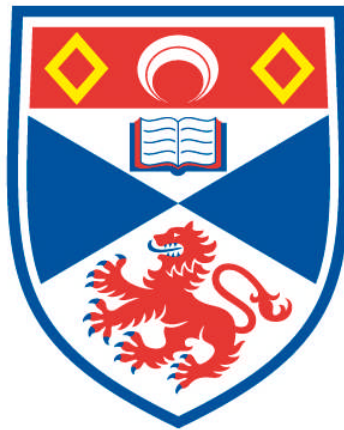


PROPOSITIONS: AN ESSAY ON LINGUISTIC CONTENT

Thomas William Strickland Hodgson

**A Thesis Submitted for the Degree of PhD
at the
University of St Andrews**



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Propositions: An Essay on Linguistic Content

Thomas William Strickland Hodgson

A thesis to be submitted to the University of St Andrews
for the degree of Doctor of Philosophy



University of
St Andrews

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University of St Andrews

13 September 2012

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I, Thomas Hodgson, hereby certify that this thesis, which is approximately 73,000 words in length, has been written by me, that it is the record of work carried out by me and that it has not been submitted in any previous application for a higher degree.

I was admitted as a research student in September, 2008 and as a candidate for the degree of Doctor of Philosophy in September, 2008; the higher study for which this is a record was carried out in the University of St Andrews between 2008 and 2012.

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This thesis is dedicated to my family and to the memory of Barbara and Trevor Hodgson.

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Abstract

This thesis presents an account of the nature of structured propositions and addresses a series of questions that arise from that proposal. Chapter 1 presents the account and explains how it meets standard objections to such views. Chapter 2 responds to the objection that this version of propositionalism is really a form of sententialism by arguing for the distinct advantages of the propositionalist view. Chapter 3 argues against a closely related view of propositions by way of general principles about how to construct such theories. Chapter 4 illustrates how a theory of propositions of the sort proposed can be defended against a recent argument that propositions need not play a central role in linguistic theory.

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Chapter 0

Introduction

0.1 Outline

This thesis has two major themes. Firstly, I am interested in what propositions are. That question is primarily one of metaphysics. Secondly, I am interested in the role that propositions play in the philosophy of language. These two interests are of course intimately connected. For example, it is because propositions seem to be important for the study of language that it is suggested that there are such things. The roles that they are expected to play also constrain their nature. The first two chapters of the thesis focus on the metaphysical question and the second two on the roles that propositions play, although there is much overlap. In this introduction I will summarise these chapters in turn. I will pay particular attention to the ways in which the various issues connect.

0.1.1 What Propositions Are

It is controversial whether or not there are propositions. Among those who believe in them, whom I will call *propositional realists*, two sorts of view can be distinguished. *Reductionists* hold that propositions can be identified with another class of object. *Non-reductionists* hold that propositions are a *sui generis* part of our ontology. Another distinction can be drawn between those who hold that propositions are representational primitively, and those who hold that they are representational derivatively i.e. in virtue of something else.

In this chapter I first describe and then defend a reductionist view of the sort that endorses derivative representation. The name I have given to the view is *interpretivist classicism* (IC). The central idea is that propositions can be reduced to *n*-tuples of objects and properties. These *n*-tuples are not primitively representational, i.e. they are not the sort of thing that have truth-values. According to my *interpretivist* view, *n*-tuples can acquire representa-

tional properties by being interpreted in a certain way by agents. Most of the chapter is taken up with defending that view from various objections. In particular I argue that there is no reason to think that propositions must be representational primitively. I also argue that there is no *Benacerraf problem* for this proposal about propositions. My goal is to show that propositions need not be uniquely suitable candidates for interpretation in order to be interpreted. In the process of making that case I suggest that the ability to interpret n -tuples is grounded in the same capacities that ground linguistic competence.

0.1.2 A Re-evaluation of Sententialism

The kind of view that I develop in chapter 1, as well as related views defended by other philosophers, might be objected to in the following way: According to IC, propositions have their representational properties only because of the existence of the language faculty. Propositions are distinct from sentences of language but they are not as independent from them as they would be according to the *sui generis* view. One might then wonder why this sort of reductionist propositional realism is preferable to *sententialist* accounts of attitude-reports which take sentences to play the role of propositions.

This objection will only have force if sententialism is a viable position. I argue that it is more attractive than it is often supposed to be. In particular I argue that if one adopts certain contemporary views about the nature of sentences then it is possible to defend sententialism against the so-called *translation argument*. Despite that, there are reasons to think that propositionalism is preferable to sententialism. In the final section of chapter 2 I present an argument for that conclusion.

0.1.3 The Relationship Between Sentence Structure and Propositional Structure

In this chapter I address two questions. The first is a big picture question about the relationship between the structure of structured propositions and the structure of the sentences that express them. I consider two views, (i) that the structures are identical, and (ii) that the structure of the latter determines the structure of the former. I reject both possibilities. My argument for this conclusion is based on consideration of a phenomenon which has attracted much attention from linguists and philosophers in recent years: the alleged presence of *unarticulated constituents* in natural languages.

The second question is narrower, but it is important for an overall defence of the position I take in chapter 1. In that chapter I argued for an account of propositions that is similar to that defended by Jeffrey King but distinct from it. In chapter 3 I argue against

King's view on the basis that any view that entails the identity claim must be rejected. My own interpretive classicist view does not have this consequence. I take this to be a major point in favour of IC and to justify my departure from King's view.

0.1.4 Underdeterminacy, Communication, and the Metaphysics of Content

In this final chapter I turn to a question about the role of propositions in theorising about language. Standard theories of propositions are often presented as if sentences of natural language relative to a context can straightforwardly mapped to the proposition that that sentence expresses. Some of the most important research programmes in contemporary linguistics, including those that investigate unarticulated constituents, reject that claim. In chapter 3 I investigated some of the consequences of this for the theory of propositions; in chapter 4 I examine another issue.

According to many theorists, the semantic content of the sentence uttered typically underdetermines the content that is expressed by the utterance. A process of pragmatic, i.e. inferential, reasoning facilitates the transition from one to the other. Ray Buchanan has argued on this basis that standard views according to which the things that speakers say and mean cannot be propositions. On his view, the best linguistic theory undermines our traditional metaphysics of content. I argue that minor modifications in the way that we think about meaning and expression can be made as a way of avoiding this radical conclusion. This removes an important objection to the traditional metaphysics of content that I have defended in chapter 1 and chapter 2. An earlier version of this chapter has been published as Hodgson, 2011.

0.1.5 The bigger picture

The overall point that emerges from chapter 3 and chapter 4 is that there are several good reasons to think that, if there are propositions, they are not particularly dependent on the sentences that express them. The point of chapter 2 is that there are good reasons to think that there are propositions. The point of chapter 1 is that there is a good account to be made of what propositions are. I take these various claims to be mutually supporting and to jointly suggest an attractive metaphysics of content.

0.2 The point of propositions

The four main chapters of this thesis take it for granted that thinking through the nature of propositions is a useful philosophical project. I have nothing original to add to the various

attempts that have been made to motivate that position, although I will touch on some of them in what follows. In the present section of my introduction I would like to set out a few of these considerations. I hope to give the impression that the nature of propositions is one that deserves to be taken seriously. There is work to be done by such things.

The first sort of consideration is one that is based on taking ordinary proposition talk, i.e. talk about that which is said or believed, at face value. This sort of argument has been used by Stephen Schiffer in his 2003, ch. 1, but I think that it is fair to say that the sort of considerations that he appeals to move most propositionalists. The argument trades essentially on what I have been calling proposition talk. Taken at face value, expressions such as ‘what Fiona said’ and ‘that there is life on Venus’ are singular terms. This might be explained away somehow but the simplest hypothesis would be that they really do refer to objects. Here are two of Schiffer’s examples that are sufficient to illustrate the point:

FVi. Harold believes that there is life on Venus, and so does Fiona.

FVii. So, there is something that they both believe — to wit, that there is life on Venus.

FViii. Harold believes everything that Fiona says.

FViv. Fiona says that there is life on Venus.

FVv. So, Harold believes that there is life on Venus.

The idea is that (i) the validity of the inference from FVi to FVii entails that there are things that are believed, and (ii) the validity of the inference from FViii and FViv to FVv entails that those things can be both believed and said. Furthermore, (iii) the validity of the latter inference entails that quantifiers can range over these things.

The face-value argument could be resisted in various ways, but if it is not then we must conclude that there are things that are said and believed. In order to be said and believed they must have certain properties. Given the felicity of utterances such as the following:

- (1) Fiona says that there is life on Venus, but that (i.e. that there is life on Venus) is false.

one of these properties must be that of being the sort of thing that has *alethic* properties such as truth and falsity. Assuming that only things that represent the world as being thus and so can be true or false, it follows that propositions have representational properties. Schiffer has a particular account of what propositions are. He takes them to be unstructured and to be among what he calls the “pleonastic” entities. In what follows I will assume that there are good arguments for the view that propositions are structured and good responses to Schiffer’s objections.

Another line of thought complements the face-value argument. If one grants that there are indeed objects of e.g. belief and assertion then it is reasonable to ask what they are. One might reach the point of accepting that there are such objects by endorsing the reasoning of the face value argument but one might also arrive at it in various other ways, perhaps by reflecting on what are the most natural candidates for being the bearers of truth and falsity. Some possible candidates, such as sentences, seem like bad candidates for being the bearers of alethic properties. Rather, it is what the sentence is used to express on a given occasion that can be evaluated in this way. I take up the question of sentences as truth bearers in chapter 2 and argue that they cannot play this role. Furthermore, identifying what is expressed with the meaning of the sentence is problematic given the well-known complications that arise when thinking about the relationship between sentence meaning and expressed content. Some of the worries I have in mind are due to Cartwright, 1987. I take up some of these issues in chapter 3 and chapter 4. Much work would be needed to turn this line of thought in to an argument for the existence of propositions. Even in its sketchy state, I think that it suggests how a philosopher of language might come to hold the view that the thesis that there are propositions is worth developing and defending. In any case, I have taken that point of view as a starting point for my thesis.

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Chapter 1

What Propositions Are

1.1 Introduction

In this chapter I defend a claim about the nature of propositions. The sort of position I adopt is *classical* in that propositions are taken to be ordered sequences or *n-tuples*. It is *interpretivist* in that propositions are not held to be primitively representational but rather are representational because they are interpreted. The combination of these claims I will call *interpretivist classicism* or IC. My project in this chapter is to explain IC and defend it against several objections. In what follows I will assume that propositions are structured abstract objects that play a number of roles in linguistic and psychological theorising. I will not rehearse the relevant theories in detail, nor will I give a general argument for the importance of propositions. The kind of arguments I have in mind are those developed over a number of years by Scott Soames in Soames, 1987, 2002, 2008a, 2010. Others have developed versions of the argument that propositions are indispensable for theories of mind and language.

Many philosophers have developed versions of the view I have called the classical view and defended a neo-Russellian version of it from various objections. A classical theory of propositions is one that entails that they are *n-tuples*. A neo-Russellian theory of propositions is one that takes the proposition expressed by 'John dances' to be the *n-tuple* $\langle \langle \text{John} \rangle, \text{the property of dancing} \rangle$ or some other *n-tuple* containing John and the property of dancing. Neo-Russellianism is a thesis about the constituents of propositions i.e. that they are objects, properties, and perhaps functions. The view is called neo-Russellian because it can be traced back to Bertrand Russell in Russell, 1937. I have in mind here work by David Kaplan and Nathan Salmon as well as the work by Soames previously cited. See Kaplan, 1989; Salmon, 1986, 1989a, 1989b, 1991, 2005.

Many objections to neo-Russellian classicism focus on its suitability for semantic and psychological theorising. I have in mind here the problems addressed in the work of David Braun in Braun, 1998, 2000, 2001a, 2001b. That issue is not my concern here. I present what follows as a defence of neo-Russellian, as opposed to e.g. neo-Fregean, classicism but I am more interested in the thesis that propositions are n -tuples than that their constituents are objects and properties. I recommend IC to neo-Fregeans too and I do not think that it would take much to amend it to that framework. I also have no commitment to a particular conception of how exactly propositions should feature in theories. The paradigm role for propositions in semantics is as the referents of that-clauses and they may also be wanted for other roles. My claim is that IC can provide them for any role required.

The issue I am addressing is one that arises for a theorist who is inclined to accept classicism, let us assume for reasons like those in the works cited above. Such a theorist may feel compelled to abandon classicism because of metaphysical worries about the entities she is considering endorsing. Two objections are raised in the contemporary literature on the topic: the *representation problem* and the *Benacerraf problem*. Some philosophers respond by rejecting propositions entirely, e.g. Michael Jubien in Jubien, 2001. Others reject realism about propositions and endorse a version of fictionalism. For examples of fictionalism see Balaguer, 1998; Woodbridge, 2006; Armour-Garb and Woodbridge, 2012. Some philosophers are realists about propositions who reject classicism. One way to reject classicism is to hold that propositions are *sui generis* Platonic entities. George Bealer has defended such a view in Bealer, 1993, 1998. Alternatively, one might hold that propositions lack fixed identity conditions. Joseph Moore has defended that view in Moore, 1999b, 1999a. Another way to reject classicism is to give a non-classical account of what propositions are. For example, philosophers working on the topic have recently claimed that propositions are *facts* (Jeffrey C King, 2007, 2009, 2012) *event-types* (Soames, 2010, 2012), and *act-types* (Hanks, 2011, 2012). My goal is to present a version of classicism that resists the objections that have motivated the non-classical theorists i.e. to provide convincing responses to the representation and Benacerraf problems.

I defend classicism by adding to it a thesis I have called interpretivism. According to this interpretivist classicist view, propositions are structured objects which are interpreted in such a way that they have representational properties. This is a position that has been defended by at least one non-classicist in the recent literature as a response to the representation problem i.e. in Jeffrey C King, 2009, 2012. I will argue that this move is at least as viable for the classicist as the non-classicist. Furthermore, I will argue that it is interpretiv-

ism that provides the means for the classicist to solve the Benacerraf problem. These claims can only be properly assessed once I have set out the view in more detail and outlined my responses to the two challenges.

There is a minor terminological difficulty with presenting the kind of view I will defend, although it is not unique to that sort of view. I will argue that propositions have the property of being true or false but might not have had it. At least, the objects that are propositions might not have had it. This might be taken to entail that there might not have been propositions. That is how I prefer to talk about this particular consequence of my view. But, I can imagine someone objecting that that is misleading. The abstract objects in question would still have existed even if they lacked the characteristic truth-conditional properties of propositions. So I should say instead that there might have been propositions which lacked these properties. I acknowledge the motivation behind the objection, but I suspect that that way of putting things is likely to be more confusing than the one I have chosen. For that reason I will use the former terminology, although I do not think anything very important rests in the way that IC is described.

1.2 Interpretivist classicism

This chapter defends an interpretivist version of the classical view that the proposition expressed by the sentence ‘John dances’ is the ordered pair $\langle\langle\text{John}\rangle, \text{the property of dancing}\rangle$. More generally, the view I have in mind is that propositions are ordered pairs of objects, properties, functions, and n -tuples. The main idea developed in what follows is compatible with variations on the nature of the objects identified with propositions. Nothing turns on the choice of pairs, i.e. ordered 2-tuples, over ordered n -tuples. This view should to be reassuringly familiar in some respects. The metaphysical account I give is at the same time rather radical, in that nobody currently writing about propositions defends it. Philosophers defend the view that propositions are lots of other things, but not that they are n -tuples. The consensus seems to be that the n -tuple view has been refuted. I do not agree. The n -tuple view is not only tenable but it is preferable to every other alternative account of the nature of propositions. In this section I will set out the two components of IC and make a case for the attractions of the view.

1.2.1 Classicism

Classicism is the view that propositions are n -tuples. As I said at the beginning of this section, I am interested in a thesis about the relationship between the following things:

- (2) John dances.
- (Γ) $\langle\langle$ John $\rangle\rangle$, the property of dancing

The relation that I am interested in is *expression*. In particular I want to defend this claim:

- (E) Relative to a context C such that the semantic value of ‘John’ relative to C is John, and that of ‘dances’ is the property of dancing, the proposition expressed by (2) is Γ .

There are some things I am not going to do. Firstly, I am not going to give an account of the semantics of English that entails E and a suitable equivalent for every grammatical English sentence. I recognise that that would need to be done eventually to complete the sort of account I am interested in. Obviously it is beyond the scope of this chapter. That means that I will not say anything substantive about what expression is. All I am trying to establish is that there are suitable things to stand in the expression relation to sentences in context. Secondly, I will not motivate certain choices implicit in the choice of theory. I have assumed that ‘John’ is a singular term, and that singular terms have their referents as their semantic values. I have also assumed that ‘dances’ has a property as its semantic value. Some deep, controversial, and hard questions are being passed over by this choice. I think that it is legitimate to do so in order to set up the debate over some other equally important questions.

I see my project here as an exercise in discovering what sorts of theory are viable. Arguments against E would presumably generalise to accounts that made different choices to the ones I have made. If these arguments against E fail then the proponent of some other version of structured propositions can make use of the strategy I employ. Like many of those involved in the recent debates about propositions I see myself as filling in a gap in theories that make use of propositions. Where the gap is can be shown by an example from the recent literature on Frege puzzles. Braun has argued for a view he calls Russellianism, which is essentially a theory about the semantic values of proper names and some verb phrases. The view is the one sketched above and incorporated in E. Here is how Braun puts the point (my emphasis):

[T]he content of ‘Hesperus’, in any context, is just the planet Venus itself; and the proposition expressed by ‘Hesperus is visible in the evening’, in context, has as constituents the contents of ‘Hesperus’ and ‘is visible in the evening’, in that context, and *can be represented by the ordered pair* \langle Venus, being-visible-in-the-evening \rangle . (Braun, 1998, pp. 557–558)

The point I am interested in is Braun's claim that the proposition can be represented by the ordered pair.¹ I take it that this raises an obvious question: what is the proposition really? I think that the claim that A can represent B typically implicates that A is not B. So there is a mystery, namely that there are entities that can be represented a certain way but which have not fully described. This is not just a feature of Braun's view. The claim that n -tuples represent propositions is widespread. Leaving aside details of presentation I endorse Braun's view to the extent that it is a claim about the semantics of attitude-reports but I hold in addition that the content is the n -tuple. I intend this as a contribution to the project that Braun is engaged in. Braun argues that there must be objects with certain constituents that are the contents of our sentences. Braun does not say what they are. According to IC propositions are the things that Braun thinks represent propositions. This removes the mystery in a neat way. The view is intended to support the neo-Russellian semantic claims by spelling out the reality that is being represented.

That n -tuples can represent propositions will be important for my account of how they get to be propositions. It is important what representation amounts to. All sorts of things could represent or *model* a proposition for some purpose or other. The point is that I do not think that just anything that could, for any important purpose, model a proposition is a candidate for being that proposition. For example, I think that for certain purposes the set of worlds at which a proposition is true can be used to model some important features of that proposition. For other purposes perhaps the proposition's truth-value could play that role. But I do not think that that would suffice to make e.g. the possible-worlds account of the nature of propositions a good account. There is a principle behind this distinction: the n -tuples can model all the features of propositions needed for the kind of semantic theory that makes use of them. The problem with the possible worlds model is that it fails to capture some distinctions that a theory ought to capture. When those features do not matter the account is adequate, when they do it is not. It would take a detailed argument to show that I am making this distinction in the right place, but I hope it is clear what sort of considerations would go in to making it.

The n -tuples I am interested in are uniquely suited to being candidates for propositions because, assuming my suppositions about semantics are granted, these objects have properties that correspond to the semantic properties of the contents of the sentences that express them. They have these properties for a particular reason, which is that they have as constitu-

¹ Braun's example is not quite the ordered pair that would be used in my implementation nor is his notation identical to mine. I would use $\langle\langle\text{Venus}\rangle\rangle$, the property of being visible in the evening).

ents the semantic values of the expressions of the sentences in question and the structure of the n -tuples encodes the semantically relevant structure of those sentences. Supporting this claim would require presenting the semantics in detail and defending it from objections. I will not undertake either task here. Much of the work of defending the theory has been done by defenders of naïve classicism in the various works cited in section 1.1. Recursive assignments of propositions to sentences and recursive definitions of truth for Russellian propositions have also been developed in Soames, 1987; Jeffrey C King, 1996. I will not need to rely on particular details of such proposals in what follows, although I will need to rely on the fact that some such theory can be given.

1.2.2 Advantages of classicism

The first major advantage to thinking of propositions in the classical way is that these entities clearly and uncontroversially exist as long as their constituents do. At least they exist if n -tuples exist. I will assume that n -tuples do exist, if their constituents do. The n -tuple identified by IC with the proposition expressed by ‘John dances’ exists if both John and the property of dancing exist. There might be philosophical worries about such claims, perhaps to do with empty names or nominalistic objections to properties. Such issues are not my concern here as they are problems for all neo-Russellians. For some relevant discussion on the problems and some possible solutions see Braun, 1993; Reimer, 2001.

