003] is the most well known defender of this view.

Such a view individuates propositions in a very coarse grained manner and many have found this feature of the view a reason to reject it.²⁵ It entails that there is only one necessary proposition (and one impossible proposition), since there is only one function that maps every world to true (and only one set of all possible worlds). Among other things, this means that there is only one mathematical truth (assuming mathematical

²⁵ Though Lewis [1970] defines more fine-grained sentence meanings.

truths are necessarily true). Further, if we assume that *that* clauses designate propositions, and that ‘Stella believes that snow is white’ asserts that Stella stands in the belief relation to the proposition that snow is white, this means that any time two sentences are true in all the same possible worlds, the result of embedding them under something of the form ‘S believes’ cannot diverge in truth value. But prima facie this seems false: ‘Stella believes that 2+2=4’ might be true while ‘Stella believes that arithmetic is incomplete’ is false.

Despite these consequences of the view that propositions are functions from possible worlds to truth-values, which were appreciated early on, the view was the dominant view of propositions for many years. Nonetheless, many philosophers were eager to find an account of propositions on which they were individuated more finely than on the possible worlds approach. In the 1980s and 1990s, various such accounts were developed. We will discuss two significant accounts of the sort, which we will call *the algebraic account* and *the neo-Russellian account*, respectively.²⁶

Algebraic accounts were developed in Bealer [1982, 1993, 1998], Menzel [1993] and Zalta [1988].²⁷ There are important differences in details between these accounts, but they are sufficiently similar in motivation and content to be usefully grouped together under the heading *algebraic accounts*. Here we shall focus on the presentation in Bealer [1993a, 1998]. Bealer begins with the idea that properties, relations and propositions are

²⁶ Of course there have been many other fine-grained accounts of propositions developed since the 1980s (e.g. Schiffer [2003]), but I consider the algebraic accounts and neo-Russellian accounts to be the most influential.

²⁷ Though considerations of fineness of grain seem to be the primary motivation for those who accept the algebraic accounts (e.g. see Menzel [1993] pp. 62-62, Bealer [1993a] p. 20 and Bealer [1998] p. 5), other worries with possible worlds accounts are mentioned as well. E.g. Bealer [1993a] p. 20, [1998] p. 4 and Menzel [1993] p. 62 worry that possible worlds accounts commit one to denying actualism. However, even the most ardent supporter of the possible worlds account—Robert Stalnaker—has long held that the account is consistent with actualism. See Stalnaker [1987] Chapter 3 (reprinted in Stalnaker [2003]) and [2003] p. 6.

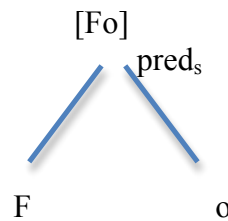
sui generis entities not reducible to anything else. That is, they are primitive and irreducible. There are then fundamental logical operations on these things: *conjunction* (the proposition A&B is the conjunction of the proposition that A and the proposition that B), *singular predication* (the proposition that o is F is the singular predication of the property F of o), *existential generalization* (the proposition that there exists an F is the existential generalization of the property F) and so on. One then analyzes the behavior of the fundamental *sui generis* entities—properties, relations and propositions—by constructing what Bealer [1998] calls *intensional model structures* (IMS). An IMS is a triple $\langle D, \tau, K \rangle$, where D is a domain that partitions into subdomains, $D_{-1}, D_0, D_1, D_2, \dots$, where D_{-1} consists of particulars; D_0 , propositions; D_1 , properties; D_2 , two-place relations; and so on. τ is a set of logical operations as described above; and K is a set of extensionalization functions. Where H is an extensionalization function, it assigns appropriate extensions to each item in D: truth-values to propositions (members of D_0); sets of items in the domain to properties; sets of ordered pairs to two-place relations and so on.²⁸ There is a distinguished extensionalization function $G \in K$ that is the *actual* extensionalization function: it assigns members of D their actual extensions.

Extensionalization functions are constrained to respect the logical operations in the obvious way: $H(\text{neg } p) = T$ iff $H(p) = F$ and so on. What makes an IMS *intensional* is that for some $x, y \in D_i \subset D$, $i \geq 0$, and some $H \in K$, $H(x) = H(y)$, but $x \neq y$.

Though strictly for Bealer, propositions have no mereological parts and are primitive and simple, he does have a notion of *propositional constituency*. Each proposition has what we might call a *composition tree* indicating how it results from the

²⁸ Members of D_{-1} are assigned themselves.

application of logical operations on members of D.²⁹ For example, here is such a tree for the proposition that o is F:



This shows that the proposition that F is o results from singularly predicating the property F of o. Now an item *x* is a constituent of a proposition P iff *x* appears somewhere in P's composition tree. Hence, the property F and particular o are constituents of the proposition that o is F as desired. But to repeat, they are in no sense *parts* of the proposition. Though it will not be discussed here, this is one of the keys to the fact that Bealer's algebraic approach to propositions is consistent with the claim that a proposition may exist even if some of its constituents don't.³⁰

It should already be clear that on the algebraic approach, propositions are more fine grained than on the possible worlds account. For example, the necessary proposition that *p* or not *p* ≠ the necessary proposition that not (*p* and not *p*). After all, these propositions have different constituents: the former has the logical operation of disjunction as a constituent and the latter doesn't. However, nothing so far gives us the materials for distinguishing the proposition that Hesperus is a planet from the proposition that Phosphorus is a planet. Bealer certainly wants his theory to achieve this. He does this by introducing what he calls *non-Platonic modes of presentation* associated with

²⁹ For reasons that elude me, Bealer [1993a] actually defines a *decomposition tree* for propositions that shows how they can be decomposed into elements of D and the *inverses* of logical operations.

