Philos Stud (2012) 157:211–225
DOI 10.1007/s11098-010-9633-x

Propositional structure and truth conditions

Michael McGlone

Published online: 24 October 2010

Abstract This paper presents an account of the manner in which a proposition's immediate structural features are related to its core truth-conditional features. The leading idea is that for a proposition to have a certain immediate structure is just for certain entities to play certain roles in the correct theory of the brute facts regarding that proposition's truth conditions. The paper explains how this account addresses certain worries and questions recently raised by Jeffery King and Scott Soames.

Keywords Proposition · Propositional structure · Truth conditions · Unity of the proposition

1 Introduction

A proposition is a complex, structured entity whose constituents are unified in it in a certain way. The proposition that Socrates teaches Plato, for instance, has Socrates, Plato, and the teaching relation as its constituents, and it not only unifies those constituents, but does so in a manner that differs from that in which the proposition that Plato teaches Socrates unifies those same constituents.[1]

A proposition also has truth conditions. The proposition that Socrates teaches Plato, for instance, is true if and only if Socrates teaches Plato.

[1] Throughout I assume a Russellian view of what the constituents of propositions are. However, much of what I say below can with appropriate modification be applied to a Fregean view of what the constituents of propositions are.

I also abstract away throughout from delicate issues involving tense and time.

M. McGlone (✉)
Department of Philosophy, University at Buffalo, SUNY, 113 Park Hall,
North Campus, Buffalo, NY 14260, USA
e-mail: mmcglone@buffalo.edu

But how are the facts regarding a proposition's structural features—those having to do with its constituents and their manner of unification in it—related to its core truth-conditional features? And does a proposition have either its structural or its truth-conditional features necessarily?

This paper considers the view that propositions have their structural features necessarily and that their structural features not only necessitate their core truth-conditional features, but do so in an explainable way in virtue of the very nature of those structural features. If this view is correct, then—as has traditionally been thought—a proposition has its core truth-conditional features necessarily in virtue of its nature and, not, say, because of something we do to it as a matter of contingent fact.[2]

In recent work,[3] Scott Soames raises a number of inter-related worries regarding this sort of position, and he uses these worries to motivate its rejection. This paper responds on behalf of the position in question to Soames's worries. It does so by providing an account of the manner in which a proposition's immediate structural features are related to its truth-conditional ones. On this account, the facts regarding a proposition's immediate structure are reducible to certain facts regarding its truth conditions, and this is why a proposition's structural features necessitate its core truth-conditional features. The leading idea underlying the reduction of immediate propositional structure to truth conditions is that for a proposition to immediately unify a certain set of objects in a certain way is just for that set's elements to play a certain role in the correct theory of the brute facts regarding that proposition's truth conditions.

As will be explained below, the proposal suggested here also addresses related questions that are the centerpiece of Jeffery King's recent book *The Nature and Structure of Content.*

2 Strong necessitational structural internalism

Let's call the view that a proposition has its structural features necessarily and intrinsically *structural internalism*; let's call the view that a proposition has its core truth-conditional features intrinsically and necessarily *truth-conditional internalism*;[4] and let's call the view that a proposition's structural features necessitate its

[2] This view of propositions contrasts sharply with those advocated in King (2009) and Soames (2008, unpublished) and that developed in Chapter 5 of Soames (2010). According to those views, propositions have their truth-conditional features only because of things cognitive agents do to them. It is worth noting that the view ultimately advocated in Soames (2010) differs from that advocated in Soames (2008, unpublished) and developed in Chapter 5 of Soames (2010). See Chapters 6 and 7 of Soames (2010) for the view ultimately advocated in Soames (2010). Although the official view of Soames (2010) differs significantly from that developed here, it does not do so by being incompatible with the view that propositions have their truth conditions in virtue of their very natures.

[3] See Soames (2008, unpublished) and Soames (2010).

[4] In the case of each these first two theses, the alleged necessity is to be understood as conditional on the existence of a proposition's actual constituents. Thus, for example, structural internalism allows that a proposition might not have (existed and) had the structure it actually has if one or more of its actual constituents had not existed. However, it does not allow that all of a proposition's actual constituents might have existed without its having had the structure it actually has. Similarly, for truth-conditional internalism.

core truth-conditional features *necessitationism*; Finally, let's call the conjunction of necessitationism and structural internalism, *necessitational structural internalism* (henceforth NSI).

NSI comes in both a stronger and a weaker form. The stronger form, strong NSI (or SNSI) tells us that the necessitation of truth conditions by structure is explainable; the weaker form, weak NSI, allows, but does not require, this necessitation to be brute. I am here interested in defending SNSI, which entails all of the various theses to which I have just given names.