This response to the problem of existence is a distinctive feature of interpretivism and marks a significant break with the philosophical tradition. According to the interpretivist, the existence of propositions is to be vindicated in two stages. The first stage is to identify a class of objects and the second is to tell a story about their interpretation. The objects called on for the first stage do not have to have primitive representational properties. Because doubts about the possibility of an object possessing such properties are at work in some anti-propositionalist lines of thought the interpretivist has an easier task than the non-interpretivist here.

The second advantage of classicism is that, granted that semantic theories that use n -tuples to model contents are good theories, it will follow that the n -tuples can play all the roles required of the propositions they are identified with. This claim would need to be established on independent grounds, but all those who think that n -tuples can model propositions will already accept it. This will make IC attractive to those with Russellian sympathies who find naïve classicism unacceptable for one reason or another. I aim to convince those people not to give up classicism.

I will now address an objection that might occur to the reader at this point: why is it better to have an account which makes use of propositions, rather than things which model propositions? A distinction needs to be made here between the sort of theory which uses entities to model the mental states usually called *propositional attitudes* without being committed to there being propositions and one that uses entities that are not propositions in order to model propositions. The former sort of view might be called a *measure-theoretic* view following Matthews, 1994, 2011. The measure-theoretic view sees a role for entities much like propositions in semantics but denies that the best theories of mental states will be put in terms of relations to such things. This is not the place to engage in a debate with that sort of view except to make clear that IC is a view of a different sort. The reliance on the idea that *n*-tuples can model the contents of attitudes is supposed to be a step in justifying the claim that they are the contents of the attitudes. The view that IC improves on is one which is committed to propositions as the objects of the attitudes but which says nothing about their nature and in fact provides no reason to think that there are any such things. I think it is preferable to say what they really are, rather than to make the weaker claim that there are such things. If that is right, and if IC is defensible, then the debate with the measure-theoretic view can begin. That debate will turn on questions about whether theories that make use of propositions make for better linguistics, cognitive science, philosophy of language, or philosophy of mind.

1.2.3 Interpretivism

I now move on to the second component of IC: interpretivism. I will motivate it and defend it from some objections in the next section. In this section I will make clear what it amounts to. The best way to do that is to discuss the problem that the view is meant to solve. This is sometimes called the *problem of propositional unity*. Russell abandoned his theory of propositions when faced by this problem, and it exercised both Frege and Wittgenstein as well as contemporary philosophers. The history of the problem is interesting but I will not dwell on it. Leonard Linsky and Graham Stevens present the motivations for Russell's rejection of his view in Linsky, 1992; Stevens, 2008. What is important is that many of the philosophers I am engaging with in this chapter see themselves as offering solutions to these problems. Three recent books by King, Soames, and John Collins each begin with discussions of Russell's views see Jeffrey C King, 2007; Soames, 2010; Collins, 2011.

I should note that I do not find the framing of the problem in terms of unity particularly illuminating. Russell, as Linsky points out, was working with a distinction between *classes as*

many which lack unity and propositions which possess it. Genuine propositional unity is to do with the relation the constituents stand in and whether that is sufficient for those that are properties to be applied to those that are objects. Even classes/sets have a kind of unity. There is such a thing as the set of natural numbers; n -tuples have at least that much unity, and they also have an internal structure. The n -tuples used by classical theories of propositions may have a very rich internal structure because they can have further n -tuples as constituents. The deep question is not what holds such things together. If there is a question here at all the answer is that they hold together because they are structures. The deep question is how they represent. This is what the problem of propositional unity amounts to, which is a problem about representation. For these reasons I prefer to talk about the *representation problem*. This is the same problem but I think that this terminology makes it clearer where the action is. With that terminological clarification out of the way I will now present my solution.

I will take the *ascription* of a n -place relation F to n objects $o_1 - o_n$ to be true just in case the objects stand in that relation. Properties are simply 1-place relations. I will assume that ascription is either a theoretical primitive, or to be something that can be analysed away but I will not provide that analysis. The problem of propositional unity can now be phrased as a question about ascription. If the proposition that John dances = Γ = $\langle \langle \text{John} \rangle, \text{the property of dancing} \rangle$ then what is it about Γ that makes it the case that it ascribes the property of dancing to John? Put another way, how is it that Γ *represents* John as possessing the property of dancing? A mere list could not do that, which means that Γ must be something more unified than that. But what does this unity consist in? In putting things this way I am following King's presentation and through him discussions of the problem in Sainsbury, 2002 and Eklund, unpublished.²

To see the force of the problem facing IC recall what Γ is. It is an n -tuple, namely $\langle \langle \text{John} \rangle, \text{the property of dancing} \rangle$. But are n -tuples the sort of thing that can represent the world? Clearly some n -tuples do not: $\langle 0, 1, 1, 2, 3, 5, 8, 13 \rangle$ is an n -tuple, and it has many properties that people might well care about, but it is neither true nor false. So what is special about Γ ? One hypothesis might be that it is a matter of Γ 's constituents. Presumably that is part of the answer, but not all of it. The following things do not represent either:

- (3) a. $\langle \text{John}, \text{John} \rangle$
- b. $\langle \text{The property of dancing}, \text{the property of dancing} \rangle$

² A draft of Eklund's paper can be found at <http://courses.cit.cornell.edu/me72/rufp.pdf> (retrieved August 4, 2012).

Maybe the point is that the constituents must be mixed in a certain sense, containing both properties and things that have properties. That is presumably part of the answer too, but it is also not the whole answer. To see this one needs to examine some slightly more complicated sentences. Take as an example:

- (4) a. John loves Mary.
b. Mary loves John.

Suppose one proposes that the following is the proposition expressed by (4a) relative to some context as opposed to that expressed by (4b):

(Δ) $\langle\langle$ John, Mary \rangle , the property of loving \rangle

Δ is also an n -tuple and it is ‘mixed’ in the right sense, i.e. it has properties and objects in it. Now the question is: what does Δ represent? Does it represent the state of affairs described by (4a) or (4b)? If Δ were a mere collection of things then there would be no good answer to this question. If being a mere collection would preclude Δ from representing, then by parity of reasoning it would also preclude Γ from doing so.

The natural thought is that it is something about both the constituents and the structure in which they are contained that gives rise to the representational properties of such objects. IC relies on the following property of the structure: that structure is a structure that is interpreted as encoding predication. In essence that is IC’s whole account of propositional unity and representation. The n -tuples are unified in the trivial sense that n -tuples are objects with a certain structure. That structure is interpreted as encoding predication. That is what makes Γ true just in case John dances, and Δ true just in case John loves Mary. What separates a proposition from a collection of objects, even a collection of objects with a rich internal structure, is that the relationship that the constituents stand in when they occupy that structure is interpreted as encoding predication. The interpretation is a matter of convention, in effect a part of the theory of language and mind that is making use of the propositions.

A nice feature of IC is that there is no problem with false propositions. The object that IC identifies with the proposition that John dances exists whether John dances or not. It is also possible to maintain that the proposition in question retains the property of being true iff John dances whether or not John dances. That the property does not hold of John does not preclude the n -tuple being interpreted as ascribing it to him. It merely entails that the ascription would be false. The need for properties and relations to really relate the objects in propositions in order to guarantee unity does not arise, which makes IC an improvement

over Russell's original abandoned idea.

Only some objects have a suitable internal structure to be interpreted, but in principle more than one class of objects might have it. Having a suitable internal structure, according to my version of interpretivism, amounts to having a structure that can be interpreted as making the right predications. This is what rules out mere sets of constituents: such a set does not have sufficient internal structure to be interpreted as predicating loving Mary to John as opposed to the property of loving John to Mary. The n -tuples used by the classical theory have a particularly natural claim to fulfilling this requirement because of the well-developed semantic theories that have made use of them. Once the interpretation is made it will follow that Γ consists of an object and a property and also ascribes the property to the object. Γ will therefore be true just in case the object has the property. Furthermore, Γ is an object that can be picked out with a singular term. Barring complications such a thing can therefore do everything that a proposition ought to do and so can be appealed to as part of a theory of reductionist propositional realism. I should note that interpretivism itself is not original. It is just the same as King's solution to the RP. The relevant difference for the moment is in the things that the theories take to be interpreted. King's view is interpretivist but not classical. There are further differences in the way that interpretation comes about in King's theory and IC. They will be discussed further in section 1.4.4.

1.3 Representation

It is a standard objection to classicism that it cannot solve the representation problem. In the previous section I introduced interpretivism as a thesis that promises a solution to that problem. The idea is that n -tuples represent because they are interpreted in such a way that they have truth-conditions.³ Objections based on representation could be raised to the combination of classicism and interpretivism. I will respond to three sorts of objection in this section. Firstly, I suspect that many philosophers will be hostile to the idea that propositions do not represent primitively. Such a philosopher may object that such prim-

³ In what follows I identify being representational with having truth-conditions. One consequence of this is that I take the derivative nature of a proposition's truth-conditional properties as being equivalent to the derivative nature of its representational properties. Ben Caplan has pointed out to me that these two notions might well come apart. One might think, for example, that sentences represent but do not have truth-conditions while propositions have truth-conditions but do not represent. Other combinations of view are possible and various complications arise about what is primitive and derived. I do not think that much is lost by sticking to my simplistic conflation of representation and truth-conditions. If pressed I would offer my account as an account of truth-conditions and leave out representation.

itive representation is part of the very idea of a proposition. I will address that objection by presenting the motivations for such a radical rethinking of the nature of propositions. Even if some objectors are convinced by such considerations I suspect that many will not be. I will respond to two more objections. The first is the worry that propositions on the IC conception cannot feature in explanations of intentionality. I will argue that this is not a role for which propositions are required. The second is the worry that on the IC conception propositions are not mind-independent. I will argue that, so long as propositions are not required to explain intentionality, there is no reason to think that they must be mind-independent in any sense stronger than IC entails.

1.3.1 Derivative representation

IC entails that propositions do not represent primitively but rather do so derivatively. The object that is interpreted would not represent if it were not interpreted. It would have unity, in the sense that it would be a certain n -tuple and could be referred to by a singular term, but it would not have propositional unity in the sense of having truth-conditions. This conception of a proposition is revisionist. It does not fit with the traditional idea that propositions are primitively representational, or that they are the primary bearers of truth. Some philosophers will reject the view at this point just because of these revisionary consequences. I think that this would be the wrong response. I will now present my case for that conclusion. The points made in this subsection, and in this section as a whole, could be made independently of classicism. I am focusing on the revisionary consequences of the interpretivist component of IC. What I am about to say could be said in defence of any interpretivist account. Some of the following points have already been made in defence of such accounts. The overall picture is different to existing interpretivist accounts on some crucial details, which I will identify as I go.

The first thing to say in defence of IC's revisionary consequences is that propositions are theoretical entities. By this I mean that they are introduced to a theory in order to play certain roles. Theorists who introduce them have to give an account of their nature and their suitability to play those roles, but they do not have to follow any pre-theoretical constraints on such accounts. It is not *a priori* that propositions represent primitively. It may be that this is a necessary condition for playing a role they are required for. I will argue below that it is not. For now I will just observe that the mere fact that most theories of propositions have posited them to be primitively representational is not a compelling reason for an IC account to do so.

There are good reasons for the IC account *not* to do so. I have become convinced of this by reflecting on a point made by King. Here is the passage where he presents the idea I am interested in:⁴

As to [the RP], there is one sort of answer to this question that, though it has probably been given (if only implicitly) by everyone who believes in structured propositions except me and [Soames], I cannot accept. The sort of answer I have in mind is any answer according to which propositions *by their very natures and independently of all minds and languages* represent the world as being a certain way and so have truth conditions. Though this is part of how propositions have been classically conceived, I cannot accept that propositions are like this. I find this idea unacceptable for two reasons. First, and most importantly, I just can't see how propositions or anything else could represent the world as being a certain way *by their very natures and independently of minds and languages*. Consider the abstract complex that is the proposition that Dara swims and that allegedly represents Dara swimming by its very nature and independently of minds and languages. It will have Dara and the property of swimming as constituents. These constituents will be held together by some relation. But however these constituents are held together in the proposition, I just can't see how the proposition, by its very nature and independently of minds and languages, could represent Dara as *possessing* the property of swimming. What feature of this abstract complex containing Dara and the property of swimming as constituents — by its very nature — makes it the case that the proposition represents Dara *possessing* the property? The most plausible answer is that the relation between Dara and the property of swimming in the proposition represents the *possession* relation. But how could a relation, by its very nature and independently of minds and languages, do that? I can't see that there is any answer to this question. But that just means that I can't see how a proposition, by its very nature and independently of minds and languages, could have truth conditions and so represent something as being the case. Second, and for the reason just given, it seems to me likely that any theory of propositions that holds that propositions represent things being a certain way by their very natures and independently of minds and languages will be unable to give any explanation of how this representation oc-

⁴ King's reference to Soames is to an unpublished, and unavailable, manuscript. Soames has since made this point in Soames, 2010, ch. 2.

curs and so will have to take it as primitive that propositions do this. I suppose it is a matter of taste whether this or that is appropriately taken as primitive, but to my mind taking any kind of representation as primitive is a paradigm example of misplacing one's primitives. (Jeffrey C King, 2009, pp. 259–260)

I think that the idea expressed in this passage captures a central dilemma, perhaps better described as a choice point, for anybody who wants to believe in propositions. If there are no primitively representational objects, then either there are no propositions, or propositions are objects that are representational derivatively. I will provide some additional support for this conclusion in the rest of this section.

Once the dilemma is in play it is possible to address the following argument to someone who objects to the revisionary consequences of IC: propositions are useful for a whole range of projects in the philosophy of language, philosophy of mind, linguistics, and the cognitive sciences. Some would argue that they are essential. That claim can be found in many of the works cited in section 1.1. This is the indispensability argument that is so popular among proponents of propositions. Here is the argument: if you want to insist that, if there are propositions, then they are primitively representational, you have two choices. Either you must deny that there are propositions and therefore give up those projects for which they are useful. Or you can make the claim that there are propositions a brute fact. This gives up any kind of reductionist aspirations about propositions.

This approach to defending IC relies on there being some good reason to endorse King's claim that brute facts about propositions would be the wrong place to locate primitive intentionality. Like King I do not claim to have a knockdown argument against taking primitively representational propositions as primitives. Instead I will argue that indispensability arguments cannot show that there are any such entities. My claim is that such arguments show only that there are entities with representational properties, not that they have such properties primitively. The step from the first claim to the second is often made by those who endorse *sui generis* propositions. Moore's work provides a clear example see Moore, 1999b, 1999a. I agree with King that this would be an odd place to appeal to a primitive commitment. One reason for thinking it would be odd is that it is far from clear that such a move results in the best explanation of the phenomena theorists of mind and language are interested in. I am happy to follow e.g. Moore in holding that the existence of objects that have representational properties is part of the best explanation of a range of phenomena. I do not accept that the claim that these objects being primitively representational is part of that best explanation. I will present my argument for that conclusion in

the next subsection.

Where does the objection to IC now stand? I have suggested that there is nothing about the roles propositions are required to play by theories of mind and language that requires them to be primitively representational, and I will present my argument for that shortly. So there is scope for a theory such as IC that denies that they are. I also claim that the standard indispensability arguments used to motivate the existence of propositions require only that they have representational properties, not that they have them primitively. I present my arguments for these conclusions in section 1.3.2. This should be enough to suggest that the IC account deserves further consideration. In order to make the case I have set out to make I now need to provide some positive reason for the conclusion suggested by the passage of King's quoted above. That is, I need to provide some additional motivation for the dilemma I suggested for those who endorse the arguments for propositions but are inclined to reject IC because of its revisionary consequences.

The virtue of the IC account that I will rely on is that it allows for a kind of reductionism and/or naturalism about propositions. Appeals to naturalism are notoriously tricky, but nevertheless I think that many philosophers would prefer to be able to formulate their theories of mind and language without a commitment to propositions as ontological primitives. Such philosophers are likely to be attracted to IC, as well as to non-classical interpretivist theories. This initial attraction ought to be enough to remove the objector's qualms about revisionism. This strategy will only work if there are no good reasons for the objects that play the role of propositions in such theories to be primitively representational.

Note that nothing in this defence of interpretivism requires classicism. I have motivated interpretivism in general. If I have succeeded in this then I have provided evidence that the best theory of propositions is an interpretivist one. These considerations count in favour of e.g. King's view as much as IC. This undercuts one sort of argument for non-classical accounts of propositions. Proponents of such views may be inclined to argue for them on the grounds that naïve classicism fails. Such arguments are found in both King's and Soames' work as well as Hanks'. I am in the process of arguing that IC does not fall to these objections. If I succeed then the motivation for non-classicist theories is undercut. That an argument for a view fails does not refute the view, of course. I will be content for the present to show that IC is as good as its interpretivist competitors.

1.3.2 Explanation

I foresee an objection to the interpretivist component of IC that goes like this: the appeal to propositions was supposed to *explain* certain things. For example, that the sentence ‘John dances’ means that John dances was supposed to be explained by the fact that the sentence stands in a certain relation to the proposition that John dances. Perhaps the fact that Mary believes that John dances was to be explained in terms of Mary standing in a certain relation to the proposition that John dances. I do not dispute that these are facts about intentionality for which we require a philosophical explanation of some sort. The point I will argue for in this subsection is that it is perfectly legitimate to deny that propositions can provide a fundamental explanation of such phenomena. If propositions are not part of the fundamental explanations of such phenomena then there is no obvious reason why they should have to represent primitively. In that case there is no good objection to the revisionary consequences of interpretivism.

If interpretivism is true, then propositions are not part of the ultimate explanations of either sort of intentionality, either of linguistic meaning or of the propositional attitudes. Many philosophers have held there is a realistic prospect of reducing the intentionality of natural languages to that of the mental representations of their speakers. An example of that sort of project would be attempts to analyse what H. P. Grice called *non-natural meaning* in Grice, 1957. Discussion of this work would take me too far afield in this chapter. For an introduction to some of it see Neale, 1992. I will assume that there are reasonable prospects for reducing linguistic intentionality to mental intentionality. More controversially, I will assume that there are at least avenues to explore for constructing a philosophically respectable account of this primary mental intentionality. The details of such views are complicated and would once again take me too far afield. A seminal theory of this type has been developed by Jerry Fodor in e.g. Fodor, 1990a, 1990b. I should emphasise that I have no particular commitment on any of these important and difficult issues. My point is just that there is a research program dedicated to finding out how it could be that physical systems could have intentional properties. As they presumably do have them some version of a theory of this sort must be right. The alternative seems to be the sort of view where there are propositions that exist outside of the natural order. My objection is not to that very idea, but to the idea that this is the right place to look for our explanations of intentionality to end. It would be no explanation at all. As King and Soames note, this is a major departure from some previous approaches to propositions and in particular to the question of unity. According to Soames’ and King’s readings of Frege and Russell they thought that

explaining how propositions hold together would be part of explaining how thinking itself is possible. All versions of interpretivism give up that possibility, which if Soames and King are right was never a viable project.

I should note that in exploring this line of response the proponent of IC gives up any claim to offer an account of predication. On the picture I have sketched, mental intentionality is taken as basic and the intentionality of sentences is derived from that. If there is a problem of predication, perhaps that of providing necessary and sufficient conditions for sentences expressing truth-evaluable contents. That problem needs to be solved, perhaps along the lines suggested in Collins, 2011, or in some other way. Alternatively, perhaps the problem can be dissolved i.e. can be shown to be the result of confusion as suggested in Peacock, 2011. In any case, the proponent of IC is committed only to the claim that the problem of predication is not to be solved by appealing to propositions. As is pointed out in Speaks, forthcoming, this puts the interpretivist, he cites King and Soames as examples, closer in spirit to a non-propositionalist view such as Davidson, 2012 than might be expected.⁵ This is an important feature of the sort of interpretivist account of which IC is an example.

These considerations suggest that IC is best defended in the following way. Firstly, it must be granted that propositions will play no explanatory role in the true account of primary intentionality, whatever that turns out to be. The IC theorist thereby takes on both the advantages and disadvantages of commitment to such a programme. The way to proceed is then to show that there is a role for propositions in such a programme and thereby justify IC. If the package of what might be called *naturalised intentionality* and IC offers better theories of mind and language on the whole than some other set of views then IC will have been justified.