³⁰ See Bealer [1998] pp. 12-14.

proper names.³¹ These might be the name itself, understood not as a mere orthographic entity but as fine-grained entity of some sort individuated by the practice of using it. Since the practice of using ‘Cicero’ to refer to a town is different from the practice of using it to refer to a Roman orator, these are different names. Or they might be the naming practices associated with names. Or they might be *causal naming chains* associated with names. Whichever of these turns out to be the best option will be non-Platonic modes of presentation associated with names. By invoking these non-Platonic modes of presentation, Bealer is able to distinguish the proposition that Hesperus is a planet from the proposition that Phosphorus is a planet.

The second sort of fine-grained account of propositions developed in the 1980s and 90s was *the neo-Russellian* or *structured* account. Worries about the coarseness of grain of propositions on the possible worlds account certainly was one motivation for formulating neo-Russellian accounts. But other developments pointed in the direction of neo-Russellian accounts as well.

First, as mentioned above, Saul Kripke [1980] gave powerful arguments against the view that ordinary proper names are associated with descriptive conditions the satisfaction of which determine the bearers of the names. Kripke also defended the view that ordinary proper names are *rigid designators*: they refer to their actual bearers in all possible worlds. To take Kripke’s example, when we consider the sentence ‘Aristotle was fond of dogs’ and evaluate it for truth and falsity at various possible worlds, it is always *Aristotle’s* properties at the worlds in question that determine whether the sentence is true or false at that world. This is because the referent of ‘Aristotle’ at each world is Aristotle. David Kaplan [1977] wanted to defend the view that indexicals and

³¹ He thinks of the elements of subdomain D_1 —properties—as *Platonic* modes of presentation.

demonstratives are devices of *direct reference* (he thought the same about names but didn't really *argue* for that claim in Kaplan [1977]); and he wanted to distinguish directly referential expressions from rigid designators. Kaplan sharply distinguished between *contexts (of utterance)* and *circumstances (of evaluation)*. When a sentence like 'I am hungry' is uttered in a *context*, a proposition is expressed. We can then ask whether that proposition is true or false at various *circumstances* (possible worlds).³² Kaplan's idea was that directly referential expressions may (indexicals and demonstratives) or may not (names) be associated with semantical rules that determine their referents in context. But once their referents are secured in context, those referents are all that is provided by the semantical rules of the expressions in question. Nothing is provided that could be evaluated at a circumstance. Take the word 'I'. It has a semantic rule that gives uses of 'I' referents in contexts (a use of 'I' in a context c refers to the speaker in c). But once that referent is secured, the rules do not yield anything that can be evaluated at a circumstance. They give you only the referent in the actual world, which is then taken to be the referent of the expression relative to that context in all circumstances. Kaplan writes:

For me, the intuitive idea is not that of an expression which *turns out* to designate the same object in all possible circumstances, but an expression whose semantical *rules* provide *directly* that the referent in all possible circumstances is fixed to be the actual referent. In typical cases the semantical rules will do this only implicitly, by providing a way of determining the *actual* referent and no way of determining any other propositional component.³³

Thus all directly referential expressions are rigid designators. But we can see that an expression can be rigid without being directly referential. An example would be 'the

³² Actually, Kaplan's circumstances were world/time pairs, but I'll ignore that here.

³³ Kaplan [1977] p. 493

successor of 2'. This expression when used in a context yields a descriptive condition, which can then be evaluated at a circumstance. At any circumstance at which that descriptive condition is evaluated, we get the number 3. So the expression is rigid (designating 3 at every circumstance), but it is not directly referential, since when it is used in a context we got not a referent, but a descriptive condition that can be evaluated at different circumstances.

The crucial point for present purposes is that in a possible worlds framework, one cannot distinguish between directly referential designators and rigid designators. Singular terms like indexicals, names and definite descriptions will be assigned intensions by the semantics (relative to contexts in the case of indexicals). If the expressions are rigid designators, the expressions will be assigned intensions that are constant functions, mapping every world to the same individual. However, since all the semantics assigns to singular terms are such intentions, there is no distinction between rigid expressions and directly referential expressions. Either an expression is assigned a constant function as intension or it isn't. There is nothing more to it. As a result, Kaplan invoked structured propositions with individuals, properties and relations as constituents, consciously echoing Russell's [1903] view, to distinguish directly referential expressions from merely rigid ones:

If I may wax metaphysical in order to fix an image, let us think of the vehicles of evaluation—the what-is-said in a given context—as propositions. Don't think of propositions as sets of possible worlds but, rather, as structured entities looking something like the sentences which express them. For each occurrence of a singular term in a sentence there will be a corresponding constituent in the proposition expressed. The constituent of the proposition determines, for each circumstance of evaluation, the object relevant to evaluating the proposition in that circumstance. In general, the constituent of the proposition will be some sort of complex, constructed from various attributes by logical composition. But in the case of a

singular term which is directly referential, the constituent of the proposition is just the object itself. Thus it is that it does not just *turn out* that the constituent determines the same object in every circumstance, the constituent (corresponding to a rigid designator) just *is* the object. *There is no determining to do at all.*³⁴

So a directly referential expression contributes to the Russellian proposition (relative to a context) its referent/object (in that context). That is why when we evaluate the proposition at different circumstances, that same referent is always relevant. It is built into the proposition being evaluated. By contrast, a merely rigid (i.e. rigid and not directly referential) expression contributes to propositions some complex that determines a descriptive condition. When the proposition is evaluated at any circumstance, the descriptive condition *turns out* to pick out the same object.

As more philosophers became attracted to the idea that indexicals, demonstrative pronouns and names were directly referential and that this amounted to more than mere rigidity, they naturally were drawn towards a view of propositions—a neo-Russellian view of propositions as structured entities with individuals, properties and relations as constituents—on which the distinction between merely rigid and directly referential expressions could be made and away from the possible worlds view of propositions on which the distinction is obscured.³⁵

A second factor that drove philosophers away from a possible worlds account and towards a neo-Russellian view was that many people had become increasingly uncomfortable with the coarse grained way that the theory individuated propositions and

³⁴ Kaplan 1977 p. 494. Oddly in the penultimate sentence here, Kaplan talks about the constituent corresponding to a rigid designator, where he presumably means the constituent corresponding to a directly referential term.

³⁵ Despite using Russell's view of propositions to explain the difference between merely rigid expressions and directly referential expressions, Kaplan [1977] explicitly said that this view of propositions was not part of his official theory (p. 496); and his formalism employs possible worlds semantics.

the consequences of that discussed above. Further, Scott Soames [1987] produced powerful reasons for thinking that any account of propositions on which they were sets of metaphysically possible worlds (or indeed any sort of truth supporting circumstances of evaluation) was fatally flawed.

As a result of these two factors, by the late 1980s and early 1990s, many philosophers had abandoned the possible worlds account of propositions in favor of a neo-Russellian or structured approach. Prominent defenders of such views include Scott Soames [1987], Nathan Salmon [1986], and Mark Richard [1990].

Though many philosophers had adopted a neo-Russellian account of propositions on which they were structured entities with individuals, properties and relations as constituents, Jeffrey C. King [2007] pointed out that surprisingly little was being said about what structured propositions actually were. Structured propositions were often represented without further comment by their advocates as n-tuples of objects, properties and relations.³⁶ The proposition that Stella is happy was represented as <Stella, being happy>. But of course as King [2007] pointed out, *representing* propositions as n-tuples is not to say anything about what propositions actually *are*. King highlighted the fact that structured proposition theorists were in the unsatisfactory position of saying propositions are structured but not saying anything about what they are.

Perhaps some of the advocates of structured propositions even intended to *identify* propositions with such n-tuples. However, King [2007] points out that there are two problems with this suggestion. First, there are many different n-tuples that all seem to be equally good candidates for being some propositions. Consider the proposition that

³⁶ Salmon [1986] p. 25 and Appendix C; Soames [1987] p. 222 and pp. 224-226.

Rebecca loves Carl. All of the following tuples seem equally good candidates for being that proposition:

<Rebecca, loving, Carl> <loving, Rebecca, Carl> <Rebecca, Carl, loving>
<Rebecca, <loving, Carl>> <<Rebecca, loving>, Carl> <<Rebecca, Carl>, loving>

and so on. This suggests that the proposition is not any of these n-tuples. Second, and more importantly, King pointed out that it doesn't seem that this view could provide any explanation of why propositions have truth conditions. Many n-tuples do not have truth conditions. So why do the n-tuples that are propositions have truth conditions? It certainly does not seem as though an acceptable answer to this question is in the offing.

We now turn to recent theories of propositions. Limitations of space require that only a brief overview will be given of each theory discussed and that there will be no attempt to critically assess the theories. The hope is to give the reader a sense of what theories are currently available so that she may investigate them further.

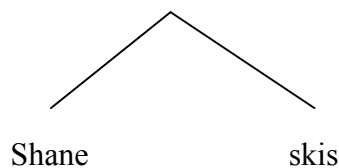
As indicated above, Jeffrey C. King [2007] noted that structured proposition theorists had given no real account of what structured propositions are. King [2007] was the first attempt in the recent literature to formulate a substantial theory of what they are.³⁷ It is worth highlighting three novel ideas in King [2007] and in subsequent work (King [2009, 2011, 2013], King, Soames and Speaks [2014]) since they were subsequently picked up by Scott Soames and Peter Hanks, who are discussed below. First, King rejected as mysterious theories according to which propositions have truth conditions and so represent the world as being a certain way by their very natures and independently of minds and languages. He claims that no one has any idea how something could have truth conditions by its very nature and independently of minds and

³⁷ This is noted by Jeff Speaks in the Introduction to King, Soames, Speaks [2014].

languages. Second, and closely related to this, he claimed that an adequate theory of propositions must *explain* how\why propositions have truth conditions and so represent the world as being a certain way.³⁸ Third, since King claims that representational capacities of propositions cannot be something they have inherently and by their natures, he holds that their representational capacities must derive from and be explained by the representational capacities of thinking agents.