3 Soames's discussion

As mentioned above, Soames raises a number of inter-related worries regarding SNSI, and he uses these worries to motivate its rejection.[5]

These worries are expressed in the following passage, which I quote at length:

> What structural features of a proposition do show what is predicated of what, and how do they do that? Consider the proposition expressed by [(1)], the constituents of which are a, *difference*, and b.
>
> [1] A is different from B
>
> In this proposition, the *difference* relation is predicated of a and b. What feature of the proposition shows this? Consider some candidates for being that proposition.
>
> [2] a. <difference, <a, b> >
> b. { difference, {difference, {a, {a, b}}}}
> c. < <a, b>, difference >
> d. { {a, {a, b}}, {{ a, {a, b}}, difference }}
> e. <difference, <b, a> >
> f. { difference, { difference, { b, {b, a}}}}
> g. < <b, a>, difference>
> h. { { b, {b, a}}, {{ b, {b, a}}, difference }}
>
> Any of these candidates can be used as a formal model of the proposition expressed by [(1)], as can any number of tree structures …. The problem is not that there is no determinate answer to the question which of these structures is the proposition expressed by [(1)]. The problem is that it is hard to see how *any of them*, or any other structure, could be that proposition. The proposition expressed by [(1)] is something that *represents a as being different from b*—by virtue of the fact that the difference relation is predicated of them. But there is nothing in any of these abstract structures which, by its very nature, indicates that anything is being predicated of anything. Hence, there is nothing in these structures that makes them representational, and so capable of being true or false.

[5] In fact, Soames (2008, unpublished) uses his worries to motivate the rejection of not only SNSI, but also NSI, necessitationism, and truth-conditional internalism.

> We *could*, if we wanted, adopt rules that would allow us to read off the needed information about predication from the structures, and so *interpret* them. To do this would be to *endow* the structures with representational meaning or content, thereby making them bearers of truth and falsity. However, it would not make them propositions in the Frege-Russell sense. For Frege and Russell, propositions are not things that *have meanings, or get interpretations* from us. Rather, they *are* the meanings we assign to sentences, formulas, and the like, when we interpret them. The real problem posed by Frege's and Russell's confused discussions of "the unity of the proposition" is that the answer to the question "What makes propositions representational, and hence capable of being used to interpret sentences and provide their meanings?" violates a fundamental features of what they took propositions to be. If by "propositions" we mean what Frege and Russell meant, then there are no propositions (Soames 2008, unpublished).

As I've indicated, there are a number of different worries that might be read into this passage. And more than one such worry merits attention from the proponent of SNSI. I'll begin (in the following section) by formulating what I take to be the most interesting and most important of these worries, returning later (in section 8) to consider various others that might be read into the passage.

4 The main worry

The central idea underlying the main worry on which I will focus is that it is never the case that the truths regarding a thing's structural features necessitate, in an explainable way, that it has any representational or truth-conditional features it might have.[6]

If this idea is correct, then SNSI is in trouble. According to SNSI, after all, the truths regarding the necessary structural features of the proposition that Socrates teaches Plato necessitate its core truth-conditional features in an explainable way. As we'll understand this commitment, it entails (at the very least) that various truths that predicate only structural features of the proposition in question necessarily imply, in an explainable way, the proposition expressed by (3).

[3] The proposition that Socrates teaches Plato is true if and only if Socrates teaches Plato

Moreover, being true if and only if Socrates teaches Plato is a truth-conditional (and presumably also a representational) feature, and the proposition expressed by (3) is, more or less, one to the effect that the proposition that Socrates teaches Plato has that truth-conditional feature. So, if it is never the case that the truths regarding a

[6] Soames's talk of "showing" and being "read off" might suggest that the problems he has in mind are more closely tied to issues of explainable a priori entailment than they are to explainable necessary entailment. As will become clear below, both the problem outlined here and my response to it can be reformulated, without loss of plausibility, in terms of an alleged entailment that is explainably both necessary and a priori.

thing's structural features necessarily entail in an explainable way that it has any representational or truth-conditional features it might have, then SNSI must be mistaken.

Thus the proponent of SNSI must, on pain of inconsistency, reject the core idea underlying this first worry. However, I think it would be a mistake to conclude that this worry does not pose a significant challenge for SNSI; I think it does. First, according to SNSI there is not only a necessary connection between a proposition's structure and its truth conditions, but also one that is *explainable*. Second, it is, as Soames suggests, hard to see how the structural features of any of the structured entities he considers—the examples in (2) or any tree structure—could necessarily entail in an explainable way any representational or truth-conditional features those structures might have. Third, it is at least *prima facie* plausible that the structural features of the entities that Soames considers are an adequate sample of the sorts of structural features which a proposition might have.