In this respect the IC theory follows in a tradition of thinking about propositions and their relation to the natural world. Hartry Field has proposed a similar approach in response to what he called *Brentano's problem* in Field, 1978. This is the problem of accommodating a commitment to propositional attitudes in a psychological theory with a commitment to what might be, broadly and schematically, called naturalism. It is notoriously hard to define naturalism. For present purposes it can be thought of as a negative attitude to the prospect of becoming ontologically committed to entities that are qualitatively different in kind to those of fundamental physics. Primitively representational entities would

⁵ A draft of Speaks' paper is available at <http://www.nd.edu/~jspeaks/papers/Davidson-predication.pdf> (retrieved August 4, 2012).

be something that naturalists in this sense would have qualms about. Field himself uses the term *materialism* for the view he is interested in. The theory developed by Field is propositional but is explicitly designed to avoid an appeal to primitively representational entities in its fundamental account of intentionality. Considerations of naturalism have motivated other theorists of propositions in particular the account in Jeffrey C King, 1994. King's suggestion there is that propositions can be vindicated if they can be reduced to entities that our best scientific theories, in this case Chomsky's extended standard theory, commit us to. IC is another theory which aspires to combine realism about propositions with avoiding unnecessary ontological commitment. Propositional theories tend to be theories of linguistic and mental phenomena. The particular approach IC takes is to rely on theories of the intentionality of mental and linguistic representations for its account of the (derived) intentionality of propositions. IC allows for the formulation of theories of mind and language that makes use of propositions but which is ontologically committed to mental states rather than primitive propositions.

Fully vindicating the approach I have been suggesting for the defence of IC is beyond the scope of this chapter. I will offer instead one strategy for defending the appeal to an eventual theory of naturalised intentionality. My strategy for defending the reasonableness of the commitment to naturalised intentionality is to pose a challenge to any potential opponents. The challenge is to say why an appeal to primitively representational propositions would be any more explanatory than one that makes representational states primary. On such an account the phenomena that needed to be explained is reduced to the existence of such objects, which seem to be stipulated into existence. I do not find that particularly satisfying. I certainly do not see why anybody would think that it was preferable to the view I have put forward here. There is no reason to prefer a purported explanation that simply stipulates what was to be explained, without giving an account of how such a thing could be true.

The best way to see the point I am making is to consider the following schematic equivalence:

- (5) S believes that P just in case S stands in relation R to the proposition P.

There are two ways to read this sort of claim, which I will describe as two different ways to see the order of the explanation. On the first way, it is because S stands in relation R to some object P that she believes that P. Such an object's existence is a necessary condition of her so believing. Such a theory would appeal to mind and language independent propositions as part of its explanation of intentionality. Of course the theory would then be committed to

the existence of these mysterious things. The alternative way to read the schema takes the fact that S believes that P is primary. Such a theory owes an account of that primary fact, and it cannot appeal to propositions in explaining what it is to believe something. Nor can such a theory explain what it is for a mental state to have content by appealing to propositions. One way to do that would be to offer an account in terms of representations in S's mind that are hooked up in the right way to her other representations. Once such an account is in hand it will be possible to say that S stands in a relation R to certain objects, when they are interpreted, and she has the relevant representation. For example, suppose Mary has in a believing way a representation of John as dancing. Her representation attributes the property of dancing to John. We say that she believes that John dances. Because she believes that John dances we can say that she stands in a certain relation to the interpreted object Γ because it is interpreted as attributing the property of dancing to John. Saying that is no help in explaining what it is to believe that John dances, or how Mary came to believe it. The advantage of saying so is that now there is an object that Mary stands in a relation to that is systematically related to the belief relation. That is what is required for certain projects in the philosophy of language, at least according to those who want to theorise about propositions in the first place. The projects I have in mind are the ones that traditionally find a role for propositions, for example a treatment of that-clauses which analyses them as referring terms.

Another way to motivate the rejection of *sui generis* propositions in the explanation of mental states is to consider a problem that, following Armour-Garb and Woodbridge, 2012, §2.2, I will call the *access problem for propositions*. Their worry is an old one about Platonic entities. In this context a Platonic entity is something that exists outside of space and time and has its properties essentially. One view of propositions would be that they are such things, and possessing the truth-conditions that they do is one of these essential properties. The access problem is that, if we are to explain the fact that Jane believes that John dances by citing her standing in a certain relation to the Platonic entity that is the proposition that John dances, then we must explain how in principle she can stand in a relation to that entity, which is supposed to exist outside of space and time. Mary exists in space and time, but she must be related to the proposition in such a way that that very relation can feature in causal explanations of her behaviour. This is actually a problem for any realist, not just the Platonist; *n*-tuples do no better than Platonic propositions. Any object that looks like a good candidate for being a proposition looks like a bad candidate for being something that Mary can stand in the right relation to if the order of explanation is to go in that direction.

A more plausible sort of explanation starts with states of Mary's brain and the world in which she lives. Those are the things that will feature in explanations of her behaviour. So all theorists of propositions will need an account of the connection between those states and the relationship to propositions. The existence of propositions is not sufficient for such an account, and once we start from that direction it looks like *sui generis* propositions are not necessary. They will be shown to be unnecessary by reflecting on the fact that an account of intentionality will have to be given in terms that do not make use of them before the access problem can be solved. Such an account of intentionality could in principle be appealed to by the defender of IC in order to defend the derivative representational status of propositions.

A similar response to the access problem is made by Balaguer, 1998. He puts the point in the following way: when we consider sentences with the form of the left-hand side of (5) i.e.

(6) S believes that P.

it may appear as if we are committed to a kind of *mixed fact*, namely that S stands in a relation to a proposition. The fact would be mixed because it would involve both an abstract and a concrete object. Balaguer points out that, assuming that abstract objects are causally inert, the mixed fact expressed by this kind of report must supervene on two non-mixed facts: one about the concrete object S and the other about the abstract proposition P. Note that this will be common ground between Platonists, fictionalists, and those who endorse IC. Everybody owes an account of that fact about concrete objects on which the fact reported supervenes. This account cannot appeal to propositions because propositions are causally inert. If propositions were not causally inert, then the Platonist and fictionalist would have an advantage over IC because then they could appeal to propositions in an account of intentionality. As they are, this possibility is blocked for everybody involved in the debate. There is, for IC, an additional reason for this move being blocked: if IC is true then there would be no propositions without intentionality.

The two considerations just presented are really symptoms of one underlying issue. Nobody involved in the debate over the nature of propositions is entitled to appeal to them in explanations of intentionality. So it is no objection to IC that there are particular reasons why somebody who holds it cannot do so. This conclusion plays two roles in my defence of IC. Firstly, it is a response to the objection that, if propositions are not primitively representational, they cannot play a role in an explanation of intentionality. The response to that objection is that propositions should not be thought of as part of an explanation of

intentionality. This conclusion in turn lends support to the points made in the previous subsection. If propositions should not be thought of as part of an explanation of the intentionality of mental then it would be perverse to ascribe them primitive intentionality. Making that posit would not help in explaining the intentionality of mental states, which would still need to be explained. But, if the intentionality of mental states could be explained then an interpretivist about propositions can explain their representational properties without positing them as primitive. The interpretivist can explain these representational properties by appealing to the mental states of agents.

This argument, which I will call the *redundancy argument*, can be used to make a more general point. Propositionalists of all persuasions have tended to appeal to the indispensability argument in order to justify the introduction of propositions. Such arguments can only show that propositions have properties that are necessary for giving the best explanations of the phenomena we are interested in. The redundancy argument shows that having primitive representational properties is not essential for the role propositions are required to play.

1.3.3 Mind dependence

It is sometimes said that propositions ought to be *mind independent*. I take this to be an ontological claim: propositions had better be the sort of thing that would exist even if there were no minds. One reason for thinking this has already been considered and rejected. If propositions are supposed to explain intentionality then it must be part of the view that they exist prior to minds. I have taken a view according to which they are not supposed to explain intentionality which undercuts that particular motivation for mind-independence. If propositions did have to be mind-independent then that would be a fatal objection to IC because according to that view they exist only if there are interpreters who have minds. There are other considerations which might lead to the conclusion that propositions ought to be mind-independent which I will now consider.

Several other theories of propositions have to face such objections as well as IC. In particular, King has given an account whereby propositions are dependent on languages. Assuming that languages are dependent on minds, his view faces the mind-independence objection as well. My response to the objections that have been answered by King will be brief because I think that his approach is essentially right. I will spend more time on those that are not answered by him.

Firstly, the defender of IC has to reject the idea that possible worlds are somehow built

out of propositions. I take it that that is a small price to pay. I do not have a particular view about what possible worlds are, but I see no reason to think that they are collections of propositions. The defender of IC can simply endorse one of the other accounts that have been offered. There is a deep and important issue in the background that I should briefly raise at this point. I have been discussing an account of propositions that is intended to show that they are suitable for certain roles. I have described these roles as those that are required for theories of language and mind. This betrays a certain attitude to the debate over the nature of propositions. In particular it shows that I am concerned more with the foundations of the cognitive sciences than with metaphysics in general. Some theorists argue on general logical and theoretical grounds that there must be propositions and they must be necessarily existing primitively representational entities. Bealer, 1993, 1998 provides a good example of this tendency. I am not offering a response to Bealer's arguments here, rather I am trying to show that some objections to classicism can be rejected by someone who is motivated by the considerations based on foundational cognitive science. Some of these issues, to do with the nature of possible worlds, necessity, and mind-independence, are directly relevant for the foundational project. These are the questions I have chosen to discuss here.

Considerations to do with necessity might motivate another possible objection to IC. I will argue that it can be dealt with by making certain distinctions in the analysis of possibility talk. These distinctions have been used for a similar purpose by King. The objection goes like this: suppose we are interested in a philosophical analysis of a sentence such as:

(7) It is possible that there were no thinking things.

I take it that (7) is meaningful, and perhaps true. But suppose that the following analysis is offered of it:

(8) (7) is true at w iff the proposition expressed by 'There are no thinking things' in w exists and is true in some world w' .

The problem is that there is no world in which the proposition that there are no thinking things exists and is true, because if there are no thinking things in that world then there are no propositions in that world. The solution that I favour to this problem is the one adopted by King: we must distinguish between being true-in a world and true-at a world. The proposition that there are no thinking things exists in the world at which (7) is to be assessed. Its truth-conditions are known, and we can see if they hold at worlds even if it does not exist there. If the conditions hold then it is true-at that world. This approach is King's

and is developed by him in some detail as a response to various versions of this objection in Jeffrey C King, 2007, Ch. 3. For another defence of the claim that propositions need not exist necessarily see Speaks, 2012. For a useful discussion of the distinction between being true in and true at a world see Einheuser, 2012.

Another set of problems arise even when thinking about the existence of propositions within a world.⁶ For example, consider the following argument:

- i. For every non-empty set of objects, there is the power set of that set i.e. the set of all the subsets of that set. This includes the set of thought-tokens i.e. all the events of thinking a thought.
- ii. For every non-empty set there is a property of being a member of that set.
- iii. For every property F and object o, there such a thing as the proposition that o is F.
- iv. There are more properties than there are thought-tokens.

(From premise i and premise ii)

- v. There are more propositions than there are thought-tokens.

(From premise iii and premise iv)

So far there is no objection to IC. Nothing so far has committed me to denying any one of these claims. What would create a problem would be a further commitment that I might be inclined to make, namely to the claim that each proposition is interpreted by an actual act of interpretation by some agent. In that case there cannot be more propositions than there are thought tokens. This would generate a contradiction with premise v.

My response is that the propositions are not interpreted one by one. They are interpreted all at once when the convention is established. The convention is established for a class of objects that are generated recursively by the sort of semantic theory I have in mind namely a recursive assignment of *n*-tuples to *well-formed formulae* of a language. A convention that applies to every object generated by the semantics can apply to an unbounded range of propositions because the number of *n*-tuples that the theory can generate is unbounded. The theories I am appealing to here are the ones mentioned in section 1.2.1. In that case there can be propositions that have not been the targets of any particular act of interpretation, and so there is no reason to think that there must be at least as many thought-tokens as propositions. There will be as many propositions as there are wffs of the language in question which for natural languages will be a countable infinity.

Why should we think that it is possible for a whole range of propositions, i.e. *n*-tuples, to be interpreted all at once in a way that will give them representational properties? My sug-

⁶ I would like to thank John Hawthorne for pressing me on this point in conversation.

gestion is that such a thing is made possible by whatever capacity it is that allows for a subject to have a language at all. I will assume that whatever it is that is necessary and sufficient for a narrowly construed linguistic competence is to be called the *faculty of language*. For a recent survey that particularly focuses on recursive computations see Chomsky, Hauser and Fitch, 2002. One of the key facts to be explained is the unboundedness of such competence. The sort of language that we are concerned with here is capable of generating an infinite number of meaningful strings. This requires not just a way of putting lexical items together, but also a capacity to interpret the result as meaningful. It would be no good to generate the string 'John dances' unless it were possible to interpret the syntactic relationship as attributing the property denoted by 'dances' to the object denoted by 'John'. My suggestion is that the faculty of language must include the ability to both generate structures and to systematically interpret the structures generated as encoding ascription. That is just the capacity required to interpret n -tuples and so to give them representational properties.

Appealing to the capacity for recursion in this way might leave the proponent of IC hostage to the outcome of disputes among linguists. In particular, the claim made in Chomsky et al., 2002 is controversial. Evans and Levinson, 2009, §6 discusses evidence from several languages that seem not to have recursion. Whatever the status of recursion as a linguistic universal, i.e. as a feature of all human languages that is to be explained by an innate universal grammar the proponent of IC is entitled to appeal to it. More precisely, given that any normally developed human can learn a language that has recursion, it follows that any normal human has the ability to interpret a class of structures generated by a recursive system. It is not essential that this is part of universal grammar rather than general cognition.⁷

This concludes my discussion of representation. My central point is that we can say that there are a class of objects that represent, and we can say what they are. They do not represent primitively but through a conventional interpretation of their structure. This interpretation is not done for each object but for the structural properties common to all the objects of the class. I contend that such an account can provide the resources for Russellian semantics and thereby also give a natural interpretation of ordinary proposition talk that vindicates that talk.

⁷ I'd like to thank Ben Caplan for discussion of this point. For another view that takes the faculty of language, and particularly the operation of MERGE, to be central see Collins, 2011.

1.4 The Benacerraf problem

The second central problem for theories of propositions that is found in the literature is often called the *Benacerraf problem*. I will sometimes abbreviate this as BP in what follows. The name comes from the connection to an argument given by Paul Benacerraf against the prospect of reducing the natural numbers to set-theoretic objects in Benacerraf, 1965. It is not always clear what exactly the argument is supposed to be when it is applied to propositions. It is frequently appealed to by e.g. Bealer, 1998; Moore, 1999a; Jubien, 2001; Armour-Garb and Woodbridge, 2012. The BP seems to particularly motivate those who take propositions to be *sui generis* representational objects. The idea is that propositions are indispensable but that they cannot be reduced to something more basic, with that latter claim supported by the BP. This line of thought can be found explicitly in Moore. For another example see the exchange between Tim Crane and Joseph Melia in Crane, 1990; Melia, 1992; Crane, 1992. It is clear that Crane is pushed to the view that propositions are *sui generis* by an argument that appeals to the BP.

It is typical in the literature to refer to the Benacerraf problem more or less in passing, as if to something that had become common ground. As an illustration here is Jubien's presentation of the Benacerraf problem:

A long time ago Paul Benacerraf taught us that the multiplicity of theoretically adequate "reductions" of natural numbers to sets is powerful evidence that numbers aren't sets. (Jubien, 2001, p. 49)

This might be called the intuitive version of the BP. The idea is that there is just something wrong with saying that As are Bs if there are no more compelling reason for saying that than for saying that they are Cs. It is important to be clear as to why this would be problematic in a particular case. Getting clear on that will require looking at Benacerraf's original argument as it was applied to numbers.

Benacerraf argued that, because there was no principled way to decide between the following pair of reduction candidates for the sequence of the natural numbers, there is reason to reject both identifications:

- (9) a. $\langle \{\emptyset\}, \{\emptyset, \{\emptyset\}\}, \{\emptyset, \{\emptyset\}, \{\emptyset, \{\emptyset\}\}\}, \dots \rangle$
 b. $\langle \{\emptyset\}, \{\{\emptyset\}\}, \{\{\{\emptyset\}\}\}, \dots \rangle$

If Benacerraf was right about that, then presumably a parallel argument can be constructed against the sort of identification IC makes, namely that of the proposition that John dances

and Γ . That is because one could easily enough come up with an alternative n -tuple. An equivalent of (9a) and (9b) for propositions might be:

(Γ) $\langle\langle\text{John}\rangle, \text{the property of dancing}\rangle$

(Γ') $\langle\text{the property of dancing}, \langle\text{John}\rangle\rangle$

If the kind of semantic theory that uses Γ is empirically adequate, then presumably one that uses Γ' will be as well. So there is nothing to choose between them on those grounds. Unless there is something significant about the order of the elements then there will be no reason to choose one over the other at all. In one sense there is something significant about the order of the elements, but that significance is purely conventional. At least it is conventional according to the sort of solution to the representation problem that IC entails. The alternative convention could be adopted, and that would allow us to solve the RP for Γ' . The alternative theory would be another form of IC.

The important question is whether the conventionality of the significance of the particular n -tuples chosen to be propositions is a problem for a theory. In the previous section I took the view that it is essential i.e. that there is no non-conventional option available for the reductionist realist. The version of the Benacerraf problem I am interested in is an argument that it is a problem. I will do two things in this section in order to support my account. Firstly I will present what I take to be the most rigorous formulation of the problem in the literature which is found in Moore, 1999a. This takes the form of an argument against proposed identifications of propositions with n -tuples that follows closely Benacerraf's original presentation. I will argue that a premise in this argument can be denied.

Note that Benacerraf's particular worry for numbers will not apply to this case. He argued that it would be problematic to make a purely conventional and therefore arbitrary reduction in that case because choosing one sequence over another would mean that some statements and not others would become arithmetical theorems. Whatever the merits of that argument, it cannot be applied to the case of propositions. The alternative semantic theories will make the same empirical predictions whichever reduction is chosen. The observation is enough to remove one of the objections to an arbitrarily selected reduction. In what follows I will discuss others that apply in particular to IC. In each case I will show that the objection ultimately rests on the appeal to feeling that arbitrariness must be somehow problematic. In no case is there a convincing argument as to what exactly the problem is.

In the rest of this section I will explain why I think that the relevant premise of Moore's argument can be denied by a reasonable theorist of propositions. The dialectical situation

is rather tricky here, so I will take a moment to clarify it. As far as I am aware Moore's argument is the only formal presentation of the BP as it applies to propositions. When set up the way he does it is clear which premise the IC theorist will deny. Denying the premise in question amounts to accepting that the choice of the objects interpreted is arbitrary.

The response to Moore's argument immediately raises a question: is it legitimate to deny the premise in the way I recommend? The premise is supported, as far as I can tell, by something like the motivation for the intuitive version of BP. I will argue in the following subsections that this consideration seems compelling because of the desire to find a particularly appropriate structure for structured propositions, one that is uniquely suited to being identified with a certain proposition. I will then argue that there is no such uniquely suited structure. After that I will discuss two points from the recent literature on propositions that might seem to offer support to the claim that the arbitrary selection of objects for interpretation constitutes an objection to an account of propositions. I will argue that neither point establishes such an objection. In that case there is no good reason to endorse either the intuitive version of BP, or the formalised version.

1.4.1 The argument from arbitrary identification

Moore spends much more time than others who appeal to the BP on turning it into an explicit argument with very wide application. He presents his *argument from arbitrary identification* (AAI) in its general form like this:

- i. $a = b$ iff $a = c$ (premise)
- ii. $b \neq c$ (premise)
- iii. $a = b$ only if $b = c$ (from premise i by transitivity and symmetry of identity)
- iv. $a \neq b$ (from premise ii and premise iii by *modus tollens*)

As Moore writes on p. 236: 'If we substitute '2', ' $\{\{\emptyset\}\}$ ', and ' $\{\emptyset, \{\emptyset\}\}$ ' for ' a ', ' b ' and ' c ' respectively we have an instance of Benacerraf's problem'. Furthermore, if we substitute 'the proposition that John dances', ' $\langle\langle\text{John}\rangle\rangle$, the property of dancing)', and ' $\langle\langle\text{the property of dancing}, \langle\text{John}\rangle\rangle\rangle$ ' for ' a ', ' b ' and ' c ' respectively we have another instance. This is a case of the sort that Jubien was alluding in his presentation of the intuitive problem and that I am interested in.

Moore's text gives a slightly different version of the argument. Firstly he introduces the convention that double brackets around a sentence form a name of the proposition expressed by that sentence, so he would write ' $[[\text{Jack dances}]]$ '. More substantively, he

substitutes a name for the possible world intension of a sentence and a name for a neo-Russellian proposition in his version. I use two neo-Russellian propositions because I think the argument is most interesting when both the reduction candidates are part of the same empirically adequate theory.