King claims that propositions consist of their constituents standing in a relation that he calls *the propositional relation*.³⁹ So e.g. the proposition that Shane skis consists of Shane standing in the propositional relation to the property of skiing. To explain what the propositional relation is, let's begin by looking at the simple sentence 'Shane skis' and its syntactic structure:⁴⁰

1.



Call the syntactic relation that obtains between 'Shane' and 'skis' in the sentence here *R*. King calls relations like *R* that lexical items stand in to form sentences *sentential relations*. King points out that English speakers *interpret* *R* in a certain way: they take *R* to *ascribe* the semantic value of 'skis' to the semantic value of 'Shane'. This is in part why the English sentence is true iff Shane possesses the property of skiing.

³⁸ King claimed as early as the 1990's that explaining how/why propositions had truth conditions was an important desideratum for a theory of propositions. See e.g. King [1995].

³⁹ We'll discuss King's most recent formulation of his view in King, Soames, Speaks [2014]. King [forthcoming] formulates a new version of his view that individuates propositions less finely than the latter.

⁴⁰ In using 1 as an example, King is idealizing a lot about its syntactic structure. John Collins [2007] has recently argued that King's pretending syntax is much simpler than it is for expository purposes is far from innocent, since the real complexity of syntax ends up being a problem for him. King [2011] responds to Collins.

As to what is meant by talk of *interpreting* R here, King claims that English speakers interpreting R as ascribing the semantic value of ‘skis’ to the semantic value of ‘Shane’ consists in the fact that they spontaneously and unreflectively take 1 to be true iff Shane possesses the property of skiing. Similar things happen when English speakers confront other instances of syntactically concatenated expressions: they spontaneously and unreflectively compose the semantic values of the concatenated expressions in characteristic ways. For example, when English speakers confront ‘grey house’ they do something like conjoin the properties expressed by ‘grey’ and ‘house’. In general, that speakers *interpret* syntactic concatenation in the ways they do consists in the fact that they spontaneously and unreflectively compose the semantic values of the concatenated expressions in a small handful of ways, including the ways described. King puts the fact that English speakers interpret R as ascribing the semantic value of ‘skis’ to the semantic value of ‘Shane’ by saying that *R encodes ascription in English*.

King notes that it appears that speakers of different natural languages interpret syntactic concatenation in *the same* small handful of ways. He holds that this is so because it is part of our biologically endowed language faculty. Since the claim that speakers interpret syntax in certain ways will play a role in the explanation of how propositions end up having truth conditions for King, it is important that their interpreting syntax not involve their having propositional attitudes. King thinks that the fact that their interpreting syntax in the ways they do—composing semantic values of concatenated expressions in the ways they do—is hard wired as a result of our biologically endowed language faculty gets around this worry.⁴¹

⁴¹ This is discussed in detail in King [forthcoming]

Now in virtue of the existence of the English sentence 1 or its Spanish translation, there is a two-place relation that Shane stands in to the property of skiing: *there is a context c and assignment f such that ___ is the semantic value relative to c and f of a lexical item e of some language L and ___ is the semantic value relative to c and f of a lexical item e' of L such that e occurs at the left terminal node of the sentential relation R that in L encodes ascription and e' occurs at R 's right terminal node.* This relation, King claims, is the relation that holds Shane and the property of skiing together in the proposition that Shane skis: it is the propositional relation of that proposition.

King [2007, 2009] calls an object possessing a property, or n objects standing in an n -place relation, or n properties standing in an n -place relation or etc. a *fact*. Then according to King the proposition that Shane skis is the fact consisting of Shane and the property of skiing standing in the two-place propositional relation mentioned above.

Now that King has said what structured propositions are, he goes on to explain how/why they have truth conditions. For the moment, let's suppress the fact that for King the propositional relation is complex (e.g. it has the sentential relation R of 1 as a component or "part"), and concentrate on the idea that on his view the proposition that Shane skis is a fact consisting of Shane standing in the two-place propositional relation to the property of skiing. Call this proposition *1P* and picture it in tree form like 1 with the branches representing the propositional relation. Now if speakers interpreted the propositional relation of *1P* as *ascribing* the property of skiing at its right terminal node to Shane at its left terminal node, then the fact would be true iff Shane possessed the property of skiing. Recall that King claims that the *sentential* relation of the *sentence* 1 is interpreted by English speakers as ascribing the property that is the semantic value of

‘skis’ to the semantic value of ‘Shane’, which we expressed by saying that the sentential relation R encodes ascription in English. Recall too that King claims that speakers are hard-wired to do this by their biologically endowed language faculty. King argues that interpreting the *propositional* relation of 1P as ascribing the property of skiing to Shane *just is the same thing* as interpreting the *sentential* relation of 1 as encoding ascription.⁴² Hence in the end, the explanation for propositions having truth conditions for King is traceable to speakers interpreting syntax and hence ultimately to our biologically endowed language faculty.