The challenge posed by these considerations, then, is to provide an account of the manner in which a proposition's structural features are related to its truth-conditional features that explains why the alleged necessary connection between structure and truth conditions exists.

5 A truth-conditional account of propositional structure: first pass

On the view I want to endorse, certain facts regarding a proposition's truth conditions are brute and all of the facts regarding its immediate structure are reducible to the brute facts regarding its truth conditions. Moreover, the manner in which a proposition's immediate structural features are reducible to its truth-conditional features ensures that its structural features necessitate its core truth-conditional features, and this reducibility is an essential part of an explanation of why this necessitation holds. A proposition's structural features are different from those of any of the structured entities that Soames considers in that its structural features, unlike those of the various structured entities he considers, are inherently representational. In slogan form, my view is that a proposition's immediate structure is truth-conditional structure.

The leading thought underlying my reduction of immediate structure to truth conditions is rather simple: that for a proposition to immediately unify a certain set of objects in a certain way—and hence for it to have the immediate structure and the immediate constituents it does—is just for the elements of that set to play certain roles in the correct theory of the *brute* facts regarding that proposition's truth conditions.

Although I think *all* of a proposition's core structural features are reducible to truth-conditional (and instantiation-conditional) facts, I will here focus only on a few structural features. In particular, I will focus on what it is for a proposition to *immediately unify* a given set of objects, what it is for a proposition to have something as an *immediate constituent*, and what it is for a proposition *to immediately unify* a given set of objects *in a particular manner*. I will focus only on

these features because doing so is sufficient to establish that a proposition's structure necessitates its truth conditions in an explainable way.

Before considering (in the next section) a fully general version of my proposal, I'll focus (in the remainder of this section) on a special case. This I hope will help fix ideas.

Consider again the proposition that Socrates teaches Plato. Many of this proposition's most salient truth-conditional features provide an inadequate basis for a reduction of its structure to its truth conditions. Many such properties are inadequate for this purpose simply because they are had not only by this proposition, but also by many others and because (as I will assume) numerically distinct propositions always differ in their structural features. Each of the truth-conditional features specified in (4), for example, is had, not only by the proposition under consideration, but also by many others.

[4] a. being true if and only if Socrates teaches Plato
b. being true if and only if <Socrates, Plato> instantiates the teaching relation
c. being an *x* such that it is necessary that *x* is true if and only if <Socrates, Plato> instantiates the teaching relation
d. being an *x* such that it is both necessary and *a priori* that *x* is true if and only if <Socrates, Plato> instantiates the teaching relation

The conjunctive proposition that Socrates teaches Plato and someone teaches Plato is but one of the uncountably many examples of propositions other than the proposition that Socrates teaches Plato that has all of (4a–e).[7]

Considering this fact may inspire pessimism as to the prospects of a reduction of this proposition's structural features to its truth-conditional ones. However, there is a truth-conditional feature intimately related to those specified in (4) that the proposition that Socrates teaches Plato and nothing else has. And this feature provides an appropriate basis for a reduction of that proposition's immediate structural features to its truth-conditional ones. At any rate, this is my contention.

This proposition is the one and only thing there is (and hence the one and only proposition) that has the feature designated in (4b) *as a matter of brute fact*. That is, it and it alone is *brutely* true if and only if <Socrates, Plato> instantiates the teaching relation.[8] In particular, the conjunctive proposition considered in the previous paragraph—the proposition that Socrates teaches Plato and someone teaches Plato—does not have the feature specified in (4a) *as a matter of brute fact*. Rather, the fact that this conjunctive proposition has that feature is *explained by* its having certain other truth-conditional features brutely and by certain necessary *a priori* truths.

In addition to maintaining that the proposition that Socrates teaches Plato is the one and only thing there is that is brutely true if and only if <Socrates, Plato> instantiates the teaching relation, I maintain that the ordered triple <the teaching relation, Socrates, Plato> is the one and only sequence $<x_1, \ldots, x_n>$ such that it is a

[7] Throughout "if and only if" is to be understood as expressing the material bi-conditional.

[8] Here 'brutely' is to take scope over '*x* is true if and only if < Socrates, Plato > instantiates the teaching relation', not just 'is true'. Similarly, throughout.

brute fact that the proposition that Socrates teaches Plato is true if and only if $<x_2, \ldots, x_n>$ instantiates x_1.

The claims I have just made about what is and is not a brute truth-conditional fact regarding the proposition under consideration raise a number of potential worries—and in fact, a number of worries over and above those that arise *simply* because these claims attribute brute truth-conditional features to that proposition. But rather than pausing to address such worries at this point, I will continue to explain how I think this proposition's immediate structural features are related to its having the brute truth-conditional features it does. I will briefly address some worries about what are and are not brute truth-conditional facts regarding various propositions below (in sections 7 and 8).