Following Moore, the AAI applied to IC looks like this:

- i. The proposition that John dances = $\langle\langle\text{John}\rangle, \text{the property of dancing}\rangle$ iff the proposition that John dances = $\langle\text{the property of dancing}, \langle\text{John}\rangle\rangle$ (premise)
- ii. $\langle\langle\text{John}\rangle, \text{the property of dancing}\rangle \neq \langle\text{the property of dancing}, \langle\text{John}\rangle\rangle$ (premise)
- iii. The proposition that John dances = $\langle\langle\text{John}\rangle, \text{the property of dancing}\rangle$
only if $\langle\langle\text{John}\rangle, \text{the property of dancing}\rangle = \langle\text{the property of dancing}, \langle\text{John}\rangle\rangle$
(from premise i by transitivity and symmetry of identity)
- iv. The proposition that John dances $\neq \langle\langle\text{John}\rangle, \text{the property of dancing}\rangle$
(from premise ii and premise iii by *modus tollens*)

This argument is valid, and I accept that premise ii is true. Obviously any pair of reduction candidates could be used to run the argument as long as it is clear that they are not identical. In the case of ordered pairs this is trivial. A pair of tuples $\langle x_1, x_2 \rangle$ and $\langle y_1, y_2 \rangle$ are identical iff $x_1 = y_1$ and $x_2 = y_2$. Obviously this condition is not met for the two n -tuples in the argument. Perhaps one way to resist this conclusion would be to adopt some kind of theory of relative identity. Perhaps the n -tuples in question are not the same n -tuple, but they might be the same proposition. So the negation of premise ii would be true. In that case the conclusion I am arguing for in this section goes through. Of course such a move would rely on subtle and contentious points in the theory of the identity relation, so I will not rely on it.⁸

What else can be said to block the AAI? As Moore points out, premise i is not immediately obvious. The point premise i is trying to capture is that it would be arbitrary to prefer one reduction over the other. Whether or not this is true will depend on the candidates in question and so must be assessed on a case by case basis, but I think that it is true for e.g. Γ and Γ' . There is certainly no reason from the point of view of semantic theory or the possibility of interpretation. This could be taken as an argument against propositions. Moore thinks that we need propositions, so he takes his argument to show that they cannot be reduced to entities that are not propositions. If propositions are *sui generis* entities then Moore can accept the conclusion of the argument, i.e. he can admit that it is sound while denying that the proposition that Jack dances is identical to any n -tuple whatsoever.

⁸ Thanks to Olav Gjelsvik for suggesting that premise ii might be challenged in this way.

The alternative strategy, which I recommend to the defender of IC, is to deny premise i. What needs to be done to show that the denial of premise i is tenable? As far as I can tell premise i is motivated by the intuitive version of the Benacerraf problem, which is essentially the feeling that the unique right structure must be identified in order for a theory to be adequate. In the rest of this section I will describe and discuss three manifestations of this worry. I will argue that each one is insufficient to show that the reductionist realist cannot deny premise i of the AAI. Unless some other reason can be found, I suggest that this shows that the Benacerraf problem is not a problem for reductionist realism in general or IC in particular.

A discussion of Moore's own defence of premise i of the AAI will bring out the point I am making. The key point he makes in its defence is this:

We might argue for this first premise from two additional premises:

- A. Any reason for holding that $a = b$ is also a reason for holding that $a = c$, and vice versa.
- B. If there is no reason [f]or holding that $a = b$ that is not also a reason for holding that $a = c$ then $a = b$ iff $a = c$.

Premise A captures the thought that for the types of entity under consideration — in our case, natural numbers and propositions — there is no non-arbitrary motivation or “selection principle” that would justify us in choosing b over c , or c over b as the better candidate for identification with a . Premise B links this possibility with a conclusion about the truth of these identities: if we can discover no good reason, even in principle, for holding that one identity statement is true while the other is false, then we should hold that they have the same truth-value. (Moore, 1999a, p. 238)

The proponent of IC will naturally reject premise B. According to an interpretivist the identification of a particular n -tuple with the proposition that John dances is a matter of choice. It is arbitrary which of a number of candidates were interpreted. There are no reasons for choosing one over the other. It does not follow that both were in fact chosen. That would have to be the case for the consequent of B to be true. The upshot is that the interpretivist solution to the representation problem makes unsound this argument for premise i of AAI because it falsifies premise B. If there is no argument for premise i then there is no need for the interpretivist to accept the AAI. There might be other arguments, but all the discussions of the issue I am aware of seem to rely on a kind of intuitive justification for

something like premise i. In the remaining subsections of this section I will discuss some possible motivations for this intuition and ultimately reject them. Doing so will add weight to the case that the interpretivist need not be troubled by the Benacerraf problem.

1.4.2 Structure and representation

The goal of this subsection is to convince the reader that there is no such thing as self-interpreting structure.⁹ A *self-interpreting structure* for present purposes would be a structure that has, in virtue of the relationship its elements stand in, primitive representational properties. The point of spending some time on this argument is to make it clear that the only option for the theorist who wants propositions is to take them to be things that are interpreted. This is the same conclusion reached by e.g. King and Soames, although I hope that the argument is somewhat original. Once this is established, the motivation for the Benacerraf problem can be dispensed with. If all candidates for propositional structure must be interpreted, then there will be nothing wrong with saying that some have been interpreted and some not. It seems to me that one of the motivations behind the worry was the thought that some structure or other was uniquely well suited to being a propositional structure. Such a uniquely well suited structure would have to be self-interpreting. If there are no such structures then there is no reason to think that any structure is the uniquely well suited ‘right’ structure that propositions must possess. In that case it is a mistake to look for it, and a mistake to reject theories of propositions on the basis of the Benacerraf problem.

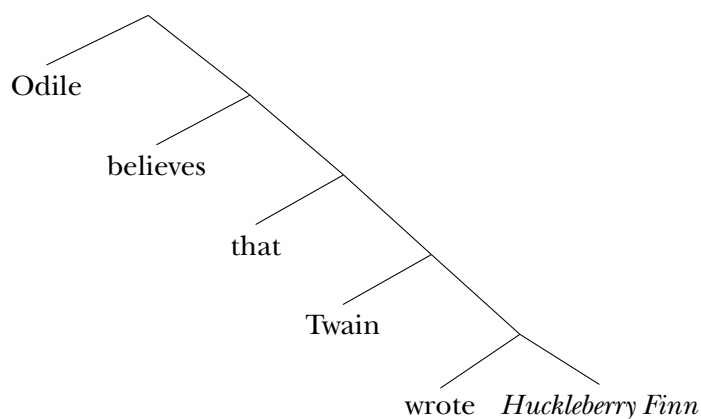
The place to begin is to think about what sorts of things could possibly be imagined to have the self-interpreting structure that I am interested in. This is an issue closely related to the representation problem, with the thought being that the representation problem is to be solved for some objects, but not others, by appeal to their structure. If the structure is unique then the Benacerraf problem will be solved too. There is little point in speculating about the motivations for philosophical theories that are not explicitly noted in the writings of the philosophers in question. For that reason I will not claim that looking for a unique structure in this sense has in fact motivated anybody working in the field. I suspect that it might have done, and I have certainly found myself in the grip of the sort of picture I am suggesting. The idea is that the BP and RP are to be solved together by identifying the object that unifies its constituents into a representational proposition in virtue of the structural properties of the object. The way to show that there is no prospect of such a neat

⁹ The main idea in this section is a development of Hodgson, 2012.

solution to both the problems is to identify the best case for such a solution and show that it fails. The best sort of view would be one where the proposition expressed by a sentence possesses the semantically relevant structure of that sentence itself. I have chosen Jeffrey King's account for definiteness, in particular the version defended in Jeffrey C King, 2007, 2009, 2012.¹⁰ The account differs substantially from King's earlier work, although I think the same points could be made about King's earlier views in Jeffrey C King, 1994, 1995, 1996.

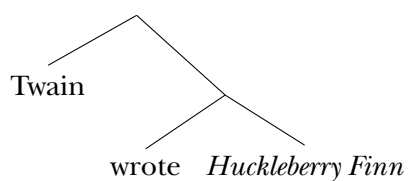
Sentences have a non-arbitrary structure. Let us assume that sentences can be identified with *logical forms* (LFs) and that these are syntactic objects consisting of nodes which are occupied by either labels for syntactic categories or by lexical items. It would not matter for my point if a different idea of LF were in play e.g. a *minimalist* approach that dispenses with labels. Nor would it matter if instead sentences were thought to be more than LFs, perhaps pairs of LFs and *phonetic forms* (PFs). King takes such an approach, following Chomsky. See Jeffrey C King, 2007, 27 & 47, fn. 44 and Chomsky, 1995. Collins, 2007 criticises King's view on the grounds that there is no independent evidence for LFs with the properties King needs. I'll leave that aside here and assume that there are such structures in order to show that even if there are this does not solve the BP and RP. Here is such a LF:

(10)



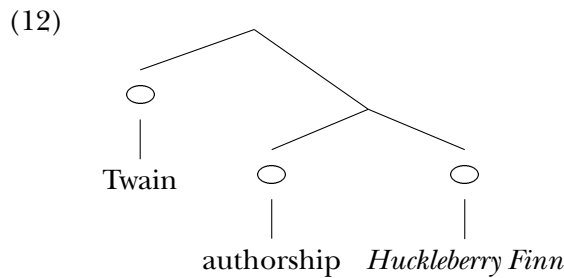
The embedded clause from the sentence displayed in (10) is:

(11)



¹⁰As discussed in Jeffrey C King, 2012, there are two slightly different versions of the view that one might adopt. On one view the facts that are identified with propositions include that the propositional relation is interpreted and on the other it is not. This will not be relevant for my point here. Caplan and Tillman, unpublished develops this point into a Benacerraf problem for King's view.

Here is one way one might try and use this structure underwrite a Russellian proposition. ‘Twain’ denotes Twain, ‘*Huckleberry Finn*’ denotes *Huckleberry Finn* and ‘wrote’ denotes the relation of authorship. Suppose there was a structured object consisting of these entities and structured by the relation they stand in in virtue of being the semantic values of the lexical items in the sentence (11). This fact would be represented by King as:



That the fact represented here is the proposition expressed by (11) is King’s account of the nature of propositions. On King’s view propositions are facts, namely the fact that there are sentences with particular structures and nodes with certain denotations. The objects are unified into a propositional structure by the *propositional relation*, which is encoded by the syntactic relation that elements of English and other natural language sentences stand in. The propositional relation is just the relation that the constituents of a proposition stand in by virtue of being constituents of that proposition. The following quote from King expresses his most recent formulation of his account of how we get from the fact that the semantic values of constituents of sentences stand in a sentential relation to the claim that propositions can be identified with such facts:

I claim that the following fact is the proposition that Dara swims, where we include as part of the fact/proposition that the propositional relation in it encodes ascription: *there is a language L, a context c and lexical items a and b of L such that a and b occur at the left and right terminal nodes (respectively) of the sentential relation R that in L encodes ascription and Dara is the semantic value of a in c and the property of swimming is the semantic value of b in c.* (Jeffrey C King, 2009, p. 265)

The central idea is this: sentences of languages such as English have lexical items standing in the sentential relation. That is just what it is for them to be sentences. That relation *R encodes ascription*, to use King’s term, because speakers of the language take it to do so, i.e. they see that when two nodes are sisters they semantically combine. In Jeffrey C King, 2009 he gives this account which is slightly different from that in Jeffrey C King, 2007. If the semantic values of the nodes are objects then these objects stand in the propositional relational in virtue of the nodes standing in the sentential relation. The propositional relation is similarly

interpreted by the language users as encoding ascription for objects and properties. This is a consequence of King's interpretivism.

James Higginbotham raises an interesting challenge to this account in his review of Jeffrey C King, 2007. The point can be put like this: explain why King's theory is different from a theory that has the role of propositions played by sentences, which is defended in Higginbotham, 2006, given the way that the problem of propositions representing is solved. Higginbotham writes:¹¹

A syntactic object is a graph, with labels on the points, and relational labels between them. King is certainly right to say that interpretive instructions are wanted: But a syntax, in the sense of a syntactic object, cannot possibly provide them. In fact, King's text does provide the instructions, but again from the outside. So far as I can see, the situation is no different from one remarked by Wittgenstein on the instructions that accompany the arrow \rightarrow : The arrow "points" in the direction you are to go; but that you should go *that way* is not determined by the figure, but rather by your knowledge of the rule that is to go with it. The rule cannot be written into the design of the arrow. (Higginbotham, 2009, p. 32)

That the syntactic structure is not as it were self-interpreting has been taken as an objection to sententialism, but King's propositional relation is no more self-interpreting than the sentential relation. Providing an object and saying that its constituents stand in the propositional relation and therefore it represents is helpful only if it is also explained why things unified by that relation represent. Such an account would vindicate the appeal to the propositional relation, as opposed to merely relying on e.g. the sentential relation. If the propositional relation must be interpreted, then why favour it over a sentential relation that must be interpreted?

I am not suggesting that King has simply failed to address an important issue. He does have an account of how the representation problem is solved. Not only does he have a solution to the problem, but in this chapter I am defending the very same solution on behalf of IC. The facts that King identifies with propositions are interpreted. They are interpreted in the way they are because the sentences that they mirror in structure are interpreted a certain way. According to King, neither the facts nor the syntactic objects, i.e. sentences, themselves are primitively representational. This is the consequence that Higginbotham

¹¹Higginbotham presumably has in mind a passage from *Philosophical Investigations* when he refers to Wittgenstein perhaps Wittgenstein, 2001, §454.

brings out in the passage quoted above.

Recognising this important fact should, I argue, lead one to abandon the idea that there is a uniquely suitable structure for propositions. Every structure has to be interpreted in order to give a proposition representational properties. This is true even for a structure that is identical to the structure of the sentence that expresses that proposition. I take it that such structures would be the best possible case for a structure that does not require outside interpretation. That they do require such interpretation is powerful evidence that there just are no structures that are uniquely suited to being identified with propositions. If that is so then one possible motivation for the intuitive Benacerraf problem has been dispelled. There is no such thing as the uniquely suitable reduction candidate.

1.4.3 Uniqueness and belief

Uneasiness about making the objects of belief a matter of theoretical choice is one source of the worry that manifests itself in support for the intuitive Benacerraf problem. One way to dispel this worry would be to show that such a move is legitimate. In my discussion of interpretivism I tried to follow this strategy when I argued that, once the role of propositions in an account of belief is properly understood, there is no reason to think that they must have primitive representational properties. If such accounts of propositions are acceptable then there is no objection to thinking that the choice of object to interpret is legitimately arbitrary. In this subsection and the one that follows it I will follow a different strategy. I will address arguments, due to Soames and King, that purport to show that there would be something problematic about the kind of arbitrariness that IC entails. Both considerations would support the intuitive Benacerraf problem because if successful they would show that there is something problematic about arbitrariness. I will discuss Soames' arguments first and address King's in the next subsection.

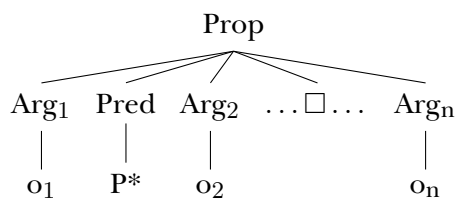
In Soames, 2010, ch. 5 he introduces the idea of a *deflationary* account of the nature of propositions. The deflationary account is not the same as IC but it has some features in common. Soames raises an objection to that account which I will call the *predication problem*. He takes this to motivate the rejection of deflationary accounts and so to provide motivation for his own version of non-classical propositional realism. If the objection to the deflationary account went through then it would also be an objection to IC because it trades on a kind of arbitrariness that is entailed by both the deflationary account and IC. I will argue that the objection fails. Before I can do that I will need to describe the deflationary view in order to make clear how Soames' objection works.

The deflationist, as Soames describes the view, gives a theory in which propositions are associated with structures that are necessary and sufficient for giving a theory of meaning. She does not try and fix one such structure if more than one would work for the theory. This is the feature that the view has in common with IC. Here is how Soames sets up his deflationary account:

The guiding idea behind the deflationary approach is that propositions are structured complexes that are constructed out of, or at least encode, the semantic contents of the constituents of the sentences that express them. In illustrating this approach I will use a simple system of hierarchical (labeled) bracketing to provide propositions in this sense. (Soames, 2010, pp. 69–70)

Soames gives the following clause for defining an adequate structure on p. 73:

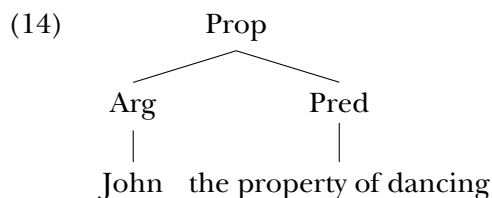
- (13) The proposition expressed by an atomic formula $[_S[_{NP}t_1[_{VP}[_{VP}[_{NP}t_2]\dots[_{NP}t_n]]]]]$ relative to an assignment A is the structure $[_{Prop}[_{Arg}o_1][_{Pred}P^*][_{Arg}o_2]\dots[_{Arg}o_n]]$, where P^* is the property expressed by P , and o_i is the referent of t_i relative to A . The structured proposition is also represented by the following tree:



For example

- (2) John dances.

will be assigned the structure



This is presented by Soames as an advance over other theories of propositions because there is a way to explain what it is to entertain such structures. Entertaining is supposed to be the broadest sort of propositional attitude, necessary for e.g. belief and desire but not sufficient for them. Soames introduces a technical notion of ‘entertain’ where the things entertained are structures such as (14). This is best thought of as an entirely new notion, entertain*. Doing so will avoid a fruitless debate over whether systems of hierarchical labeled brackets are suitable objects of the ordinary notion of entertaining something or other.

Entertaining* such a structure involves making the required predication i.e. predicating the predicate of the argument:

The theorist *stipulates* that to entertain [_{Prop} [_{Arg} o] [_{Pred} Redness]] is to predicate redness of o. In saying this he is, in effect, assigning a new, technical meaning to the verb ‘Entertain’ that explains what is meant by the theoretical claim that an agent entertains one of his abstract structures. (Soames, 2010, p. 82)

By making the predication necessary and sufficient for entertaining the structure the structure is endowed with representational properties and gains the truth-conditions we would want it to have. *Predication* is being used here to refer to a certain sort of mental action in which a subject thinks of an object as having a particular property. Soames takes this as part of the bedrock of the study of judgement. Given that we have to start with some such primitives, I agree that this is as good a one as any so I will follow Soames in using it.

Here is how I would summarise this deflationary proposal: theorists can introduce objects to play the role of propositions. Because they keep track of mental states such that a subject in these states must predicate something of something else, the requirement of such predication can be encoded by the things that keep track of the states. This gives an empirically adequate semantics according to which propositions are still merely theoretical posits.

According to the sort of account Soames is giving, all thinking essentially involves the predication of properties to objects. ‘Object’ is being used in a rather inclusive sense here. Functions are being counted as objects, as are entities such as systems of hierarchical labelled brackets. This is particularly important for complex propositions, i.e. those that have propositions as constituents. Entertaining a complex proposition requires predicating a property of one or more other propositions.

Soames argues that there is a fatal objection to deflationary views, if they take the objects entertained to be essentially constructs introduced in order to keep track of predications. This is the predication problem. Here is one way to present the argument:

- i. Entertaining a proposition requires predicating its predicate of its argument(s).
- ii. Predicating a property of some argument(s) requires having both the predicate and the object(s) predicated of, i.e. the argument(s), in mind.
- iii. For a class of complex propositions the argument(s) will be (a) proposition(s).
- iv. So, if a subject entertains a complex proposition she must have in mind at least one proposition.

(From premises i – iii)

- v. But subjects never have propositions in mind.
 vi. So we must reject premise i. (From premise iv and premise v)

For the purposes of the argument the term ‘proposition’ refers to the kind of object that the deflationary theory takes as its models of mental states. In the case of IC it will be the things identified with propositions, i.e. n -tuples. The first thing to note is that it is hardly uncontroversial what it is to have something in mind. Premise v is hard to assess unless we know what counts as having something in mind. Unless premise v is true then the argument will be unsound. The term ‘proposition’ in premise v is supposed to denote the kind of object Soames writes into his clauses. These are systems of hierarchical labeled brackets which, crucially, have been introduced by the theorist in order to keep track of mental states of the subjects of attitude-reports. Soames does not argue for the claim that no such object can be had in mind by such subjects. My first point is just that, until we know what it is to have something in mind, it is hard to know whether this strong claim about the sorts of things one can have in mind is true.

The point made above is hardly decisive. My second objection is based on an argument that the sense of ‘has in mind’ must denote a relation that has rather weak satisfaction conditions if premises i and ii are to be true. Recall that these premises rely on a close connection between entertaining a proposition and making a predication. Premise i is true because of that connection, and that connection entails that predicating a property F of object o is necessary and sufficient for entertaining the proposition that o is F. If we accept that predicating a property of an object requires having that object in mind, then it follows that entertaining any proposition requires having the relevant object(s) in mind. The conditions for having an object in mind may be hard to spell out, but they cannot be very onerous if we are to entertain many propositions.