We now turn to the theory of propositions formulated by Scott Soames [2010, 2015,] and King, Soames and Speaks [2014]. As mentioned above, Soames follows King in endorsing the three novel claims mentioned above from King [2007] and subsequent work: (i) Soames rejects theories according to which propositions have truth conditions and so represent the world as being a certain way by their very natures and independently of minds and languages as mysterious; (ii) holds that an adequate theory of propositions must *explain* how/why propositions have truth conditions and so represent the world as being a certain way; (iii) and holds that since the representational capacities of propositions cannot be something they have inherently and by their natures, their representational capacities must derive from and be explained by the representational capacities of thinking agents. However, Soames’ positive account of how/why propositions have truth conditions, and his theory of propositions more generally, differs in important ways from King’s.

Soames begins with the notion of the mental act of *predication*, which he takes to be primitive. However, he provides the following examples. If an agent perceives an

⁴² See King, Soames and Speaks [2014] Chapter 10 and King [forthcoming] for details.

object *o* as red, and so has a perceptual experience that represents *o* as being red, the agent *predicates* redness of *o*. If an agent thinks of *o* as red, she thereby predicates redness of *o*.⁴³ For Soames, predicating redness of *o* should not be confused with *believing* that *o* is red. To believe that *o* is red, one must predicate redness of *o* and do something like endorse the predication. In predicating redness of *o*, an agent merely represents *o* as red without committing herself to *o*'s redness. As we'll see, this is a crucial difference between Soames' theory and that of Hanks discussed below.

An agent predicating redness of *o* is a cognitive act token. Soames claims that the proposition that *o* is red is the act *type* of an agent predicating redness of *o*. Other more complex propositions are identified with act types of agents performing *sequences* of primitive mental acts.⁴⁴ Soames holds that one entertains a proposition by performing an instance of the act type that it is.

As to "truth functional" propositions, Soames holds that the proposition that is the negation of the proposition *p* is the act type of representing each thing as having the property of *not being such that p*, the latter being a property that is had by either everything or nothing.⁴⁵ Similar remarks apply to conjunctive and disjunctive propositions. Quantified propositions are acts of predicating complex properties or propositional functions of other properties or propositional functions. The proposition that all *G*'s are *H*'s is the act of first applying a function to the property or propositional function *g*, yielding the property of *being true of all things of which g is true* and then predicating the latter of the property or propositional function *h*.

⁴³ Soames [2010a] p. 103.

⁴⁴ Soames needs a number of primitive mental acts beyond predication. See [Soames 2010a] p. 115, 122.

⁴⁵ Soames [forthcoming].

When an agent predicates redness of *o*, and so entertains the proposition that *o* is red, the agent *represents* *o* as being red. But this is a matter of *the agent* representing things being a certain way. *Propositions*, act types for Soames, are themselves supposed to represent things as being a certain way. But initially it may not be clear how that could be. In performing an act token of predicating redness of *o*, an agent represents *o* as being red precisely because she is predicating. In what sense could the *act type* be predicating redness of *o* and so represent *o* as red? Soames says that the act type represents *o* as being red in the derivative sense that for an agent to perform it is for the agent to represent *o* as being red.

On Soames' account there are many more propositions than one might have expected. Consider the proposition that Plato was human. Call this proposition *P*. Suppose now I use the sentence 'Plato was human' to perform *P* by understanding the sentence. I thereby use the name to pick out Plato, use the noun to pick out humanity and use 'was human' to predicate humanity of Plato. Using the sentence in this way is for Soames a representational cognitive act itself and so counts as a proposition *P** that is distinct from *P* (since entertaining *P* does not require e.g. using the name to pick out Plato, but entertaining *P** does). Entertaining *P** is a way of entertaining *P*, but not vice versa. Similarly, in understanding each of the following, I entertain the proposition that Hempel was a philosopher, which we'll call *H*:

2a. Carl Hempel was a philosopher.

2b. Peter Hempel was a philosopher.

But in understanding 2a I also entertain a proposition *H_c* ($\neq H$) whose grasp requires me identify Hempel by cognizing him using the name 'Carl', which proposition I do not

entertain in understanding 2b. And in understanding 2b I also entertain a proposition H_p ($\neq H$ and $\neq H_c$) whose grasp requires me to cognize Hempel using the name ‘Peter’, which proposition I do not entertain in understanding 2a. So in understanding both 2a and 2b I entertain three propositions on Soames’ view: H , H_c and H_p .⁴⁶ Presumably, this also means that when an English and Filipino speaker understand the sentences ‘Carl Hempel is a philosopher.’ and ‘Carl Hempel ay isang pilosopo.’, respectively, though there is a common proposition they entertain (H above), each also entertains another propositions that the other does not (one involves using ‘is a philosopher’ to predicate being a philosopher of Hempel, the other involves using ‘ay isang pilosopo’ instead).