All of the core immediate structural facts regarding this proposition are reducible to the fact that it is brutely true if and only if <Socrates, Plato> instantiates the teaching relation. In particular, the fact that it immediately unifies the set {Socrates, Plato, the teaching relation} and no other; the fact that Socrates, Plato, the teaching relation, and nothing else are its immediate constituents; and the fact that it immediately unifies the set it does *in the particular manner in which it does* are reducible to the fact that it has the truth-conditional feature in question brutely.

Consider first the facts that this proposition immediately unifies the set it does and that it has the immediate constituents it does. The following claim specifies what is fundamentally involved in its being the case that the proposition under consideration immediately unifies an arbitrary set:

> For the proposition that Socrates teaches Plato to immediately unify a set X is for it to be the case that there is an ordered sequence $<x_1, \ldots, x_n>$ such that (a) $<x_1, \ldots, x_n>$ is both drawn from and exhaustive of X and (b) it is a brute fact that the proposition in question is true if and only if $<x_2 \ldots x_n>$ instantiates x_1
>
> Moreover,
>
> for any individual x to be an immediate constituent of the proposition that Socrates teaches Plato is for it to be the case that x is an element of some set that proposition immediately unifies.

As I have suggested, the proposition that Socrates teaches Plato is brutely true if and only if <Socrates, Plato> instantiates the teaching relation. Because of this, it immediately unifies the set {Socrates, Plato, the teaching relation} and it has Socrates, Plato and the teaching relation as immediate constituents. Moreover, as I have suggested, for no sequence $<x_1, \ldots, x_n>$ other than the ordered triple <the teaching relation, Socrates, Plato> is it the case that that the proposition that Socrates teaches Plato is brutely true if and only if $<x_2, \ldots, x_n>$ instantiates x_1. Consequently, no set other than {Socrates, Plato, the teaching relation} is immediately unified by that proposition; nor is anything other than Socrates, Plato, or the teaching relation an immediate constituent of that proposition.

Let's consider now the *manner* in which the proposition in question immediately unifies the set it does. Notice first that the property of immediately unifying the set {Socrates, Plato, the teaching relation} is, on this account, existential in nature: to immediately unify that set is to be such that there is *some* sequence that has certain

features. It follows that the property of immediately unifying that set is a *determinable*. The *determinates* of this determinable, moreover, are those properties *P* such that for some sequence $<x_1, \ldots, x_n>$, *P* is the property of being a *y* such that (a) $<x_1, \ldots, x_n>$ is both drawn from and exhaustive of the set {Socrates, Plato, the teaching relation} and (b) *y* is brutely true if and only if $<x_2 \ldots x_n>$ instantiates x_1. For example, the property specified in (5) is a determinate of the determinable in question.

[5] being a *y* such that (a) the sequence <the teaching relation, Socrates, Plato> is both drawn from and exhaustive of the set {Socrates, Plato, the teaching relation} and (b) it is a brute fact that *y* is true if and only if <Socrates, Plato> instantiates the teaching relation

So, one way of immediately unifying the set in question is to do so by instantiating this determinate. And of course, this is exactly how the proposition on which we've been focusing immediately unifies that set.

As is typical of determinables, the relationship between the determinable in question here and its (instantiated) determinates is one-many. Put slightly differently, there are different ways in which a proposition might immediately unify the set {Socrates, Plato, the teaching relation}. A proposition can immediately unify that set in the way that the proposition that Socrates teaches Plato has just been observed to; but a proposition can also immediately unify that set by, for example, instantiating the property specified in (6).

[6] being a *y* such that (a) the sequence <the teaching relation, Plato, Socrates> is both drawn from and exhaustive of the set {Socrates, Plato, the teaching relation} and (b) it is a brute fact that *y* is true if and only if <Plato, Socrates> instantiates the teaching relation

And the proposition that Plato teaches Socrates (as opposed to the proposition that Socrates teaches Plato) does exactly this. Hence, on this view, the proposition that Socrates teaches Plato and the proposition that Plato teaches Socrates both immediately unify the set under consideration; but they do so in different ways, by instantiating different determinates of the property of immediately unifying that set.

The claim that says of the proposition that Socrates teaches Plato, not only that it immediately unifies the set it does, but also that it does so in the particular manner in which it does is a truth regarding that proposition's structure. Moreover, although this claim doesn't attribute any non-structural features to this proposition, it does attribute certain truth-conditional (and, in fact, representational) features to it. After all, the claim in question is one to the effect that it immediately unifies the set it does by instantiating the property designated in (5). And not only the property of immediately unifying the set it does but also that of doing so by instantiating (5) are truth-conditional features. These features are *both* structural *and* truth-conditional.