I think it is helpful to elaborate the previous point by discussing an important feature of language that Soames himself has emphasised. It is often claimed that language can enlarge our cognitive reach. I will interpret this thesis as being essentially the claim that the ability to comprehend sentences of a language allows those with that ability to entertain propositions that they would otherwise have been unable to entertain. A thesis like this has been defended by Soames and he offers it compelling support in Soames, 1989. Suppose that the following sentences are potential *reach-enlargers* in the right sense:

- (15) a. \aleph_0 is smaller than \aleph_1 .
 b. Pluto is a distant planet.

(15b) is example (19b) from Soames, 1989, p. 587. At the time of publication that sentence

expressed a true proposition, distinct from the false proposition it expresses now. My (15a) is inspired by Soames mentioning \aleph_0 on p. 590.

A reach-enlarger is a sentence that allows those who comprehend it to entertain and express a proposition that they could not entertain before. Examples like (15a) are particularly useful because there is no other way for human subjects to get into cognitive contact with such things. There are other ways to get into contact with Pluto, but most people do not. They are able to entertain propositions about Pluto because they have mastered the use of the term 'Pluto'. Assuming that the meanings of the NPs in my examples are objects and that the propositions expressed by them are Russellian singular propositions containing e.g. Pluto then the relevant sort of acquaintance relations hold after comprehension of the sentences but did not hold before. If prior acquaintance was required then these sentences would not be reach-enlargers because reach-enlargers just are those sentences that allow for the entertaining of novel propositions. As long as any sentence is a reach-enlarger then some sentences are such as to provide acquaintance with objects in virtue of comprehension. In order for that to be possible the conditions for acquaintance/having in mind must be such that it is possible that such a thing as understanding a name can provide the necessary acquaintance with its referent. That rules out any very restrictive theory of what is required to be acquainted.

My conclusion is that the predication problem is not serious as it stands. In order to be properly assessed it must be enriched with a full account of acquaintance. I have argued that there is good reason to think that such a full account will provide a notion of acquaintance such that the argument is unsound. The deflationary account of propositions is not seriously threatened and neither is IC. There is no reason to think that subjects cannot be acquainted with the sort of abstract objects that both Soames' deflationist and the proponent of IC are interested in. In section 1.4.4 I will go further and sketch a positive account of cognitive access such that subjects plausibly are in a suitable relation to interpreted n -tuples for entertaining* them.

Soames does not rely solely on the predication problem in his criticism of the deflationary view. He has another objection which I will call the *belief problem*. As he sets it up the problem is linked to an intuitive version of the Benacerraf problem, distinct from Moore's AAI. According to Soames the arbitrariness of the structures used in the deflationary theory leads to a dilemma for the deflationary realist. Soames sets up the problem in terms of deflationary propositions being used to track or measure mental states. This kind of view is also held by those who deny that there are propositions, but who make use of structured

objects in their account of the semantics of attitude-reports, such as ILF theorists and in the *measurement-theoretic* account recently defended in Matthews, 1994, 2007, 2011. Soames' criticism is best understood as an argument against combining the insights of that sort view with a very minimal move towards realism, i.e. to the claim that the structures used in the theory are the objects of the attitudes themselves as opposed to being mere machinery in an account of attitude-reports.

Soames argues against the realist move as follows:

The analogy between the role of one system of abstract objects — numbers — in our physical theories, and the role of another system of abstract objects — propositions — in our psychological and linguistic theories, brings with it a version of the Benacerraf point. Just as the members of any appropriately ordered set of the right cardinality can play the role of the natural numbers, so the members of any set of abstract objects capable of encoding all the predications needed to give a semantic theory for a language can play the role of the propositions expressed in that language. Just as any such choice for the numbers will preserve all the arithmetical theorems, so any corresponding choice for the propositions will preserve the semantic theorems. (Soames, 2010, pp. 91–92)

Soames argues that the deflationist is committed to the claim that a subject stands in the belief relation to every object that could successfully model the content of her attitude. This will force the deflationist to accept the following, where $P_1 - P_n$ are all the acceptable structures:

- (16) The sentence 'John believes that $\exists x (x \text{ loves Mary})$ ' is true at w iff at w , John believes P_1 iff at w , John believes P_2 iff ... iff at w , John believes P_n .

This would be a troubling consequence for anyone who defends a realist account of propositions, which includes someone who defends IC. I think that it can be avoided by IC given the points made about explanation in the previous section. The important point is that subjects only stand in the belief relation to interpreted structures. There is no reason to think that they stand in that relation to structures that are mere candidates for interpretation. In that case, for IC at least, the problematic consequence does not follow. This is a particular consequence of the version of interpretivism that I have proposed. If interpretation is a matter of choice then there is no reason to worry about those candidates that were not selected. It is also important that there is an account of what it is to have a belief independent of the existence of any proposition. Granted those two points, there is

no reason to accept Soames' arguments against the deflationist or to think that they would count against IC.

All I have shown so far is that there is no special problem for arbitrariness when it comes to belief. I would like to take some time now to make clear how IC and Soames' deflationary account relate to one another in the way they address some of the deep questions that surround the question of propositions. Soames' discussion in his recent work runs through a series of positions on the way to his own *cognitive realist* account of propositions. He first considers views where objects merely model the content of mental states. He argues that one reason for rejecting such views is that they give no account of what it would be for a subject to entertain such a structure. Introducing that feature gives the deflationary view. Once a technical notion of entertainment* has been introduced that is given in terms of predication he takes it that we have a genuine theory of propositions. IC is related to the deflationary view in that it tries to be a genuine theory of propositions in this sense. The objects are different, because IC is classical, but the idea is similar. The account of the way n -tuples get to have representational properties is different from Soames' account of how the deflationist's structures do, but the basic idea is the same. When I set out the version of interpretivism I prefer at the beginning of this chapter I appealed to the way that speakers of a language recognise the predications made by sentences of that language, and proposed that the structural properties of n -tuples could be interpreted as encoding these predications. Soames' account of entertainment* of a structure is similar. The defender of IC will agree with Soames about the plausibility of such a move, but will deny the next step he makes in his argument. That next step, as I have described in this subsection, is to argue that arbitrariness is problematic for objects of belief. On this basis Soames makes his cognitive realist proposal which is non-arbitrary. I argue that the defender of IC can and should resist the claim that arbitrariness is problematic. That is, they can hold that subjects stand in the belief relation to an interpreted n -tuple but not to those n -tuples that were not interpreted. This avoids Soames' objection.

1.4.4 Cognitive access

It is part of King's account, emphasised particularly in Jeffrey C King, 2009, 2012, that agents enjoy what he calls in the earlier of these papers *cognitive access* to the facts he identifies with propositions. King describes cognitive access in the following way:

[F]or a fact to be chosen to be the proposition that Dara swims we must be able to make sense of people having some cognitive connection to it. As discussed

above and for the reasons given there, whichever fact is chosen to be the proposition, speakers will interpret its propositional relation as ascribing the property of swimming to Dara. But for a particular fact to be the one whose propositional relation is so interpreted, we have to be able to see how speakers have some sort of cognitive access to the fact in question. For we claim that it is speakers so interpreting the propositional relation that makes the fact/proposition have truth-conditions in the first place. And surely for a given fact to be the one whose propositional relation speakers interpret, they have to have some sort of cognitive access to it. (Jeffrey C King, 2009, pp. 268–269)

One way to take this is as the basis of an argument for King's version of interpretivism. The idea there would be that cognitive access is something that any such theory must account for. If a theory such as IC cannot then it is refuted. King makes an argument of this sort in Jeffrey C King, 2012. In order to assess that argument it would be necessary to know more about cognitive access. King tells us that it is a necessary condition for a propositional relation being interpreted, and he explains why it is that he thinks his chosen facts are something that speakers of natural languages have cognitive access to. In brief, his account is that the existence of sentences that speakers use, and interpret in a certain way, are witnesses to the facts in question. Speakers have cognitive access to the sentences, and interpret their sentential relations, so they have access to the facts. The IC account of propositions obviously cannot make use of that story. Sentences are not witnesses for n -tuples. I am happy to agree that if cognitive access is defined in terms that are specific to facts then IC cannot meet the conditions. I think that the right response in defence of IC is to deny that cognitive access is to be thought of in those terms.

How should we think of cognitive access? In asking this question, I mean to be focusing on the motivations for thinking that there is any such interesting relation from the interpretivist's point of view. King's motivation seems to be that speakers must have a special sort of access to the things they interpret. If the idea was that speakers consciously and explicitly identify a fact and make a choice about how to interpret that fact, then some version of cognitive access would clearly be required. A case could be made that the condition involved could be rather weak. Such conscious interpretation of objects seems to require only the general ability to think about that object. This is not an entirely trivial question when the objects are abstract, which facts and n -tuples both are. But at least on this conception the problem of cognitive access reduces to a more general problem about access to abstract objects.

That sort of cognitive access is not what King has in mind. He does not think that speakers go about explicitly interpreting facts in that way. Rather, he thinks that the process is automatic in much the same way as their interpretation of the sentential relation is automatic. With this in mind, his appeal to cognitive access is supposed to explain why it is those particular facts, and not some other facts, that they do interpret. So, cognitive access is really supposed to be whatever it is that explains the interpretation of the relevant facts. It is not, for example, supposed to be a theory of how it is possible for agents to consciously and explicitly make a choice to interpret the facts.

It is important to be clear that IC does not need to answer that question. According to IC speakers, or rather theorists, do make a conscious and explicit choice. They do so under constraints of good theory-building, but there is no need for the theory to include an explanation of why certain choices were made. This is one of the clearest differences between the version of interpretivism I defend as part of IC and King's. On my view, but not his, interpretation is a conscious act.

There are costs and benefits to thinking about propositions in this way. In some of the preceding sections I have made the case that propositions are required for certain roles. I think that it is consistent with playing all those roles that an entity has truth-conditions only because it is interpreted in my voluntaristic sense. I recognise that that is a radical and controversial view, which is why so much of this chapter is concerned with defending it from objections. It might be suggested that one benefit of taking this line is that one is entitled to give the response to the problem of cognitive access that I suggested above. The idea there was that as long as speakers can think about an object at all they can interpret it. The model here is one where it is possible to take more or less anything and, by a kind of act of will, endow it with truth-conditions. That is in fact my view, partly motivated by my inability to think of any other way that a thing could have truth-conditions. But I think that that view leads to a distinctive difficulty when combined with the demands of giving a semantic theory. The issue, which I have raised already, is that such acts of interpretation seem to be too few to account for the number of propositions that intuitively we would like to have. In response to that objection I proposed that it could be answered by a theory that allowed for a class of objects to be interpreted all at once.

An objection could be raised at this point that the ability of speakers to interpret objects has once again become mysterious. When they were able to take them one at a time the idea made sense, but now it must involve some ability to perform a single act of interpretation that targets a infinitely large collection of structured objects. This ability may well seem

rather mysterious. What is needed is an account of what it is that makes it possible, which will presumably be an account of the relation that a speaker must stand in to such a class of objects in order to be able to perform the action. A mere ability to think about each member of the class, or even the whole class as a collection, will not be sufficient. This is the sort of cognitive access problem that the version of interpretivism I have proposed faces.

My solution to the problem is as follows. I think that there are some very general truths about speakers which suggest that they have the ability required. I will spend the rest of this section elaborating on that idea and defending it as a solution to the problem. It will be helpful to have in mind something I will call *linguistic competence*. It is what speakers have when they are competent with a language. It is a standard claim among philosophers of language and linguists that linguistic competence is at least in part the ability to smoothly interpret unfamiliar sentences of their language. More precisely, it is a fact about ordinary human speakers that their knowledge of the meanings expressed by sentences is not the sort of thing that could be explained by knowledge of a list that paired sentences and meanings. This is an empirical claim supported by observations of their linguistic performance. One aspect of their performance is that they smoothly handle completely unfamiliar sentences. Another is that they almost always converge on the meanings of unfamiliar utterances. This shows, it is widely agreed, that their competence is at least in part grounded in a shared ability to calculate the meaning of a sentence as a function of the meanings of its components and the way they are combined.¹² I will present my solution to the problem of cognitive access by explaining how it is that an arbitrary speaker of English, who I will call Mary, has cognitive access to the n -tuples that IC identifies with the propositions expressed by the sentences of English. I will assume that Mary is linguistically competent with English.

I will also appeal to another widely accepted claim about English, which I will call *recursiveness*. The claim, which is an empirical one, is that there are an unlimited number of English sentences. New sentences can always be constructed by repeated applications of the rules that form sentences. As Mary is linguistically competent we know that she can pair any sentence of English with its meaning. Combining this with the fact that English is recursive has given linguists and philosophers a starting point for hypothesising about the nature of faculties Mary must possess in order to be competent. According to one popular school of thought, the best working hypothesis is that Mary possesses at least two distinct

¹²This general picture goes at least as far back as Frege, 1963 and is also found in Davidson, 2001. See Heim and Kratzer, 1997, ch. 1 for a discussion from the point of view of formal semantics.

abilities. The first ability is that of constructing mental representations corresponding to the sentences she hears, in accordance with recursive rules. The second ability is that of interpreting these structures. This rough outline is intended to be an extremely general description of the kind of idea that motivates Chomsky's minimalist syntax. For a summary of Chomsky's views see the previously cited Chomsky, 1995; Chomsky et al., 2002 and for a general discussion of generative grammar and its approach to the interface between sound and meaning see Ludlow, 2011. These ideas are also, I hope, general enough that it will be acceptable to most linguists and philosophers of language.

How does this help with the problem of cognitive access? My claim is that the problem is to be solved by appealing to a conscious application of an ability that is at least grounded in one that Mary already possesses. The picture sketched above already includes the idea that Mary can, albeit unconsciously, interpret structures. Whenever the part of her language faculty that generates a structure does so, the other part interprets it. Because it must be able to interpret any structure, and because there are an unlimited number of these, the interpretation must proceed by applying a limited number of rules. If this were not so, then it would be impossible to explain the fact that Mary is linguistically competent with a recursive language. This competence entails Mary's ability to apply a limited number of rules to a structure in order to interpret it.

One step towards solving the access problem is to suggest that this ability can be made conscious, and that it can be applied to things that are not the structures associated directly with sentences. I think that this idea is at least intelligible, and that it is no more strange than the idea that speakers unconsciously interpret a class of facts. But even granted that, I have only given part of the answer to the question I set myself. So far I have not explained why this ability of Mary's allows her to interpret a class of structures, rather than merely allowing her to interpret them one at a time. Note that I have added something to the original proposal about interpretation: I have added the idea that the interpretation of the individual items proceeds by the application of a finite number of rules to the structures. The final part of my proposed solution is that the ability to apply the rules to a class of objects is a harmless extension of the ability to apply the rules to any one of them.

Here is a more concrete way of putting my point. Mary has an ability that can be described as that of being able to take any structure generated by a certain set of recursive rules, and apply another set of recursive rules to get a meaning. These rules are sensitive to the structure of the items, which is what allows them to feature in an account of Mary's linguistic competence. She can then formulate another set of rules, that are similarly given

in terms of structure, that can be applied to a different class of objects to pair them with meanings. In this case the objects are n -tuples and the recursive rules that generate them are the clauses of a Russellian semantic theory. Because the rules for interpretation are sensitive to the structures of the n -tuples, Mary can now do the following: she can decide that she will interpret each member of the class according to these rules.

If I am right in claiming that Mary has this ability, then she is in a position to interpret a class of n -tuples and give them truth-conditions. She can do this as a single action, presuming of course that she can think of the class. If she understands the Russellian semantic theory then I think she can think of the class. My solution to the problem of cognitive access is therefore to say that Mary possesses certain abilities because she is linguistically competent and this puts her in a position to do what the interpretivist is committed to saying that she does.

Nothing in the proposal I have just made entails that Mary has cognitive access to just one class of objects. Nor does it entail that Mary will interpret any particular class. What I have described is a sufficient condition that is non-exclusive. What this shows is that my solution to the problem of cognitive access does not require uniqueness of the objects interpreted. This has implications for the Benacerraf problem. One reason for thinking that uniqueness is required for the objects identified with propositions might be that only one class of objects can meet the conditions for cognitive access. If my account is right then another motivation for the intuitions that drive the Benacerraf problem is removed.

1.5 Conclusion

I have now presented and defended interpretivist classicism. In summary, I claim the following advantages for the view. Firstly, it is clear that propositions exist if IC is true. This will make IC attractive to any philosopher who is inclined to be a realist about propositions, especially those who worry about the ontological cost of realism. IC has no ontological cost. Secondly, IC can be defended against objections that are made to other accounts of propositions. I have shown how someone who endorses it can respond to the representation problem and the Benacerraf problem. My conclusion is that IC is tenable. As IC is classical this means that a form of the classical view is tenable, which is something that has been denied by many philosophers currently working on propositions.

A second conclusion that can be drawn from my defence of IC is that interpretivism and classicism fit together extremely naturally. Classical views are often rejected on the basis of the representation and the Benacerraf problem. Interpretivism can be used to save

classicism from both objections. This is because interpretivism can explain how an n -tuple can have representational properties. Interpretivism can also explain how it is that arbitrariness is not a problem for a classical account. Such worries motivate the Benacerraf problem. Without interpretivism there is no way out of these difficulties for the classicist.

In addition I claim that classicism is the natural choice of ontology for the interpretivist. The points I made in response to the Benacerraf problem were intended to show that the interpretivist has a free hand when it comes to the selection of objects for interpretation, provided they meet certain constraints. The attraction of the classical view for the interpretivist is that its n -tuples can be shown to meet these constraints. The constraints are just those that are imposed on an empirically adequate semantics. It does not follow that the interpretivist must be a classicist, but I contend that it is the obvious choice.

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Chapter 2

A Re-evaluation of Sententialism

2.1 Introduction

The main point of this chapter is that there is a version of sententialism that escapes the usual objections made by propositionalists. The bad news for the sententialist is that the best version of the view entails several substantial commitments that a typical sententialist is unlikely to find attractive. This is not offered as a refutation of sententialism but I suggest that one should conclude that propositionalism is all things considered the better of the two options. Before I present my arguments for that conclusion I will set the scene by introducing the sententialist and propositionalist theories.

The mainstream view in the philosophy of language is that propositional attitude-reports are *relational*. That is, what is expressed by a report such as

(17) Mary believes that snow is white.

is that Mary, the semantic value of the noun, stands in the relation that is the semantic value of the verb to the object that is the semantic value of the that-clause (TC). The relational account relies on a certain syntactic analysis of (17). James Higginbotham and Terrence Parsons cover some of the relevant details in their discussions of the logical form of attitude-reports in Higginbotham, 1991a; Parsons, 1993. In this chapter I will simply assume the relational analysis. The relational account is not completely uncontroversial; alternatives can be found in e.g. Moltmann, 2003; Recanati, 2004 as well as in versions of the *paratactic* account of attitude-reports derived from Davidson, 1968 and defended in Lepore and Loewer, 1989b, 1989a.

According to the relational account there are objects denoted by TCs. I will use the term *object of the attitudes* for such things. What are the objects of the attitudes? In this chapter I am concerned with two sorts of proposal. The *propositionalist* holds that they are propositions.

The nature of such things is controversial but they are standardly taken to be structured objects that play the role of contents of mental states and meanings of sentences. I will assume some such picture of a sort often called *Russellian*. Given the controversy over the nature of propositions it would complicate my task enormously if I were to try and remain neutral between every account. I think that much of what I say is in fact neutral, therefore most of it would apply to any view on which propositions are structured. The *sententialist* holds that the objects of the attitudes are sentences. In Higginbotham's phrase 'complement [i.e. that-]clauses refer to themselves' (Higginbotham, 2006). The point of this chapter is to see how a debate between representatives of these two schools of thought might play out.

My conclusion will be that the propositionalist has the upper hand as long as the sententialist maintains a traditional view of what sentences are. Roughly speaking, the traditional view I have in mind is one in which sentences are public objects which are assigned interpretations. An example of such a theory would be one that identified sentences with inscription types. I will present versions of two arguments found in the literature on sententialism which show that such an account cannot work. Recent work in linguistics inspired by Noam Chomsky has taken a very different view of the nature of sentences. Such work has been used as the basis of a version of sententialism by certain philosophers of language sympathetic to Chomsky's ideas. I will present two versions of this proposal, which I will call *revisionist sententialism*, and argue that one version escapes the standard objections. This removes the propositionalists' advantage. I will then present arguments that the propositionalist might offer for the superiority of her view to the revisionist sententialist one. The hard task is not to find arguments of this sort but rather to find ones that do not rely on premises that are themselves extremely controversial. I will conclude that while there is no clear knock down argument that the propositionalist can use against the revisionist sententialist there is a case to be made in favour of the propositionalist.

I am assuming that both the views I am considering are at least tenable, i.e. that there are no independent arguments against the existence of propositions or sentences as they are construed by the revisionist. I am focusing on an extremely narrow issue about the relative merits of pursuing attitude-report semantics based on one or another account of the objects of the attitudes. I am also deliberately excluding various other theoretical options. In particular I will assume that the issue is to be decided by comparing the relative merits of propositionalism and sententialism. This leaves out the possibility of a third account of the objects of the attitudes such as that proposed by Ray Buchanan in Buchanan, 2010, 2012. A further project would be to compare propositionalism and sententialism in their most

attractive forms to such an alternative. For simplicity I will also assume that all attitude verbs are to be treated alike, an assumption that has been recently challenged by Merricks, 2009.