Jeff Speaks (King, Soames, Speaks [2014]) defends the view that propositions are properties. The proposition expressed by ‘Amelia talks’, for example, is the property *being such that Amelia instantiates talking*. Speaks holds that this property is expressed by the sentence in virtue of the fact that the syntactic concatenation in the sentence contributes the relation *___ is such that ___ instantiates ___* to the proposition expressed (as Speaks notes, this is his version of King’s notion of interpreting syntax), and the contents of ‘Amelia’ and ‘talks’ (Amelia and the property of talking, respectively) fill the second and third slots in this relation (in that order), yielding the property *being such that Amelia instantiates talking*. Truth for propositions is just instantiation: a proposition is true iff it is instantiated. Further, if a proposition is instantiated, everything instantiates it. If the actual world is such that Amelia instantiates talking, than so is you, Paris and everything else. Further, a proposition P is true at a world w iff if w were actual, P would

⁴⁶ Soames [forthcoming].

be instantiated.⁴⁷

Since we want there to be false and even necessarily false propositions, Speaks's account requires uninstantiated properties and even properties that couldn't be instantiated. Speaks notes that this is a cost of his account but the price doesn't seem terribly high. Obviously, it does mean, though, that no one whose theory of properties eschews uninstantiated properties can adopt Speaks's account.

Turning to the propositional attitudes, according to Speaks to believe that Amelia talks is to bear an attitude towards the property *being such that Amelia talks*. In particular, Speaks claims it is to believe something is such that Amelia talks. But putting things this way obscures the fact that for Speaks belief is a relation between an individual and a property (what appears to be said to be believed here is that something is such that Amelia talks, and that doesn't sound like a property). Perhaps it is better to make explicit that belief is a relation to a property for Speaks and say that to believe that Amelia talks is to bear the believes-instantiated relation to the property *being such that Amelia talks*. Speaks holds that one may believe-instantiated a property because there is some particular thing that one believes instantiates the property. Speaks suggests that one might believe-instantiated the property that Amelia talks because one believes that the world instantiates that property. Speaks suggests that this fits well with the view that in believing, one takes the world to be a certain way.

There are other cognitive relations we bear to properties that are not propositions on Speaks' view. Here he wants to give an account of "first person" mental states that others have called belief, desire, etc. *de se*. Agents can bear the relation of self-

⁴⁷ Actually, Speaks expresses doubt as to whether this is what he wants to say ultimately. See King, Soames and Speaks [2014] Chapter 5 note 8.

attribution to properties like being on fire. This gives us “first personal” mental states of the sort discussed in the literature on *de se* belief. But note that Speaks’ account here is not one of *de se* belief because the properties self-attributed are not propositions and self-attribution of properties is not belief for Speaks. On Speaks’ account, he could believe Jeff Speaks is on fire, which for Speaks amounts to his believing-instantiated the property *being such that JS is on fire*. Or he could take himself to be on fire, which for Speaks amounts to self-attributing the property *being on fire*. The former is Speaks standing in a relation to a proposition; the latter is not.

As to the semantics of verbs of propositional attitude, Speaks takes ‘believes’ to express the following two-place relation between a person and a property: ___ takes to be instantiated the property ___ (similar remarks apply to other verbs of attitude). It is important to see that for Speaks e.g. belief ascriptions do not by means of their semantics ever assert that one self-attributes a property (similar remarks hold for desire ascriptions etc.). Thus for Speaks, both ‘I believe JS is on fire’ and ‘I believe I am on fire’ (uttered by Speaks) express the proposition that JS stands in the believes-instantiated relation to the property (proposition) *being such that JS is on fire*. Speaks suggests that perhaps the proposition that JS self attributes being on fire can be pragmatically conveyed by his uttering “I believe that I am on fire.” But Speaks is upfront about the fact that he has no explanation of the mechanism by means of which this proposition is pragmatically conveyed by uttering the sentence in question, while acknowledging that an account of the mechanism is required in order to sustain the suggested pragmatic approach.

A final point about Speaks’ view. Though propositions *qua* properties have truth

conditions (“instantiation conditions”) on Speaks view, they do not represent anything and are not about anything. But surely our mental states with propositional content, such as believing San Clemente is beautiful, *do* represent and *are* about something. But how can this be on Speaks’ view if the things that are their contents don’t have representational properties? Speaks holds that what makes my belief that San Clemente is beautiful about something is not the object of my belief (a proposition *qua* property) but the relation I stand in to it. Mental states like belief with representational properties can be factored into two parts: *a relation that one bears to the propositional content*. While most people have claimed that the latter infuses the mental state with its representational properties, Speaks claims it is (primarily) the former.⁴⁸

Peter Hanks [2015] defends a view with certain similarities to Soames’ view discussed above. Like Soames, Hanks follows King in endorsing the three novel claims from King [2007] and subsequent work mentioned above: (i) Hanks rejects theories according to which propositions have truth conditions and so represent the world as being a certain way by their very natures and independently of minds and languages as mysterious; (ii) holds that an adequate theory of propositions must *explain* how\why propositions have truth conditions and so represent the world as being a certain way; (iii) and holds that since the representational capacities of propositions cannot be something they have inherently and by their natures, their representational capacities must derive from and be explained by the representational capacities of thinking agents.