Finally, this, moreover, is why this proposition's structural features not only necessarily and *a priori* entail the truth of the proposition expressed by (3)—repeated here for convenience—but do so in an explainable way.

[3] The proposition that Socrates teaches Plato is true if and only if Socrates teaches Plato

The reductive claims I've made regarding the relationship between the structure and the truth-conditional features of the proposition that Socrates teaches Plato are, I want to submit, not only true, but true as a matter of *a priori* necessity. If this is correct, then the claim that the proposition in question is brutely true if and only if <Socrates, Plato> instantiates the teaching relation is a necessary *a priori* consequence of the claim that the proposition in question unifies the set it does in the manner in which it does. The former claim, moreover, has the claim that the proposition in question is true if and only if <Socrates, Plato> instantiates the teaching relation as a necessary *a priori* consequence. Moreover, it is a necessary *a priori* truth regarding the instantiation relation that <Socrates, Plato> instantiates the teaching relation if and only if Socrates teaches Plato. So, it is a necessary *a priori* consequence of the claim that the proposition in question unifies the set it does in the manner in which it does that it is true if and only if Socrates teaches Plato. So, as I claimed above, truths regarding this proposition's structural features necessarily and *a priori* entail the truth of the proposition expressed by (3) and do so in an explainable way. This proposition's core truth conditional features can be "read off" its core structural features. Soames's suggestion that nothing has structural features that necessitate any representational or truth-conditional features it has in an explainable way is thus false.[9]

6 A truth-conditional account of propositional structure: second pass

In the previous section, I articulated the core ideas underlying my proposed reduction as they apply to the proposition that Socrates teaches Plato. I will now briefly present my proposal in a more general form.

If the partial account suggested in the previous section is correct, the proposition that Socrates teaches Plato is a *y* such that the ordered triple <the teaching relation,

[9] My focus here has been on the passage quoted above from Soames (2008, unpublished). (I am thankful to Soames for permission to cite this source, as it was in reaction to it that this paper was originally written.) An almost identical passage occurs in Soames's more recent work (2010, Chapter 2). There are, however, some important differences. The relevant passage from Soames (2010) replaces talk of 'structure' with talk of 'formal structure', and it includes a footnote instructing the reader that by a 'formal structure' Soames means "a system of relations that organizes the constituents of the proposition in terms of relations that *are not themselves semantically primitive or semantically defined*" (31, n. 21, my italics).

I'm not quite sure what to make of these modifications. In the modified passage Soames continues to suggest that it is a problem for the view that there are propositions "in the Frege Russell sense" that no "formal structure" could be a proposition in that sense. This is puzzling because the advocate of Frege-Russell propositions need not think propositions are "formal structures" in Soames's (2010) sense. At the end of the day, one who wants to make use of the sort of argument that Soames here presents is faced with a dilemma, neither horn of which seems to suit his purposes especially well: one can understand 'structure' in either an inclusive or an exclusive sense (ala Soames (2010)). If one understands it in the first way, one's argument fails for the reasons pointed to in the body of this essay. If, on the other hand, one understands 'structure' in the second way, one limits the scope of one's argument so as to include neither (i) the view that there are propositions in the "Frege-Russell" sense nor (ii) the special case of that view advanced in this paper. Soames (pc.) informs me that it had not occurred to him at the time at which he originally wrote the body of the relevant passage that one might, as I have done here, define structural notions in terms of truth-conditional or representational ones.

Socrates, Plato> is the one and only sequence $<x_1, \ldots, x_n>$ such that *y* and *y* alone is brutely true if and only if $<x_2, \ldots, x_n>$ instantiates x_1. The final key idea underlying the general implementation of the strategy I want to endorse is that this feature that this proposition has is a determinate of a determinable that every proposition (and, in fact, no non-proposition) has. More specifically:

> For all *x*, *x* is a proposition if and only if there is one and only one $<x_1, \ldots, x_n>$ such that *y* and *y* alone is brutely true if and only if $<x_2, \ldots, x_n>$ instantiates x_1.[10]

If this is correct, then what is involved in an arbitrary proposition's immediately unifying an arbitrary set can be specified as follows:

> For all *x* and *X*, for *x* to immediately unify *X* is for it to be the case that there is an ordered sequence $<y_1, \ldots, y_n>$ such that (a) $<y_1, \ldots, y_n>$ is both drawn from and exhaustive of *X* and (b) it is a brute fact that the proposition in question is true if and only if $<y_2 \ldots y_n>$ instantiates y_1.

Moreover,

> For all *x* and *y*, for *y* to be an immediate propositional constituent of *x* is for *y* to be an element of some set that *x* immediately unifies.