In section 2.2 I will describe the two forms of revisionism about sentences. In section 2.3 I will describe three sententialist views; one traditional and two revisionary. In section 2.4 I will present the standard arguments against sententialism and in section 2.5 I will describe the responses open to the revisionist sententialist. In section 2.6 and section 2.7 I will assess the claim that revisionist sententialism is an improvement over propositionalism. I will argue that one of the arguments that might be made in favour of propositionalism provides at least some evidence against the claim that sententialism is to be preferred.

2.2 Revisionism

An important part of the debate between the propositionalist and the sententialist is the question of revisionism. This is only to be expected if sententialism is the thesis that that-clauses refer to themselves. Obviously the question of what TCs are will be of vital importance. In this section I will survey two revisionist theories that the sententialist might adopt. Firstly I will present the central point of the picture of language that inspires these revisionist ideas.

2.2.1 I-language

The revisionist sententialist proposal I am interested in relies on a notion of *I-language* borrowed from generative linguistics. The term was first used by Chomsky in his 1986 book *Knowledge of Language* (Chomsky, 1986). I-language is one of the defining features of work in the generative tradition in linguistics that follows from Chomsky. The idea is that the object of study is the state of the language faculty of a speaker at a time. The linguistic competence of that speaker supervenes on the state of their language faculty, which is their I-language. In his book on generative linguistics Peter Ludlow describes the idea as follows:

Chomsky's choice of the term 'I-language' is playing off of several interesting features of the language faculty — what we might call the *three i's* of I-language. First, he is addressing the fact that we are interested in language faculty as a function in *intension* — we aren't interested in the set of expressions that are determined by the language faculty (an infinite set we could never grasp), but the specific function (in effect, grammar) that determines that set of expressions. Second, the theory is more interested in *idiolects* — parametric states of

the language faculty can vary from individual to individual (indeed, time slices of each individual). Thirdly, Chomsky thinks of the language faculty as being *individualistic* — that is, as having to do with properties of human beings that do not depend upon relations to other objects, but rather properties that supervene on events that are circumscribed by what transpires within the head of a human agent (or at least within the skin). (Ludlow, 2011, pp. 46–47)

There is a well-developed literature in the philosophy of linguistics devoted to exploring the consequences of this claim. I want to extract one part of that debate for my discussion here. The question I am interested in is what theorists who endorse the I-language conception of the subject matter of linguistics say about what are often called *public languages*. It is not easy to be precise about what public languages are; which is, of course, one of the motivations for the view that they are not the proper subject matter for the science of language. That being said I think that most theorists would admit to at least a rough grasp of the sort of thing that is being talked about. For example, Robert Stainton makes the following gesture towards the subject matter of the discussion:

A word is in order about what I mean by ‘public languages’. First off, I mean natural, spoken, human languages — as opposed to artificial computer or logical languages, “body language” or things like bird calls and bee dances. That is, things such as Armenian, Cantonese, English, Guaraní, Igbo, Italian, Japanese, Mandarin, Mohawk, Nahuatl, Norwegian, Portuguese, Spanish, Swahili, Tok Pisin and Urdu. I do not mean “a genuine language as opposed to a mere dialect”: Piedmontese and Schweizerdeutsch are fully-fledged public languages in the desired sense, as is Southern Cone Spanish. Public languages are things which have not just morpho-syntax, but also phonology; some are spoken, some signed, and some are no longer spoken nor signed. They can be acquired at mother’s knee, without explicit instruction. They have a history, and belong to language families (e.g. Bantu, Indo-European, Romance, Slavic). Some have corresponding writing systems, but not all do. And so on, in what I hope are familiar ways. (Stainton, 2011, p. 480)

The traditional account of sentences takes the idea of public language as its starting point. Sentences are sentences of some language or other and are formed according to the rules of that language. Once the I-language picture is adopted there will be a need to have a new conception of what sentences are that fits in with it. In the next two subsections I will present two very different accounts under the names of *moderate* and *radical* revisionism.

Before presenting the two revisionary pictures I would like to address a pair of issues that arise for the I-language proposal as it relates to the nature of sentences. The first thing to note is that those who propose that linguists study I-language need not necessarily hold that there is no such thing as a public language. It is one thing to say that a certain project in the sciences can proceed by studying a particular class of objects and quite another to say that there could be no other project that studies some other class of objects. This is important to remember when assessing the commitments that the sententialist takes on. She is not committed to denying that there are public languages, although some sententialists might. The minimal sententialist claim is that there are at least ‘I-sentences’. I think it is also important to note that public language, in the sense that Stainton uses the term and in terms of which traditional sententialist accounts have tended to be framed, is not necessarily the same as E-language in Chomsky’s sense. E-languages are described by Chomsky as mathematical objects: ‘a pairing of sentences and meanings (the latter taken to be set-theoretic constructions in terms of possible worlds) over an infinite range’ (Chomsky, 1986, p. 19).¹ This is certainly not the conception that Stainton is interested in defending, or that other defenders of ‘common sense’ against the I-language view, e.g. Wiggins, 1997, have had in mind. The debate that is relevant for the sententialist is whether that traditional or ‘common sense’ picture is to be replaced by, or supplemented with, something else. Then the question arises as to whether the entities that supplement or replace the traditional picture can play the role of the objects of the attitudes in a certain sort of semantics.

I will not consider in the following whether the I-language claim is right. It is the mainstream in linguistics and philosophy of language. Two notable philosophers who reject it are Scott Soames and Michael Devitt see Soames, 1984; Devitt, 2008. Given that the sententialist does not need the stronger versions of it I propose that the propositionalist should simply grant that the position is at least tenable, *pace* Soames, Devitt, and others who reject it.

2.2.2 Moderate revisionism

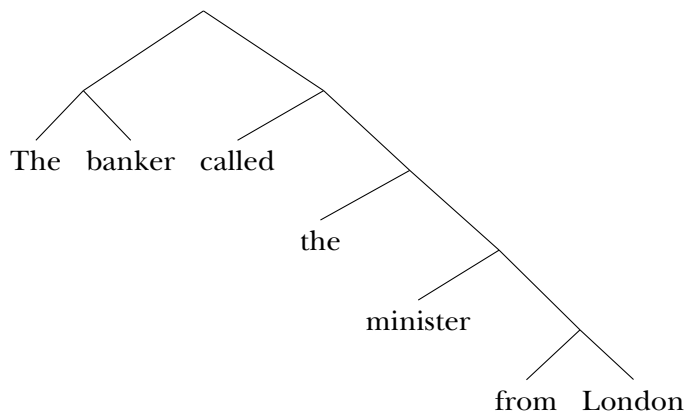
The moderate revisionist holds that the proper study of linguistics is I-language. This requires a revision in the notion of a sentence. This can be illustrated by a familiar example which I have adapted from Pietroski, 2005, p. 261:

(18) The banker called the minister from London.

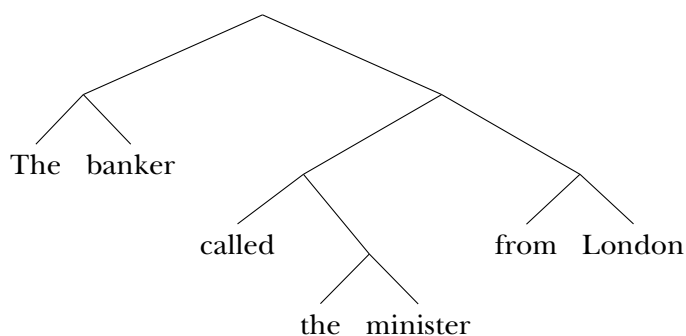
¹ Chomsky attributes this conception to David Lewis, see Lewis, 1975.

The usual story is that speakers of English judge that the ‘sentence’, the public language object, whatever that is, displayed here is exactly two ways ambiguous, i.e. between readings on which the minister is from London and on which the call comes from London. In putting things that way the thing that is ambiguous is a public language sentence type. According to the proponent of I-language, the explanation for the judgment is that the linguistic competence of the speakers is one that they enjoy in virtue of having a language faculty that associates two distinct representations with the sentence-type. Specifying these representations and the function in intension that generates just those is to specify that speaker’s I-language. The representations in questions will be representations of tree structures or LFs, which are abstract objects. The structures associated with (18), following Pietroski, might be:

(19) a.



b.



A further revision would be to use the term ‘sentence’ for these LFs, rather than the things with which they are associated. This is the position adopted by those who think that the focus on I-language has made the traditional notions of sentences and languages obsolete. In using the term ‘sentence’ for something related to I-language theorists are being somewhat revisionary. For example, a sentence on this new picture is not ambiguous. As (18) is ambiguous, it is therefore not a sentence. This sometimes makes it hard to state the theory, because the data that the theory explains in terms of I-sentences, which are denoted by ‘sentence’, cannot be described using ‘sentence’ to denote public language sentences. In

what follows I will do my best to be careful about the distinction at any point where it matters. I will assume that it is possible to get a good enough grip on what I will call *expressions* of English by displays such as (18). I will then speak of such expressions being associated with structures which I will call LFs. These are I-sentences, and they are what the sententialist proposes as replacements for both the traditional notion of sentences and propositions.

This revisionary position applies both to sentences and the components of sentences. In both cases there is a rough pre-theoretical notion of the kind of abstract object that these things are. The moderate revisionist proposes replacing these notions with ones that make use of different classes of abstracta. In the case of words the new abstracta are *lexical items*.

One motivation for this view would be to get away from hard questions about the nature and identity conditions of both words and sentences. Some of these philosophical difficulties are discussed in Kaplan, 1990; Cappelen, 1999; Hawthorne and Lepore, 2011; Szabó, 1999. Introducing technical machinery such as lexical items and LFs avoids the problem of giving a philosophically respectable reconstruction of ordinary talk of words and sentences. A second motivation is that this picture fits neatly with a conception of formal semantics that is popular among philosophers of language. According to that picture the project of semantics is to define an interpretation function $\llbracket \cdot \rrbracket$ which is defined over a class of trees which represent the semantically relevant structure of English expressions. Terminal nodes in the tree are assigned values of $\llbracket \cdot \rrbracket$ as part of the lexicon of the language being studied. This is the sort of theory presented in Heim and Kratzer, 1997. Such a theory has little to say about objects such as (18); that question is left to those who study syntax. Assuming that formal semantics pursued in this way is on the right track, i.e. assuming that the end result illuminates something about the linguistic competences of human beings, it is reasonable to entertain the idea that the old idea of a sentence and a word should be replaced.

How are LFs and lexical items connected to the language faculty? This is the question that divides moderate and radical revisionists. The moderate answer is that these abstract objects are represented by the linguistic faculty. A view of this sort is defended in Higginbotham, 1991b. The study of the language faculty is a project of the cognitive sciences; the study of what is represented is at least in part a branch of the mathematical sciences. The context for Higginbotham's taking this view is the proposal that linguistics is, or at least should be, purely the study of structures. This *realist* view is defended in Katz and Postal, 1991, which is the paper that Higginbotham is responding to. In the next subsection I will outline the radical revisionist's alternative to this moderate view.

2.2.3 Radical revisionism

Radical revisionism is the view that LFs are not abstract, structured, objects that are represented by the language faculty but rather representations produced and consumed by that faculty. Similarly for lexical items. I will not be discussing arguments for or against this view. These arguments would rely on resolving fundamental questions about the nature of linguistics, and cognitive science more generally. I suspect that even given an adequate account of such things it would turn out that some of the questions are best thought of as decisions made in adopting one or another paradigm of linguistic inquiry. Later on in this chapter I will argue that a revisionist sententialist ought to be a radical revisionist in order to avoid a certain objection to sententialism. I will postpone any further discussion of that issue until I have presented the objection that motivates that argument.

When I introduced the moderate revisionist view I cited Higginbotham as a philosopher who has argued for it. He has also proposed a version of sententialism. It will be helpful to have a similar example in mind for the radical view. John Collins provides one. He has endorsed radical revisionism as well as sententialism in Collins, 2003. In the next section I will present Higginbotham and Collins' views as well as a traditional sententialist view due to Quine.

It is important to note that the radical/moderate distinction is not a dispute over what might be called first-order questions of linguistics. Proponents of both picture think that linguists ought to be studying I-languages. There is no reason to think that radicals and moderates will favour particular treatments of controversial data. The dispute is over the nature of what is being displayed when an LF is written on the page, whether it is an abstract objects that a speaker represents or a piece of notation for the derivational history of that representation. The dispute is firmly within the philosophy of linguistics.

The distinction matters for the issues I am addressing because the radical revisionist sententialist moves further away from her propositionalist rival. The moderate proposes that the referents of that-clauses are abstract objects, which is the propositionlists' view too. The dispute there is over exactly which objects they are. The radical revisionist holds the referents of that-clauses are not abstracta at all. This difference means that the two sorts of view must be distinguished when it comes to evaluating revisionist sententialism.

2.3 Sententialism

The central idea behind a sententialist version of a relational semantics for attitude-reports is that sentences are the referents of that-clauses. The term ‘sentence’ might be used in at least three different ways, as I have described in the previous section. In this section I will describe three ways of giving a sententialist semantics, focusing in each case on one philosopher who has proposed an account of that sort. The three philosophers I have chosen are W. V. O. Quine, Higginbotham, and Collins. They have respectively traditional, moderate revisionist, and radical revisionist views.

2.3.1 Quine’s sententialism

W. V. O. Quine presented what is often called the first sententialist account of propositional attitudes in Quine, 1956. The other commonly cited innovator is Rudolph Carnap in Carnap, 1956. I will focus on Quine’s proposal in this chapter. Quine develops an account of attitude-reports and intensional transitives such as ‘to seek’ which relies on propositions. At the close of the paper he presents a sententialist alternative to that account. His idea is that the schema:

(20) *w* believes that

can be replaced with:

(21) *w* believes-true ‘...’.

As Quine notes, this proposal needs to be supplemented with a relativisation to languages. This move brings its own complications, because there will now be a need to provide identity conditions for the languages that fill this new parameter.

I think that this idea can be thought of as the classic version of sententialism. This is the kind of view to which the standard criticisms are directed. It is also the version of sententialism that is least revisionary about the nature of sentences. They are simply the entities that make up languages as they are ordinarily conceived. This is the view against which the standard arguments against sententialism are directed. The revisionist can usefully be viewed as taking on the basic idea of this proposal and supplementing it with a different account of what sentences are.

2.3.2 Higginbotham’s sententialism

Higginbotham defends a sententialist account of attitude-reports in Higginbotham, 2006. The view he defends is related to one he defended in Higginbotham, 1991a although he

does not use the term ‘sententialism’ in the earlier paper. While the positions in the two papers are very similar Higginbotham explicitly contrasts his earlier view with one he calls ‘sententialist’, see Higginbotham, 1991a, p. 352. The view he refers to as ‘sententialist’ is an at that time unpublished version of the *interpreted logical form* account of attitude-reports in Larson and Ludlow, 1993. The important point is that the view in the latter work fits my definition of sententialism.

Higginbotham develops a theory of attitude-reports that is relational and on which that-clauses refer to themselves. In his terminology the objects of the attitudes are *phrase markers*, but I will continue to refer to them as LFs. Higginbotham presents his account of the truth-conditions of an attitude-report in terms of a Davidsonian event semantics, i.e. using a formal language that quantifies over events. That is not essential to the sententialist analysis. Higginbotham uses it because he is independently convinced that it is the best approach to natural language semantics, one standard application being the treatment of adverbial constructions.

Following the presentation from pp. 101 – 102 Higginbotham’s treatment of an utterance u of

(22) Galileo believed that the Earth moves.

can be given as follows:

(23) u is true $\leftrightarrow (\exists e < u)(\exists P)[\Sigma^* \sim P \& \text{believe}(\text{Galileo}, P, e)]$

In Higginbotham’s notation Σ is the that-clause from (22), and Σ^* is the embedded sentence, both LFs. The relation denoted by ‘ \sim ’ is that of *content-matching*. Higginbotham does not say much about it, except that it is supposed to capture what he calls the combinatoric role of Σ^* in the attribution of belief. I will return to the role of content-matching when I discuss criticisms of Higginbotham’s proposals. For now I will just report Higginbotham’s description of it:

Assume that the speaker of u intends the occurrence $o(\Sigma^*)$ of Σ^* in u to be understood as if it were uttered, and also that the speaker, who is aware that we may express “the same belief in different words,” and that objects of thought and speech are amongst the things over which we generalize, and are the reference of singular terms other than clausal complements, is thereby aware that these objects, and utterances in particular, may *match in content*. (Higginbotham, 2006, p. 102)

I have mentioned Higginbotham's view for two reasons, which will become clearer in the course of the chapter. Firstly, he gives a detailed account of sententialism that is sensitive to the popular objections. That such views are being defended by contemporary philosophers of language shows that the debate between the propositionalist and the sententialist is a live one. Secondly, Higginbotham is explicit about the need for a relation of content-matching. In the next section of this chapter I will argue that only a radical revisionist can provide an account of content-matching. As Higginbotham himself says, without content-matching the sententialist position is vulnerable to several familiar propositionalist arguments. The problem with Higginbotham's proposal is that, as far as I can see, he offers no substantive account of content-matching. At the appropriate time I will argue that the radical revisionist, and only the radical revisionist is in a position to offer such an account.

Before moving on from the presentation of Higginbotham's account I would like to explain why I have interpreted him as a moderate revisionist. The account is clearly revisionist, the objects of the attitudes are LFs. In fact nothing in the paper where he defends sententialism entails that Higginbotham is a moderate. I have assumed that he is, on the basis that he explicitly endorses that view in his other work i.e. Higginbotham, 1991b, 2001, 2009. However, there is no reason why a view like Higginbotham's could be combined with a radical revisionist account of LF, his actual metaphysical commitments are independent of his semantic proposal.

2.3.3 Collins' sententialism

Collins has proposed a revisionist version of sententialism. He opens the paper where he argues for the view as follows:

The aim of the sequel is to articulate and defend the position that, for all theoretical purposes, the notion of a proposition or sentence should give way for the notion of an expression (EXP). Following recent work in generative linguistics, we may think of an EXP as a pair (PHON, SEM), where PHON = a set of phonological features, and SEM = a set of semantic features, both drawn from the inherent features of a set of lexical items selected as the input to a derivation performed by the language faculty. (Collins, 2003, p. 234)

I will write of $\langle \text{PF}, \text{LF} \rangle$ pairs in my presentation, which I take to be only a notational difference from Collins. I do not mean to beg any questions about the interfaces of the language module by that terminological choice. Like Collins, I will assume that LFs are doing most of the work in terms of replacing propositions. The PF is needed in order to allow the EXP =

$\langle \text{PF}, \text{LF} \rangle$ to play the traditional role of a sentence. Note that what Collins means by ‘expression’, i.e. an $\text{EXP} = \langle \text{PF}, \text{LF} \rangle$ is not what I called an expression in section 2.2.2. I used the term to denote those things associated with EXPs, in Collins’ terms. In what follows I will use the term ‘LF’ for the things that play the role of the objects of the attitudes according to radical revisionist sententialism.

Collins’ proposal is triply revisionary. He thinks that we can do without the traditional notion of a sentence. He also thinks that the new notion of a sentence can play the role traditionally assigned to propositions. Finally, he thinks that these things are not really objects at all in the standard sense. Instead they are mental representations produced and consumed by a faculty of the mind. It might be that, strictly speaking, possessing the faculty just is producing and consuming the relevant representations. This seems to be how Collins thinks of faculties in e.g. Collins, 2004. The view that Collins defends will serve as my example of a radical revisionist sententialist account of attitude-reports. In what follows I will argue that a sententialist ought to be a radical revisionist.

Collins does not give a detailed semantics for attitude-reports. When Collins does discuss these matters in other work he is not much more committal, although he does make proposals that are compatible with Higginbotham’s approach in Collins, 2000, §5. Collins’ point is that sentences, construed as EXPs, can play all the traditional roles for propositions. Presumably one such role is that of being the referents of TCs. Similar remarks could be made about the view defended by James McGilvray. In McGilvray, 1998 he argues that entities such as EXPs can play all the roles traditionally assigned to meanings. In earlier work Collins suggested an explicitly relational account of attitude-reports which used entities such as EXPs, although he did not there make the connection with sententialism, see Collins, 2000. There he proposed that the theory of mind module and the module underlying linguistic competence share the same set of representations. Relations to these representations are attributed to others in our attributions of propositional attitudes and this relation is mirrored in the semantics of our reports. These suggestions can be accepted or rejected independently of the main point. That is just that, properly understood, sentences can feature as relata in a relational semantics of attitude-reports.