In simple cases of judging and asserting, Hanks claims we perform actions of predicating properties of objects. In silently judging that Ted Cruz is a demagogue, one

⁴⁸The qualification is here because as Speaks notes, the representational properties I instantiate when I believe snow is white have to be different from those I instantiate when I believe grass is green, and this difference is attributable to the difference in the propositions believed.

thinks of Cruz (refers to him in thought), thinks of the property of being a demagogue (expresses the property in thought) and predicates the property of Cruz. In asserting that Cruz is a demagogue, one likewise refers to him, expresses the property and predicates it of him, this time by linguistic means. According to Hanks, in predicating a property of an object, one characterizes the object as being a certain way and so does something that is true or false. That is, Hanks claims these token acts of predicating are true or false. Unlike Soames' notion of predication, Hanks notion is inherently assertive and committing. There is not some neutral thing you do in predicating and then add endorsement or commitment. Predicating *is* committing to the object possessing the property in question on Hanks' view. The proposition that Ted Cruz is a demagogue is the act *type* of predicating *being a demagogue* of Cruz. Hanks holds that this act type would exist even if it had no tokens. In general, Hanks holds that the act types that are propositions exist whether they have tokens or not.

As we've seen, the proposition that Cruz is a demagogue is the act type of referring to Cruz, expressing the property of being a demagogue and predicating it of Cruz. What Hanks calls the *interrogative proposition* expressible by the question 'Is Cruz a demagogue?' is the act type of referring to Cruz, expressing the property of being a demagogue and combining Cruz and the property in an interrogative way (rather than *predicating* the property of Cruz). Similarly, the *imperative proposition* expressed by the command 'Cruz, be a demagogue!' is the act type of referring to Cruz, expressing the property of being a demagogue and combining object and property in an imperative manner. It should be clear that Hanks rejects that there is some common underlying content running through the (assertive) proposition, imperative proposition and

interrogative proposition regarding Cruz being a demagogue. There are just three different propositions here with their “forces” (assertive, interrogative, imperative) built in.

Hanks’ explanation of why propositions as act types of the sort described have truth conditions comes in two steps. First, Hanks argues that token acts of predicating properties of objects have truth conditions. Hanks recognizes that some may doubt whether act tokens are the kinds of things that can be true and false. His main argument that they can be is that we have adverbial modifiers ‘truly’ and ‘falsely’ and that these attribute properties to action tokens. So just as ‘quickly’ in ‘Obama quickly stated that Clinton is eloquent.’ attributes a property to Obamas’s action, so Hanks claims that ‘truly’ in ‘Obama truly stated that Clinton is eloquent.’ attributes the property of being true to an action of Obama. Hanks then tries to argue that the action *type* of predicating being a demagogue of Cruz inherits the property of having truth conditions from its instances. Note that here it must be actual and possible instances that truth conditions are inherited from, since Hanks wants propositions that have never been and never will be tokened to have truth conditions. The argument here is complex since Hanks notes that types inherit certain kinds of properties from tokens and not others. Hence, Hanks seeks to explain why the having of truth conditions is the kind of property a type inherits from its (actual and possible) tokens.

Just as on Soames’ theory, on Hanks’ theory there are many more propositions than one might have thought. First, there is the proposition that is the act type consisting of referring to Clinton using ‘Clinton’ and predicating eloquence of her. It is true iff Clinton is eloquent. Then there is a distinct proposition with those same truth conditions

that is the act of referring to Clinton in any way whatsoever and predicating eloquence of her. Next, there is another proposition with these same truth conditions consisting of the act of referring to Clinton using 'Clinton' while thinking of her as Obama's former secretary of state and predicating eloquence of her. In addition, there is another proposition with the same truth conditions consisting of referring to Clinton using 'Clinton' while thinking of her as a former first lady and predicating eloquence of her. And so on. Again, all these propositions are true iff Clinton is eloquent. There is even a proposition consisting of referring to Clinton using 'Clinton' while drawing a round square and predicating eloquence of her.⁴⁹

Above we saw that for Hanks, predication endows propositions with an inherent element of judgment or assertion. Predicating a property of an object *commits* the predicator to the object having that property. For Hanks, she did something false if it doesn't. But this raises a problem for him. In disjunctive, negated, conditional propositions and others, embedded propositions do not have assertive force. They aren't asserted. But if these embedded propositions inherently have an assertoric or judgmental element, how can this be? To address this Hanks claims that 'or', 'if' and 'not' create *cancellation contexts*. Since e.g. 'or' creates a cancellation context on Hanks' view, in uttering the following sentence I fail to assert that Cruz is a demagogue:

3. Cruz is a demagogue or Clinton is eloquent.

Each disjunct expresses a proposition that includes as a sub act the act of predicating a property of the object according to Hanks. But the predication is cancelled. Hence, the asserting/committing element in the proposition is cancelled. Hanks must walk a very fine line here. The inherently assertive committal aspect of predication is what explains

⁴⁹ See Hanks [2015] pp77-78 and note 10 p. 78.

both that propositions are true and false and that unembedded propositions make assertions.⁵⁰ To explain why some embedded propositions *don't* make assertions, Hanks appeals to the notion of the predication being cancelled in virtue of occurring in a cancellation context. But of course Hanks will want to say that the embedded proposition still has truth conditions and is true or false. Somehow in canceling the predication, though assertive force is cancelled the truth conditions and truth-value aren't, even though predication is responsible for both.