If this is correct, then every proposition immediately unifies exactly one set and the property of unifying that set is a determinable that proposition instantiates in virtue of the fact that it unifies that set in a certain way.[11] Moreover, if the reduction in question is necessary a priori, that claim which says of an arbitrary proposition that it unifies the set it does in the manner in which its does, is a truth regarding only that proposition's structural features that a priori necessitates, in an explainable way, that it has the core truth-conditional features it does. If this is correct, then Soames is mistaken not only in thinking that the structural features of *some* propositions fail to necessitate their core truth-conditional features in an explainable way, but also in thinking that *any* proposition's structural features fail to do so. Since the reasoning that leads to these conclusions is a straightforward generalization of that presented in the previous section, I will not present it here.[12]

[10] I do not intend to rule out the possibility of infinite propositions as a matter of principle. Rather, I am simply ignoring their possibility to simplify the discussion.

I am also ignoring Russell's paradox regarding propositions (see n. 15 below). If the correct resolution of that paradox is in terms of a ramified theory of types, then the principles employed here will have to be replaced with ramified-type-sensitive schema of some sort.

[11] It is sometimes suggested by advocates of structured propositions that as a "general rule" the manner in which a proposition's constituents are unified in it is identical to the manner in which the meaningful constituents of sentences that express it are syntactically related to one another. (See, for example, Salmon (1989), pp. 331–392). If the view suggested here is correct, then the manner in which a proposition immediately unifies its immediate constituents is *never* identical to the manner in which the constituents of any sentence are syntactically related to one another (unless, oddly, some sentences have truth-conditional features brutely and these brute truth-conditional features of sentences are syntactic). Of course, this does not prevent a sentence's immediate syntactic structure from, as Frege (1977) (p 55) suggested, serving as an "image" of the manner in which a proposition it expresses unifies its constituents.

[12] If we were not ignoring the possibility of infinite propositions, some interesting questions would arise as to whether the structures of such propositions a priori entail their truth conditions. Corresponding issues of necessity, I take it, would be unaffected.

7 King's worries

So far I have presented my proposal as a reaction to one of the worries raised in the above-quoted passage from Soames. Before briefly addressing (in the next section) some of the further worries suggested in that passage, I would like to explain briefly how my proposal addresses various related questions that are the centerpieces of Jeffery King's *The Nature and Structure of Content*.

Consider the sequence

[7] < <Socrates, Plato>, the teaching relation>

King argues that although the ordered pair designated in (7) is not identical to the proposition that Socrates teaches Plato, that ordered pair (and various others) can be used to *represent* that proposition and its structural features. Having done so, he raises his core questions in the following passage (modified to accommodate our favorite example):

> The question is simply, what do the corner brackets and comma[s] in [(7)] represent? That is, [(7)], as a whole represents the proposition that [Socrates teaches Plato], and so the corner brackets and comma must represent some feature of this proposition. We can of course give a provisional answer to the question of what feature of the proposition that [Socrates teaches Plato] the corner brackets and comma[s] represent. Presumably, they represent whatever it is that holds the constituents of the proposition that [Socrates teaches Plato] together and endows the proposition with a certain structure. But now our original question resurfaces in a new form: What is it that holds together the constituents of the proposition that [Socrates teaches Plato] and imposes structure on it? In general propositions must have something that does this. Clearly, somehow the constituents need to be held together for there even to be a proposition. If there are no propositions, as some suggest, the constituents of alleged propositions nonetheless exist. So to have propositions in addition to their constituents, something must bind the constituents together in the proposition. Further, there seem to be propositions with the same constituents. For example, the proposition that [Socrates teaches Plato] and the proposition that [Plato teaches Socrates] appear to have the same constituents. So the difference between them must be how those constituents are arranged or structured. Our question, then, is: what is it that binds together the constituents of a proposition and imposes a structure or an arrangement upon its constituents? (2007, 8–9)

It seems quite plausible to me that the ordered pair designated in (7) is no more brutely true if and only if <Socrates, Plato> instantiates the teaching relation than it is brutely true if and only if <Plato, Socrates> instantiates the teaching relation. So, I am inclined to agree with King that this ordered pair is not identical to the proposition that Socrates teaches Plato.

Moreover, I agree with King that the ordered pair (and the notion we use to designate it) can be used to represent the core structural features of the proposition

that Socrates teaches Plato. So, it seems to me that the various questions King raises here are apt. The answers provided by the account I've suggested are as follows.[13]

First, what do the corner brackets and commas in (7) represent? Among other things they—together with the rest of the notion used to designate the ordered-pair in question—represent the proposition that Socrates teaches Plato as immediately unifying the set it does in the manner in which it does. And to represent the proposition in question as having these features is, in effect, to represent it as being the thing that is brutely true if and only if <Socrates, Plato> instantiates the teaching relation. (More precisely, this is what the notion represents when *I* use it to represent the proposition that Socrates teaches Plato, and what I think others *should* use it to represent when they use it to represent that proposition.)