2.4 Against sententialism

Sententialism is not a popular view among contemporary philosophers of language. I think it is fair to say that the majority of those who endorse a relational semantics, which is itself a majority view, hold some form of propositionalism. In this section I will discuss two argu-

ments which have been particularly important in forming this near consensus. I will then discuss a response that certain sententialists, e.g. Higginbotham, have tried to make. My conclusion is that these are powerful arguments and that the response, which appeals to a notion of content-matching, is not successful as it stands. That is because the traditional and moderate sententialists cannot fully develop the account. In the next section I will present ways in which a radical revisionist might try to open up new lines of response. I will argue that these are more successful.

I should note that I am not going to cover two other sorts of objection. Firstly, I am simply granting to the sententialist whatever conception of sentences she wants. In the same way I grant that the propositionalist can make sense of what propositions are. I do this because I am interested in comparing the two views and I prefer not to get bogged down in arguments based on different considerations. For the same reason I will simply assume that some version of the I-language conception of linguistics is workable, at least to the extent that the revisionist sententialist needs it to be in order to formulate her views. Secondly, I am not addressing the arguments that are sometimes made against sententialists based on considerations about the re-identification of beliefs. The arguments I have in mind rely on sentences containing indexical expressions such as ‘today’. Such an argument against sententialism is found in Vision, 1997. The reason why I am ignoring such objections is that they invite the following response from the sententialist: the objects of the attitudes are certain sentences that do not contain indexicals. These might be called *eternal sentences*. The problem is that the existence of such sentences is highly controversial. In recent work on the relationship between sentences and the contents they express an influential school of thought has been that context-sensitivity is so ubiquitous that there are no eternal sentences. An example of a contextualist who makes that point in terms of eternal sentences is Robyn Carston in Carston, 2002, ch. 1. Opposing that view, so-called *minimalists* such as Emma Borg and Herman Cappelen & Ernest Lepore have defended views that entail that there are eternal sentences, see Borg, 2004; Cappelen and Lepore, 2004. Given the controversial nature of one of its premises it is more trouble than it is worth to assess this objection. The reason for this is that the other objections I will discuss, if they succeed, will count against the version of sententialism that appeals to eternal sentences. Given that these arguments do succeed as refutations of the traditional view I will not dwell on the response based on eternal sentences.

Finally, I should note that the way these arguments against sententialism are presented presupposes the traditional account of sentences. That is why they fail as objections to the

revisionist version, although there is more to be said in filling in the details of that failure. I will follow the philosophers making those objections in their usage of terms like ‘English’ to denote publicly accessible languages. For the remainder of this section I will pretend that revisionary sententialism is off the table, and then in the following section I will drop that pretence and explain why it is that without that pretence the objections fail.

2.4.1 The contingency objection

The first major objection I will discuss is one I will call the *contingency objection*. The idea is that, because they have their meanings only contingently, sentences are not suitable to be the objects of the attitudes. I will present two examples of the objection, due to Maxwell Cresswell and Herman Cappelen & Josh Dever respectively.

Cresswell, 1980 argues against what he calls *quotational theories of propositional attitudes*. He begins by setting out a formal language that he can use to illustrate his point. I will skip all of the details. The only idea needed to set up Cresswell’s argument is the notational one that the representations of belief reports will be formulae of the form $\ulcorner \omega(a, \langle b, c \rangle) \urcorner$. This is to be thought of as a two-place relation between a subject a and a pair consisting of a sentence b and a meaning c of that sentence in a particular language and context. The conclusion of the argument is that anything that can successfully play the c role is a proposition, and that the c role is required. So, the sententialist who wants to avoid propositions by appealing only to sentences will be thwarted by her need for c s that are themselves propositions.

Here is how Cresswell presents his argument:

Suppose then that $\omega(a, \langle b, c \rangle)$ is true iff a believes the sentence b when it has the meaning c . The argument is simply this, that when c is sufficiently finely discriminating to pick out just those cases in which b has a meaning in virtue of which a believes it then c alone will suffice to be the object of belief.

We can see that this is so by imagining two sentences b and b' . We suppose that a believes b in virtue of its meaning c but does not believe b' with its meaning c' . Now if a believes b in virtue of its meaning c we need merely imagine a language in which b' means c to show that the ‘quotational’ argument b is quite irrelevant to the meaning of the belief sentence. (Cresswell, 1980, p. 26)

One way to put the point is that knowing the c argument is necessary and sufficient for knowing what is attributed by the report, whereas knowing the b argument is neither necessary nor sufficient. Cresswell illustrates the point he is making with an example, which

he attributes to Burge, 1978:²

Consider the famous ‘Greeks’ and ‘Hellenes’ situation. Let us consider two sentences:

- (24) a. Aristotle is a Greek.
b. Aristotle is a Hellene.

I have chosen this case because, despite the extensive literature, I am still not sure whether [(24a)] and [(24b)] are synonymous. Let us suppose they are not, and let us suppose that some person, x , is such that of the following two sentences, only the first is true:

- (25) a. x believes that Aristotle is a Greek.
b. x believes that Aristotle is a Hellene.

My argument can then be put as follows. If the difference in the truth values of [(25a)] and [(25b)] is caused by a difference in the *meanings* of [(24a)] and [(24b)], then we need only imagine a language in which ‘Greek’ means what ‘Hellene’ now does. In such a language [(25a)] would be false, and, since the difference between this language and English cannot lie in the quotational part, for the word ‘Greek’ is the same in each, then the difference in truth value between [(25a)] in English and [(25b)] in the new language will require a different entity to be the meaning of ‘Greek’. (Cresswell, 1980, p. 26)

The contingency of the relationship between a sentence and its meaning is what drives the objection. Because the sentence could be interpreted differently, reporting a relation to that sentence does not convey the information that a report intuitively conveys. Cresswell’s argument is that adding this additional information would require the sententialist to admit meanings as independent objects to her theory and therefore abandon sententialism, or at least the motivation for it.

Cappelen & Dever present an argument very like Cresswell’s in Cappelen and Dever, 2001. They take as their example the sentence:³

² I renumbered Cresswell’s examples and I have replaced his practice of italicising mentioned expressions with that of using quotation marks.

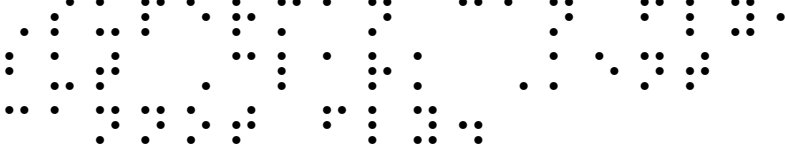
³ I have slightly amended Cappelen & Dever’s example (3) in order to ensure the embedded clause (27) is a grammatical sentence out of construction with the attitude verb. Their original example is ‘Lois Lane believes that Superman can fly, but that Clark Kent cannot fly’. I suspect that they chose this in order to make it clear that both ‘Superman can fly’ and ‘Clark Kent cannot fly’ are within the scope of ‘believes’. I intend the same.

(26) Lois Lane believes that Superman can fly, but Clark Kent cannot fly.

We are asked to imagine that (26) is uttered in a context such that it is true, i.e. it is whatever sort of context it is that gives rise to the standard anti-substitution intuitions about belief reports. Suppose that the report reported Lois' relationship to a sign in some sign-system that has the same content as the English sentence:

(27) Superman can fly, but Clark Kent cannot fly.

To help make the case vivid Cappelen & Dever present a case in which the sign system is not the Roman alphabet and its associated conventions for writing English but rather Braille. Although Lois is a fully competent user of English, she only reads and writes Braille. In Braille, the English sentence displayed in (27) is written:

(28) 

(Superman can fly, but Clark Kent cannot fly.)

Cappelen & Dever then present the following scenario:

Imagine that one night while Lois sleeps, the rest of the linguistic community gets together and decides to produce new correlations between written language and Braille. Under this new correlation the written version of “Superman can fly, but Clark Kent cannot fly” ends up being correlated with what is now the Braille correlate of “Gödel can fly, but Lesniewski cannot fly”. Remember, “Superman can fly, but Clark Kent cannot fly”, means just what it means now, the community has just decided that it wants the Braille correlate of that sentence to be different. Unbeknownst to Lois, the communal correlation between written language and Braille has changed. (Cappelen and Dever, 2001, p. 290)

In order to count as having a belief about superman, Lois must now be related to a particular Braille expression which she did not have to be before. It is implausible that a change in the conventions adopted by a linguistic community can bring about this kind of change. After all, as Cappelen & Dever write on p. 290, ‘The Braille types “Gödel” and “Lesniewski” might play no role in her mental life, and that would suffice to make [the report] false.’ But if the attribution made by the report is to a sign in some system then changes in the sign-system will change the signs of that system to which the believers are related.

Here is how Cappelen & Dever summarise their point:

The source of the problem is this. What Lois believes is not a matter of communal convention and does not change simply by changing communal conventions. How sign systems are correlated is a matter of convention and making the truth value of belief reports contingent on these correlations between sign systems is therefore misguided. We don't have a proof that lexical theories cannot get around this problem, but absent some ingenious suggestion, we suggest that all attempts to introduce phonological, graphological, Brailological etc. information will encounter problems very similar to those we have outlined above. (Cappelen and Dever, 2001, p. 291)

The particular source of the problem identified by their version of the sign-system argument is the conventional and arbitrary connection between the words of a sentence and its meaning. An object made out of words, whatever other properties it may have, will have a conventional and arbitrary connection to meaning. Cases can be given to show that our intuitions about the correctness of reports go with meaning rather than with the sentences that contingently have one or another meaning. I take it that this is Cresswell's point as well, illustrated with a different sort of example. Cappelen & Dever go beyond Cresswell in holding not just that relations to meanings must be part of the content of attitude-reports, but also that relations to sentences cannot be. The weaker point would be sufficient to refute traditional sententialism.

Note that neither version of the argument is sufficient to motivate propositionalism. Even in Cresswell's version, where the conclusion is that an attitude-report semantics must include the meaning of a sentence in order to be adequate, the nature of meanings is not established. Both arguments rely on the fact that the meaning of a that-clause, not the identity of the clause itself, is what is relevant to the attitude reported and the fact that on the traditional view of sentences they have contingent relations with their meanings. That is the point where the revisionist sententialist can resist the argument, a strategy that I will describe in due course.

2.4.2 The translation objection

A second important objection to sententialism is the *translation argument* usually attributed to Alonzo Church. Following Higginbotham, 2006, I will discuss a version of the argument due to Salmon, 2005. Higginbotham also cites a version discussed in Burge, 1978. Church's original presentation credits Langford, 1937 with the original inspiration. Salmon presents the argument as follows. Suppose it is proposed that the latter of the following is an analysis

of the former:

- (29) a. Chris believes that the earth is round.
 b. Chris accepts ‘The earth is round’.

This is supposed to be an analysis of attitude-reports in terms that replace the relation that subjects allegedly stand in to propositions with another, that of accepting a sentence. As Salmon, 2005, p. 347 notes ‘accepts’ is simply a placeholder for the relation that the sententialist proposes that subjects stand in to the objects of the attitudes.

Salmon’s objection to this analysis can be formulated in terms of translation. The standard translations of (29a) and (29b) into French are:

- (30) a. *Chris croit que la terre est ronde.*
 b. *Chris accepte* ‘The earth is round’.

These two sentences do not translate each other. But, assuming that the translation relation is transitive and symmetric, a contradiction can be derived. Here is how:

- i. ‘Chris believes that the earth is round’ translates
 ‘Chris accepts “The earth is round” ’. (Hypothesis)
- ii. ‘Chris believes that the earth is round’ translates ‘*Chris croit que la terre est ronde*’.
 (Fact about translation)
- iii. ‘Chris accepts “The earth is round” ’ translates ‘*Chris accepte* “The earth is round” ’.
 (Fact about translation)
- iv. ‘*Chris croit que la terre est ronde.*’ translates ‘ Chris accepts “The earth is round” ’
 (From i, ii, and the transitivity and symmetry of translation)
- v. ‘*Chris croit que la terre est ronde*’ translates ‘*Chris accepte* “The earth is round” ’.
 (From iii, iv, and the transitivity and symmetry of translation)

But conclusion v is known to be false, so we must reject the hypothesis that (29a) can be replaced by (29b) i.e. premise i. The same argument can be run with ‘believes’ or ‘believes-true’ for ‘accepts’, and the equivalent French expressions.

An objection that has been raised to this argument is that it relies on a particular notion of translation, in particular one that entails that (30a) and (30b) do not translate one another. Salmon cites several authors who claim that they do, or at least that the notion of translation is flexible enough to allow for that possibility. Salmon’s response is to argue that (30a) is not translated by (30b) because the content expressed by (30a) to a speaker of French is different from that expressed by (30b). Such a speaker will comprehend, simply

in virtue of understanding the former sentence, which belief is being attributed to Chris. In order to extract that information from the latter sentence it would be necessary to know that ‘The Earth is round’ means in English that the Earth is round.

Salmon’s response to the objection illustrates the point that underlies the translation objection to sententialism. This is not really an issue of translation, because it can be put equally well in intra-linguistic terms. The point is the same one brought out by the contingency argument, which is that it is the meaning of the sentence to which the subject is related that is important. What is conveyed by an attitude-report is that the subject has a belief with a certain content, and this is done via the use of a sentence with that content. The translation argument relies on the fact that a report that relates a subject to a sentence does not convey the full content of the report as understood by somebody who understands the language in which the report is made. When this observation is combined with the observation that public language sentences have their meanings contingently and as a matter of convention, it becomes clear that the traditional sententialist’s analysis of attitude-reports entails that they do not express the contents that they actually do express. As the traditional sententialist, typified by Quine, intended the sententialist proposal as a way of analysing away propositions these facts about the expressed content of reports show that the analysis is inadequate. The *analysans*, i.e. (29b), does not capture what is expressed by the *analysandum*, i.e. (29a).

2.4.3 Content-matching

Contemporary sententialists such as Higginbotham are, of course, well aware of the sort of argument discussed in the preceding subsections. The response he proposes is based on the notion of content-matching. The idea is that, if the sententialist is allowed to appeal to a relation between sentences in context that holds when they express the same content relative to that context, then an explanation can be given of the content of reports that avoids the objections. As described by Higginbotham the relation is denoted by ‘ \sim ’ and is a two place relation. The only things that Higginbotham has as relata are TCs in context, such entities as Σ^* . In his analyses of attitude-reports he also commits himself to the claim that certain things that can stand in the content-matching relation can also stand in the belief relation to subjects. This follows from the truth-conditions he gives for

(22) Galileo believed that the earth moves.

i.e.

(23) u is true $\leftrightarrow (\exists e < u)(\exists P)[\Sigma^* \sim P \& \text{believe}(\text{Galileo}, P, e)]$

Nothing so far has actually required that the things that stand in the belief relation are things like Σ^* , merely things that can stand in the content-matching relation to things like that. So it is not strictly speaking incompatible with Higginbotham's account as I have presented it that the objects of belief are e.g. sets of possible worlds. But that would go completely against the spirit of his view and is clearly not what he intends. In any case I will proceed on the assumption that all and only things of the same type as Σ^* can stand in the content-matching relation to one another, and that some pairs of them do and some pairs of them do not. Furthermore I will take it that \sim is reflexive, symmetric, and transitive i.e. that it is an equivalence relation.

If the proposal could be made to work then the following responses could be made to the translation and contingency arguments. The sententialist could accept that sentences have their meanings contingently, while holding that the meaning that the sentence in question actually has in the context of its utterance is what enters in to the content expressed by the report. That this is so can be used to explain the fact that there is a difference between knowing that a subject stands in the belief relation to the content of a sentence and knowing that she believes that content. In the former case the person who understands the report will not know which sentences have matching content to the embedded that-clause. For example, the monolingual francophone will know that the subject stands in the belief relation to something that matches in content with 'The Earth is round' without knowing what any of those things are. If she came to know that 'The Earth is round' means that the Earth is round she will then be able to see that it matches in content with '*La Terre est ronde*'. The advantage for the sententialist is that this fits with the pretheoretical ideas about the content expressed by such a report.

The problem with the response as it has been given by Higginbotham is that it is never made explicit what it is for two LFs to have matching contents. It would be nice to have a definition such as this:

$$(31) \quad \delta \sim \epsilon \text{ iff } \dots$$

with a suitable filling in of the blank by a set of necessary and sufficient conditions. Higginbotham does not provide one, in fact he does not say very much about the content-matching relation at all. He writes that '[w]e can think of synonymy, internally to the sententialist construal, as amounting to the matching of content.' (Higginbotham, 2006, p. 113) But synonymy is hardly a better notion to leave undefined than content-matching. Otherwise he simply appeals to the fact that speakers are 'aware that ... objects, and utterances in particular, may match in content.' (Higginbotham, 2006, p. 102) I think that it is hard to

be fully satisfied by this. After all, a traditional propositional theory aims to give an account of the fact that sentences can share contents by giving an account of the contents that they share. If that is the question under discussion it is not acceptable to presuppose an account of that relation. That is so even if one thinks that propositions are not a proper part of the explanation for why two sentences match in content.

In that case it looks like the sententialist needs a substantive account of \sim . The first thing to note is that is not a syntactic relation, at least not if it is supposed to hold between the things that are intuitively synonymous. Of course syntactically very different sentences can be synonymous, so \sim cannot rest on syntactic identity. That means that \sim must rest on semantic properties of sentences. In section 2.5 I will present a way in which the sententialist might define the content-matching relation. If the account works then it will enable the sententialist to respond to both the contingency and translation objections to her view.

2.5 Revisionist responses

My conclusion in the previous section was that the sententialist view is refuted unless the sententialist can respond to the contingency and translation arguments. In this section I will present a way for the sententialist to respond. I will develop the response in terms of content-matching. In the course of setting out that view I will argue that only the radical revisionist can make use of this strategy for responding to the propositionalist arguments. My conclusion will be that the revisionist sententialist ought to be a radical revisionist.

The key idea in the following is that the revisionist sententialist can and should endorse the view that LFs have their semantic properties essentially. I will call this view *essentialism*. The remainder of this section will consist in explaining the implications of such a view.

2.5.1 Essentialism

The standard account of LFs in contemporary linguistics is that they are built out of lexical items in a way that is sensitive to the features of those items.⁴ I will not need to discuss the details of the relevant views because my argument will be based on some very general properties that lexical items must have just in virtue of being taken to be sets of features. Essentialism follows from the fact that lexical items have these properties. I will assume that the revisionist sententialist endorses the sort of account of LFs that generates essen-

⁴ Note that *feature* is used with a technical sense in minimalist generative syntax. Except for the claim that lexical items have their identity conditions fixed by them, exactly what features are will not matter for my point. For an introduction see Adger and Svenonius, 2011.

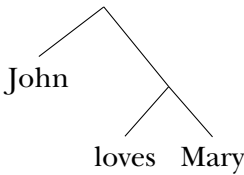
tialism. Those philosophers who I have identified as sententialists do hold that view. Collins provides an overview of the picture of language that all these philosophers share in his recent book on linguistic meaning, see Collins, 2011, chs. 5–7.

Essentialism, as I will use the term, refers to the doctrine that a sentence has its semantic properties essentially. This follows directly from the revisionist account of what sentences are. First, consider the lexical items that are the simple constituents of sentences. They are collections, i.e. sets, of features. Sets do not preserve their identity when their members change: adding 1 to the set $A = \{0\}$ gives a new set $B = \{0, 1\}$. A has not changed into B, rather the operation has replaced A with B. Changing the features of a lexical item similarly results in a new lexical item. It does not matter for the purposes of this point what sort of things count as features, only that a lexical item is a set of those things. Given that a lexical item just is a set of features, any semantic properties it has it has as a result of those features. A change in semantic properties would entail a change in features. But, a lexical item cannot change its features, so lexical items cannot change their semantic properties.

According to the theories I am concerned with, LFs are objects that are constructed out of lexical items by iterations of an operation called MERGE in a feature-driven way. Here is how MERGE is defined by Collins:

Merge is an operation that targets two elements, α and β , and creates a new object, $\gamma = \{\alpha, \beta\}$, where the merged objects are atomic or themselves products of Merge. Thus, the operation is *recursive* in the sense that it can target already merged objects to produce further merged objects *ad infinitum*, where each object displays its ‘Merge history’ as an individuating condition, i.e., each object is structured as a sequence of binary pairings, where the *n*th embedded pairing corresponds to the *n*th operation of Merge. (Collins, 2011, p. 110)

It follows from this that any semantic properties a given LF has, it must have in virtue of its constituent features and the way they are combined. This is because a LF just is its constituent lexical items arranged in a structure formed by MERGE. The applications of MERGE are constrained by the specific features of the items, but that will not be relevant for my argument here. A consequence of the way that LFs are formed is that the structural properties of an LF can be represented without loss in set-theoretic notation. For example, here is one LF represented both as a tree and as a set-theoretic object:

- (32) a. 
- b. $\{\text{loves}, \{\text{John}, \{\text{loves}, \{\text{loves}, \text{Mary}\}\}\}\}$

Here *John*, *loves*, and *Mary* are lexical items. A change in these would result in a different set, so the semantic properties the LF has in virtue of its constituents cannot change. A change in the way the constituents are combined would have the same effect. Unless an LF can have semantic properties that do not depend either on its constituents or the manner of their combination it must have its semantic properties essentially. If an LF can have semantic properties that do not depend on either its constituents or the manner of their composition then it does not have semantic properties in a way that respects compositionality. The conclusion to be drawn from this is that the revisionist sententialist picture entails essentialism. This conclusion will hold whatever particular semantic properties one thinks that lexical items have.