Above it was mentioned that King [2007] and subsequent work endorsed three novel claims about propositions. Two of these are: (i) theories according to which propositions have truth conditions and so represent the world as being a certain way by their very natures and independently of minds and languages are mysterious and to be rejected; (ii) an adequate theory of propositions must *explain* how\why propositions have truth conditions and so represent the world as being a certain way.⁵¹ It was also noted that Soames and Hanks follow King in this respect. In a sense, Speaks does too insofar as he feels the need to explain the “aboutness” or intentionality of some mental states.⁵² So most recent literature has taken onboard King's two claims above. Philosophy being what it is, however, there have been recent theorists who want to return to something like the classical theories of Frege and Russell, where propositions were thought to be mind and language independent abstract objects that by their very natures had truth conditions and so represent the world as being a certain way. On such a view, both of King's claims are rejected. Propositions are precisely held to have truth conditions by their natures and

⁵⁰ Hanks [2015] p. 22

⁵¹ King actually made this point in earlier work. See note 38 above.

⁵² Recall that on Speaks' view, the aboutness of propositions doesn't have to be explained because they aren't about anything.

independently of minds and languages; and it is denied that there can be any explanation of how/why propositions have truth conditions. Trenton Merricks [2015] defends such a view. According to Merricks, propositions are abstract, necessary existents that essentially represent the world as being a certain way.⁵³ He also holds that the fact that propositions essentially represent things as being a certain way is primitive. That is, this fact has no explanation.⁵⁴ Further, Merricks holds that propositions are *simple*: they have no constituents.⁵⁵ On this last point at least Merricks departs from the classical views of Frege and Russell on which propositions do have constituents.

Lorraine Juliano Keller [2014] expresses sympathy for a similar view that she calls *propositional primitivism*. On this view, propositions are fine-grained *sui generis* entities. They are not reducible to nor can they be explained by entities in another ontological category. Her primitivist thinks that not much of anything can be said about the inner nature of propositions except that they are abstract, mind and language independent entities with no constituents or structure. While King, Soames, Hanks and perhaps Speaks see in such a view mystery or worse, primitivists like Keller and Merricks see elegance and simplicity.

Finally, we close with some brief remarks on how the philosophers we have discussed think of the truth of propositions and what makes them true. Frege held that the truth as applied to thoughts was *sui generis* and indefinable.⁵⁶ Hence nothing substantive can be said about it. Russell [1903] struggles with the question of how true propositions differ from false ones. He had the idea that there was a *logical sense of*

⁵³ Merricks [2015] pp. 191-94

⁵⁴ Merricks [2015] p. 195

⁵⁵ Merricks [2015] p. 207

⁵⁶ Frege [1918] p. 327

assertion in which only true propositions are asserted but he was unable to say anything substantial about it and in the end left the nature of truth to “the logicians”.⁵⁷

Once propositions were construed as sets of possible worlds, there was a very simple account of the truth: a proposition P is true at world w iff $w \in P$. Obviously, though, this doesn't seem very deep. But it does represent a change in the sense that propositions came to be seen as true and false *relative to possible worlds*.

As to the algebraic approaches, recall that Bealer [1993a, 1998] has a set of extensionalization functions that includes a distinguished extensionalization function H that properties, n -place relation and propositions their actual extensions. Where $\text{pred}_s(F,o)$ is the proposition that singularly predicates property F of individual o , $H(\text{pred}_s(F,o))=T$ iff $o \in H(F)$. But $o \in H(F)$ just in case o has property F . Thus Bealer's propositions are made true by things being a certain way (objects possessing properties etc.). Structured proposition theorists in the 1980's like Soames [1987] gave definitions of *truth at a world* for propositions. Where P^* is an n -place relation and o_1, \dots, o_n are n individuals, we get clauses in that definition such as

A proposition $\langle\langle o_1, \dots, o_n \rangle P^* \rangle$ is true relative to a circumstance E iff the extension of P^* in E contains $\langle o_1, \dots, o_n \rangle$.

Looking at clauses like this, it is natural to think that a structured proposition represents the world as being a certain way by having its propositional constituents configured a certain way in the proposition. Since these constituents are things like objects, properties and relations, we can say that by configuring objects o, o' and the two-place relation R a certain way in the proposition, the proposition represents the world as being one in which oRo' .

⁵⁷ Russell [1903] section 52

Finally, despite all the differences between their views, all of King, Soames, Speaks, Hanks, Merricks and Keller take propositions to be have truth conditions and so to be true or false relative to possible worlds.⁵⁸ On all these views, propositions impose conditions on a world that must be met for them to be true relative to the world. All these authors except Speaks take propositions to represent the world as being a certain way, and claim that propositions are true at worlds when they are the way the proposition represents them as being.

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⁵⁸ Merricks [2015] thinks some propositions can vary in truth-value over time. See p. 112.

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