Second, what is it that "holds" the proposition that Socrates teaches Plato "together" and endows it with a certain structure? What holds the proposition that Socrates teaches Plato together and endows it with a certain structure is, roughly, its being brutely true if and only if <Socrates, Plato> instantiates the teaching relation.

Third, what is the difference between the existence of a proposition and the existence of its constituents? When a proposition exists this constitutively involves the existence of something that has certain truth-conditional features brutely. The existence of the various (non-propositional) constituents of a proposition does not constitutively involve the existence of any such thing.

Finally, what structural differences are there between distinct propositions that have the same constituents? Whenever distinct propositions have the same immediate constituents those propositions differ in terms of which truth-conditional features they have brutely. As a result they differ in terms of the manner in which they immediately unify the set they do. One of these propositions unifies that set by having one truth conditional feature brutely; another does so by having another. (Recall the discussion of the structural differences between the proposition that Socrates teaches Plato and the proposition that Plato teaches Socrates in the previous section.)

8 Further worries suggested by Soames

As I mentioned above, there are a number of different worries that might be read into Soames's remarks in the above-quoted passage. Above, I articulated what I take to be the most interesting and most important of these worries. I now want to respond to three further related worries suggested in Soames's passage.

The first of these worries is that the proponent of SNSI will be unable to explain why any proposition has any of the representational features it has in terms of its structure. The second is that the proponent of SNSI will be unable to explain why any proposition has any of the representational features it has *in terms of its structure or otherwise*. The third worry is that the proponent of SNSI will be unable to explain regarding *certain* representational or truth-conditional features that a proposition has why it has them.

[13] These answers differ markedly from those that King (2007) endorses.

I'll respond to the first two of these worries together. The proponent of SNSI is able not only to explain why a proposition has various representational features it has, but to do so in terms of its structural features. For example, one can explain how it is that the proposition that Socrates teaches Plato is true if and only if Socrates teaches Plato by appealing to the fact that it unifies the set it does in the manner in which it does. Similarly, one can explain how it is that this proposition immediately predicates the teaching relation of Socrates and Plato and how it represents Socrates as teaching Plato in terms of this same structural fact. The first two further worries are thus, I believe, wide of the mark.

The third worry, on the other hand, is not wide of the mark. Although a proposition's most basic truth-conditional features can, on the view I've suggested, be "read off" its structural features, a proposition has its most basic truth-conditional feature as a matter of brute fact. So, if the view I've suggested is correct, then the proponent of SNSI cannot (truthfully) explain why a proposition has certain of its truth-conditional features.

Although this third further worry isn't wide of the mark, I must confess, to finding it rather unmoving. It would indeed be troubling, it seems to me, if we couldn't explain how any proposition had *any* of the representational or truth-conditional features it has—in terms of its structure or otherwise; surely the multifarious representational and truth-conditional features a proposition has are related to one another in systematic and explainable ways. But it seems extremely plausible—expected in fact—that certain of a proposition's truth-conditional features would best be taken as brute. As they say, explanation is likely to come to an end somewhere; that it comes to an end at the proposition that Socrates teaches Plato being true if and only if <Socrates, Plato> instantiates the teaching relation strikes me as no less plausible than the widely held views that it comes to an end at the claim that Socrates (if he exists) is an element of {Socrates} or at the claim that Socrates (or <Socrates>) instantiates humanity if and only if Socrates is human. The thought that there is anything more troubling about the claim involving propositions than there is about the corresponding claims involving set membership or property instantiation, I suspect, is a holdover of an overly inflationary conception of truth, a symptom of a desire to philosophize even when not doing so leaves one with better overall theory.[14]

9 A final worry

As I've indicated, the claims I've made about what are and are not brute facts regarding a proposition's truth conditions generate some worries over and above

[14] In connection with the analogies I've drawn here, I would like to make one clarifying remark regarding my use of 'brute' and its cognates. There is one sort of explanation that I do not intend to rule out in claiming that a proposition has its most basic truth-conditional feature brutely; I do not wish to rule out the possibility that a proposition has its most basic truth-conditional feature is explained by its essence. *If* one can explain why { Socrates } has Socrates as an element (if he exists) by saying that it is its essence to do so, then one can explain why the proposition that Socrates teaches Plato is true if and only if < Socrates, Plato > instantiates the teaching relation in a similar manner. Throughout my use of the term 'brute' should be understood as ruling out all explanations *other than essentialist explanations of this sort*. I wish here neither to affirm nor to deny that such "explanations" are explanations.

those due simply to general worries about the existence of brute truth-conditional facts. Before (in the next and final section) drawing attention to some important issues the present paper leaves open, I would like to explain briefly how I respond to one fairly obvious worry of this sort.

I've claimed that the proposition that Socrates teaches Plato is the one and only thing that is brutely true if and only if <Socrates, Plato> instantiates the teaching relation. It is natural to think, moreover, that if anything has this truth-conditional feature brutely, then the proposition that <Socrates, Plato> instantiates the teaching relation does. However, the proposition that Socrates teaches Plato and the proposition that <Socrates, Plato> instantiates the teaching are distinct. So, it is natural to think, the proposition that Socrates teaches Plato cannot, as I've suggested, be the only thing that has the feature in question brutely—either it doesn't really have that feature brutely at all or it and some other proposition both do.

I deny that the proposition that <Socrates, Plato> instantiates the teaching relation has the truth-conditional feature in question brutely. That proposition does have that feature—that is, the feature of being true if and only if <Socrates, Plato> instantiates the teaching relation; in fact, it has that feature as a matter of a priori necessity. However, the fact that it has that feature is explained by two things: first, that it is (brutely) true if and only if < < Socrates, Plato>, the teaching relation> instantiates the instantiation relation; and second, that < < Socrates, Plato>, the teaching relation> instantiates the instantiation relation if and only if <Socrates, Plato> instantiates the teaching relation.

10 Conclusion: open questions

To close, I'd like to mention four issues left open by the present paper.

First, I have suggested that all of a proposition's structural features are reducible to truth-conditional (and instantiation conditional) facts. However, I have only explained how some of a proposition's structural features are so reducible. So, one further issue left open by the current paper is that of how exactly all of a proposition's structural features are to be reduced to truth-conditional (and instantiation conditional) ones.

Second, I suggested above that the fact that the proposition that Socrates teaches Plato immediately predicates the teaching relation of Socrates and Plato and that it represents Socrates as teaching Plato is reducible to the fact that it has the core truth-conditional feature it has brutely. This suggests a more general thesis that all of a proposition's core representational features are reducible to truth-conditional (and instantiation-conditional) facts. I suspect that this more general thesis is correct. Thus a second issue left open by the current paper is that of how all of a proposition's core representational features are reducible to such facts.

Third, I have abstracted from delicate issues involving tense and time. So, a third issue left open by this paper is that of how a more exact implementation of the strategy sketched here will proceed once such issues are no longer ignored.

Fourth, I have made no attempt here to formulate a complete theory of what propositions there are—a theory that stands to propositions in the way that set

theory stands to sets. However, naïve thinking about what structured propositions there are leads to well-known paradoxes about propositions much in the way that naïve thinking about what sets there are leads to better-known paradoxes about sets.[15] Although I hope that nothing I've said here generates any *new* paradoxes for the proponent of structured propositions, I have done nothing to explain how these paradoxes should be avoided by a systematic theory of propositions. How such paradoxes are best avoided is therefore a fourth issue left wide open by the present paper.

Acknowledgements For helpful comments I am indebted to David Braun, Mark Schroeder, Scott Soames, audiences at the University of Southern California in fall 2009 and at the Central Division Meeting of the American Philosophical Association in 2010, as well as the participants in my graduate seminar at the University at Buffalo, SUNY in spring 2009.

References

Church, A. (1984). Russell's theory of identity of propositions. *Philosophica Naturalis, 24*, 513–522.

Deutsch, H. (2008). Review of Jeffery C. King's The nature and structure of content. *Notre Dame Philosophical Reviews*. http://ndpr.nd.edu/review.cfm?id=13165#_edn8.

Frege, G. (1977). Compound thoughts. In P. T. Geach, (Ed.), *Logical investigations*. Boston: Yale University Press. Originally published in 1923.

King, J. (2007). *The nature and structure of content*. New York: Oxford University Press.

King, J. (2009). Questions of unity. *Proceedings of the Aristotelian Society (Hardback)* (Vol. CIX, Part 3, pp. 257–277).

Russell, B. (1996). *The principles of mathematics*. New York: Norton. Originally published in 1903.

Salmon, N. (1989). Tense and singular propositions. In J. Almog, J. Perry, & H. Wettstein (Eds.), *Themes from Kaplan* (pp. 331–392). New York: Oxford.

Soames, S. (2008). The unity of the proposition. Unpublished manuscript.

Soames, S. (2010). *What is meaning?* Princeton, NJ: Princeton University Press.

Urquhart, A. (2003). The theory of types. In *The Cambridge companion to Bertrand Russell* (pp. 286–309). New York: Cambridge University Press.

[15] The best known paradox of structured propositions is Russell's paradox regarding propositions (1996, p. 527). See Church (1984), Urquhart (2003), and Deutsch (2008) for discussion.