An important consequence of thinking of LFs in this way is that it is possible to define a notion of content-matching. First, we need the idea of an LFs *MERGE history*. LFs are built out of repeated applications of MERGE to lexical items. Each application of MERGE can be thought of as a stage in this history. In the case of (32) the MERGE history is:

- Mi. MERGE(*loves*, *Mary*)
 Mii. MERGE(*loves*, MERGE(*loves*, *Mary*))
 Miii. MERGE(*John*, MERGE(*loves*, MERGE(*loves*, *Mary*)))
 Miv. MERGE(*loves*, MERGE(*John*, MERGE(*loves*, MERGE(*loves*, *Mary*))))

Knowing the MERGE history of an LF means knowing what its constituents are and the way in which they are combined. If essentialism is true it also means knowing the semantic properties of the LF, at least it does if one also knows the semantic properties of the lexical items. content-matching can now be defined as follows:

- (33) $\delta \sim \epsilon$ iff the MERGE history of δ is parallel to the MERGE history of ϵ .

Two MERGE histories H1 and H2 are *parallel* just in case at each stage type-identical lexical items are MERGED. I do not suggest that this stipulative definition of a technical notion tracks what ordinary speakers mean when they say that two sentences mean the same. That being said it is at least plausible that content-matching captures something in the vicinity of what speakers are tracking with these judgements of sameness of meaning. It does so in

virtue of the relationship between content-matching and identity of semantic properties. One way in which the account of content-matching may fail to accord with intuitions about sameness of meaning is in cases where two LFs intuitively express the same meaning but differ in their MERGE histories. This might happen if there is more than one way to construct the same overall set of semantic properties by different combinations of lexical items. If two LFs have parallel MERGE histories then they will have identical semantic properties, but the converse may not hold. Another way in which content-matching may depart from intuitions about sameness of meaning would be in cases where LFs differ in their constituent lexical items but only in respect of non-semantic features. Suppose that, for example, the proper names *Twain* and *Clemens* differ only in phonetic properties. They are distinct lexical items because phonetic properties come from phonetic features. Two LFs that differ only in a systematic substitution of *Clemens* for *Twain* will not therefore match in content. That result probably accords with some speaker intuitions some of the time, but not universally. That there is not perfect accord between the judgements of speakers about sameness of meaning and the relation of content-matching suggests that content-matching is not an analysis of whatever it is that speakers are tracking when they make these judgements. That does not show that content-matching is not a useful notion, or that it is not related to whatever it is that sameness of meaning judgements track.

I think that the right conclusion to be drawn is that, as long as ordinary intuitions about sameness of meaning are tracking something in the region of the semantic properties of a sentence, content-matching will be sufficient for a judgement of sameness of meaning but not necessary. That it does not provide a necessary condition would only be problematic if content-matching were to be offered as part of a conceptual analysis of sameness of meaning. That is not something that the revisionist has to commit herself to. As the typical revisionist is dubious about the things that ordinary intuitions of sameness of meaning are supposed to be about, i.e. sentences construed as public-language objects, it is only natural that she will take this attitude. It is also worth noting that any view that takes the objects of the attitudes to be individuated in part by linguistic form in one way or another will have to either accept or explain away the apparently too fine cut provided by these objects. The revisionist sententialist does not thereby create a new problem that is not shared with e.g. theories that rely on interpreted logical forms, or some variant of them, such that found in Larson and Ludlow, 1993.

Leaving this difficulty aside, the important point about content-matching is that the revisionist can give some account of it. Because revisionism entails essentialism, there is a

way to define a relation between LFs, sentences, by the revisionist's lights, which is at least somewhat related to ordinary judgements about sameness of meaning. Content-matching, so defined, will play an important role in the defence of revisionist sententialism I am about to describe.

2.5.2 Essentialist responses to contingency arguments

The essentialist response to contingency arguments should now be apparent. Those arguments trade on the contingent relation between a sentence and its meaning. If sentences are LFs and essentialism is true, then this is not a contingent matter. So the objection fails.

This response is the right one but making it does require taking a stand on an issue that so far I have not discussed. Recall the distinction I made between radical and moderate revisionism. The moderate and radical revisionists agree that sentences are LFs, and will agree to think of LFs as objects with MERGE histories. They will therefore be able to accept essentialism as I have defined it. They still disagree on the nature of the LFs. According to the moderate revisionist, such as Higginbotham as I have interpreted him, LFs are abstract objects e.g. graphs or sets. The radical revisionist, such as Collins, takes LFs to be mental representations, rather than things that are represented.

The moderate revisionist will accept a kind of contingency about the meaning properties of LFs. While they have their constituents and their structure essentially, there is nothing about them in and of themselves that necessitates them meaning what they do. They have to be represented in a certain way by language users for that to happen. This is the upshot of Higginbotham's remarks about linguistic Platonism in Higginbotham, 1991b, 2001. The view he defends in those works he terms *representationalism*. On that picture LFs themselves are abstract objects which are represented in the minds of speakers of a language. It is only when so represented that it makes sense to assign meanings to them, in and of themselves they are meaningless abstract objects. At least, that is Higginbotham's view. He commits himself most clearly to this in the course of his review of Jeffrey King's book *The Nature and Structure of Content*, quoted above on page 38:

A syntactic object is a graph, with labels on the points, and relational labels between them. King is certainly right to say that interpretive instructions are wanted: But a syntax, in the sense of a syntactic object, cannot possibly provide them. In fact, King's text does provide the instructions, but again from the outside. So far as I can see, the situation is no different from one remarked by Wittgenstein on the instructions that accompany the arrow \rightarrow : The arrow "points"

in the direction you are to go; but that you should go *that* way is not determined by the figure, but rather by your knowledge of the rule that is to go with it. The rule cannot be written into the design of the arrow. (Higginbotham, 2009, p. 32)

He is referring to King's discussion of this point which he puts in terms of a variety of possible alternatives to English, namely *Nenglish* and *Englist*. The point of the discussion is that King believes that there could be languages which consist of the same LFs as English but where the LFs are taken in a different way by the speakers. Nenglish speakers take the truth-conditions of their language to be identical to those of the negations of those very same LFs taken as sentences of English. 'Speakers' of Englist do not take their sentences to have truth-conditions at all according to Jeffrey C King, 2007, pp. 35–38. King is explicit that he takes e.g. English and Nenglish to consist of the same LFs.

There is a principled reason for King and Higginbotham holding this view about English and Nenglish given their view of LFs. The only way to deny the conclusion would be to hold that any object with the structural properties of an LF encodes the representational properties that a sentence of English is taken to have. The passage from Higginbotham quoted above shows that he rejects this possibility, as does King. I think that they are right to do so. I do not think that we can make sense of the idea that a graph or set has this sort of property intrinsically. They must be interpreted in one way or another. A given structure can be interpreted in more than one way, which is why English and Nenglish are both possible.

The discussion of Nenglish and English brings out an important point about meaning. I presume that whether meaning is exhausted by truth-conditions or not, nobody will seriously claim that English and Nenglish sentences have the same meaning. So identity of LF does not guarantee identity of meaning for the moderate revisionist. This is not inconsistent with essentialism. The conclusion of the essentialist argument was that an LF has its semantic properties essentially. If an LF does not have its meaning essentially then this would show only that meaning is not a semantic property in the sense that the essentialist uses that notion. That does sound rather strange, but I think it could be defended. For example, the moderate revisionist might argue that meaning arises only in use and that the essential semantic properties of an LF only provide constraints on possible use. In other words, the semantic properties of an LF determine what meanings it can have when used but they are not sufficient for it having one or another of these meanings.⁵ The problem

⁵ This sort of view is put forward by McGilvray, 1998 and Pietroski, 2003, 2005. I will discuss this approach further

for the moderate sententialist is not that she has to say that the meaning of an LF is not determined by its semantic properties, or that she must deny essentialism about the semantic properties of an LF. The point is that, if she takes that position, then she does not have an essentialist view about meaning. In that case she cannot block the contingency argument.

Here is how that objection might be pressed: if the moderate sententialist accepts the King/Higginbotham picture, then there is contingency in the relationship between an LF and its meaning. If there is contingency in the relationship between an LF and its meaning then the argument against traditional sententialism can be reconstructed as an argument against the moderate revisionist view. Just as the traditional sententialist would be forced to admit additional *relata* to attitude-reports in order to fix the meanings of sentences, the moderate revisionist sententialist would have to perform the same manoeuvre for LFs. This reintroduces the need for a separate entity, a meaning, and undercuts the original motivation for sententialism just as much as it did for the traditional account.

The objection applies only to the moderate sententialist. The radical sententialist can avoid the objection by appealing to the fact that, by her lights, LFs are representations rather than things that are represented. The way to use this in a response to the contingency argument is to say that the properties that separate English and Nenglish are indeed among the semantic properties of the LFs. This is in effect to deny the possibility of Nenglish as King conceives it, there will be no LF that is identical to that of an English sentence but that does not mean what that English sentence does. This response does not commit the sententialist to intrinsically meaningful graphs or sets, because by her lights LFs are neither graphs nor sets. If the radical revisionist sententialist takes this position, then she can deny that there are LFs with identical MERGE histories but different meanings. This has a nice side-effect: there is no need to separate semantic properties and meaning properties in order to keep essentialism.

In summary, there is a response to the contingency argument that can be made by a revisionist who endorses essentialism. This makes the view an improvement over traditional sententialism which can provide no response to this argument. It turns out that this response can only be made by a radical revisionist, i.e. one who takes LFs to be mental representations rather than abstract objects. That is because only a revisionist of this sort can build the meaning of an LF into the properties that it has essentially. As that is crucial to the rejection of the contingency argument it turns out to be necessary for the revisionist sententialist to be a radical revisionist.

2.5.3 Essentialist responses to translation arguments

The revisionist sententialist can respond to the translation argument by denying that sentences stand in relations of translation. As formulated by Salmon, the argument is set up in a way that presupposes that

(29b) Chris accepts ‘The earth is round’.

is translated into French by:

(30b) *Chris accepte* ‘The earth is round’.

The radical revisionist sententialist will reject talk about translation as incoherent. In that case she can happily deny that premise of the argument from translation.

The first reason for rejecting the notion of translation that is being used in the translation argument is that it is essentially tied up with the notion of a public language. The idea is that one takes a sentence *S* of a language *L* and provides a sentence *S'* of *L'* such that *S* means in *L* what *S'* means in *L'*. If there are no such things as languages, which is what the revisionist sententialist is committed to, then there is no sense to be made of the practice that I have just described. There is just nothing to be said about translation, or if there is it is not anything to do with a relation between LFs. There is therefore no reason to accept any of the premises of the translation argument.

Those who have presented the translation argument as an objection to sententialism might now object that this kind of response simply avoids the real issue. The essential point was not about translation as such, but rather about the information carried by attitude-reports. That point could be reformulated as follows: according to the sententialist attitude-reports convey information about which sentences the subjects of the reports are related to. That is not equivalent to conveying information about those subjects’ beliefs. This can be illustrated most vividly with cases involving mono-lingual hearing reports in another language but that is not essential. What can the revisionist sententialist say to this deeper point?

One response would be to once again refuse to engage with an argument that seems to be bringing in premises that involve different languages. If there are no such things as French or English, then there are no mono-lingual speakers of either. The sententialist is within her rights to say this, if she is granted her initial point about the non-existence of public languages. I think that the propositionalist would also be within her rights if she responded that the sententialist is now using that point to avoid seriously engaging with the issue at all.

The revisionist sententialist can respond in a second way which is rather more constructive. This second line of response is to provide an account of the information conveyed by attitude-reports in a way consistent with revisionist sententialism. This will be necessary anyway, because such an account is needed to fully defend the revisionist sententialist proposal from some objections unrelated to the translation argument. I will move on to those issues and outline a possible strategy for the sententialist in section 2.6.2. This response will go some way towards answering the worries about the content conveyed by attitude-reports which motivate the propositionalist.

2.6 An alternative to propositionalism?

The final question I will take up in this chapter is that of whether revisionist sententialism is superior to propositionalism. I will approach this by considering arguments that a propositionalist might make against this new version of sententialism. My conclusion will be that while the revisionist sententialist has responses open to her, the position that she will be forced to adopt is unlikely to appeal to those who would be attracted to revisionist sententialism in the first place. In this section I will set up the debate and present an argument that I think fails. In section 2.7 I will discuss one that I think succeeds.

2.6.1 Similarities and differences

Before introducing the objections I would like to clarify the ways that revisionist sententialism differs from propositionalism. There are a range of propositionalist views, and the revisionist differs from some of them more than others. For example, Platonists such as George Bealer take propositions to be necessarily existing and intrinsically representational see Bealer, 1993, 1998. Not all propositionalists are Platonists, there are those who deny that propositions are necessarily existing and/or primitively representational. Jeffrey C King, 2007 is a good example of a propositionalist who takes that view. Similar remarks can be made about other common claims about propositions, such as that they are ontologically independent from minds and languages. The sorts of disagreement that a propositionalist will have with the proponent of revisionist sententialism will of course depend on the variety of propositionalism she holds.

The variety of propositionalist views suggests that the debate with the sententialist will take many twists and turns depending on the version of propositionalism in question. For example, some propositionalists will claim that we need propositions to be necessary existents, or mind-independent, etc. and use that as an argument against the sententialist.

Bealer makes that argument in the course of his defence of Platonism. Those who do not think that those are properties that propositions should or do have will not. In order to keep the question manageable I will limit my attention to another sort of debate. I will suppose that the propositionalist and the sententialist have agreed to limit their discussion to one of the traditional roles for propositions. The role I have in mind is the one that is distinctive of the relational account of attitude-reports, i.e. that propositions are the things that are referred to and quantified over in attitude-reports. Some of the issues about necessary existence will be relevant to that debate. The issues I mean to exclude are those that do not bear directly on the dispute over whether propositions or sentences are best placed to play the role of referents for that-clauses in a relational semantics for attitude verbs.

The remainder of this chapter will consist of the presentation of two arguments that might be offered by a propositionalist who accepts that the debate should be carried out in the terms specified above. These are both objections to the radical revisionist sententialist which raise worries about a central feature of that view. The point driving the objections is that the radical revisionist holds that the things that play the role of propositions are representations located in the minds of particular language users.

In what follows it is helpful to keep in mind a certain objection that the proponent of radical revisionist sententialism might press against the proponent of what might be called *revisionist propositionalism*. According to certain propositionalists, King being a good example, propositions are more like sentences than some have thought. For example, King pursues what might be called a *naturalising strategy* with respect to propositions. This means that he seeks to identify a class of entities whose existence is uncontroversial and then argue that their existence entails the existence of propositions. Commitment to the naturalising strategy is one of the things that has changed least in King's work; it is a common feature of Jeffrey C King, 1994, 1995, 1996, 2007, 2009, 2012. The entities King appeals to in his most recent work are LFs. At the same time, radical revisionist sentences, which are also LFs, are more like propositions as traditionally conceived. They have their semantic properties essentially, for example. So, the revisionist sententialist might argue that this sort of revisionist propositionalism has given up the features which made it interestingly different from their own view as it is now formulated. At the same time, the propositionalist has more ontological commitments. That could be taken as a reason to adopt radical revisionist sententialism. The two arguments I am about to discuss can be thought of as possible responses, i.e. as two attempts to find some important role for propositions even once it has been accepted that they are more like sentences than they have usually been thought

to be. I will sometimes follow the convention of referring to the traditionalist and revisionist versions of sententialism as S1 and S2 respectively, and the traditionalist and revisionist forms of propositionalism as P1 and P2.

2.6.2 The shared content objection

The first objection I will discuss is based on *shared content*. The objection starts by focusing on one of the original motivations for the relational analysis of attitude-reports. One of the things that that analysis was supposed to help with explaining was the intuitive validity of arguments such as:

- i. Mary believes that snow is white.
- ii. John believes that snow is white.
- iii. So, there is something that John and Mary believe.

According to the relational analysis such an argument can be regimented in something like the following way:

- i. BEL(Mary, P)
- ii. BEL(John, P)
- iii. $\exists x$ (BEL(Mary, x) & BEL(John, x))

If we accept such an analysis then we can explain the intuitive validity of the original argument. So we should accept it. Because the theory that has now been accepted quantifies over things believed, we should accept an ontological commitment to such things.

Here is an objection that a propositionalist might make to a radical revisionist sententialist: according to the radical revisionist sententialist the things that John and Mary are related to in the various premises are LFs. These are mental representations. So, how can it be that there is one thing such that both John and Mary are related to it? If there is not then the account of the intuitive validity of the original argument fails. This is not a general objection to the claim that people can be related to objects in virtue of their belief states, because that is the propositionalist's view too. The objection is based on the nature of the LFs that the sententialist identifies with the objects of the attitudes. Because these are mental representations, the propositionalist alleges that it cannot be that there is one thing such that both John and Mary stand in the belief relation to it. In that case the sententialist cannot appeal to the relational account of the validity of the argument.

I am not aware of any versions of this argument against sententialism in print, although I have heard it in conversation.⁶ Rather than try to reconstruct what various real or imaginary philosophers might have in mind when they suggest problems for the sententialist I will follow a different strategy. I will outline an account that the sententialist might give of the BEL relation that is consistent with the idea that LFs are mental representations and that predicts the validity of the intuitively valid argument that is at issue. If she can give such an account then the sententialist need not worry about this sort of objection.

I will need to make some assumptions in setting out the account. The main assumption is what is often called the *representational theory of mind* (RTM) of a sort particularly associated with Jerry Fodor see e.g. Fodor, 1975, 2008. According to RTM, what it is to think a thought is to have a mental sentence tokened in one's mind. These sentences of *Mentalese* have meanings. What it is to believe that snow is white is to have a Mentalese sentence M('Snow is white'), which means that snow is white, tokened in the right kind of way. In order to simplify the presentation of my argument I will for the moment make a second assumption: sentences of Mentalese are the LFs associated with natural language expressions. This controversial view has recently been defended in Hinzen, 2012. After presenting the argument I will explain how to do away with that assumption.

Consider Mary, who believes that snow is white. According to RTM, that is just to say that she tokens a sentence of Mentalese that means that snow is white in a belief sort of way. The sententialist can now give the following account of the BEL relation between subjects and LFs, where \sim is the content-matching relation described in section 2.4.3:

(B) BEL(S, δ) iff S tokens ϵ in a belief sort of way and $\delta \sim \epsilon$.

Because \sim is an identity relation, it might well be that $\delta = \epsilon$, but this need not be so. The idea is that a subject believes the LFs that she tokens, as entailed by RTM. She then stands in the BEL relation to the set of LFs that match in content the LF she tokens. How does this help with the propositionalist's challenge? Suppose that Mary believes that snow is white in virtue of tokening δ and that John believes that snow is white in virtue of tokening ϵ . Grant that $\epsilon \sim \delta$. It will follow that all of the following hold:

Bi. BEL(Mary, δ)

Bii. BEL(Mary, ϵ)

⁶ I have also heard it suggested that there are arguments in Frege, 1948, 1956 for the conclusion that the objects of the attitudes must be outside of any particular person's head. The reasons offered in support of this conclusion are not entirely clear to me. It is also worth noting that the conclusion of Frege's argument is that there is a 'third realm' of thoughts. That conclusion will not be acceptable to all propositionals in any case.

- Biii. $BEL(\text{John}, \epsilon)$
 Biv. $BEL(\text{John}, \delta)$
 Bv. $BEL(\text{Mary}, \epsilon) \ \& \ BEL(\text{John}, \epsilon)$
 Bvi. $BEL(\text{Mary}, \delta) \ \& \ BEL(\text{John}, \delta)$
 Bvii. $\exists x (BEL(\text{Mary}, x) \ \& \ BEL(\text{John}, x))$

Bvii is an existential generalisation entailed by both Bv and Bvi. The original argument that is captured by the relational analysis can now be captured by the sententialist in virtue of B and the fact that \sim is an identity relation.

An objection might be raised that on this account a distinction is now being drawn between belief, which is a state described in terms of mental representations and BEL, which is the relation denoted by the verb ‘to believe’ in belief reports. Belief is a state involving representations, and entails that those who enjoy it stand in the BEL relation to various other representations. The objection would be that, while there is something such that Mary and John both BEL it, there is nothing such that they both believe it. I do not think that the sententialist needs to be particularly worried by this consequence of her view. Positing that ‘to believe’ does not contribute the belief relation to the propositions expressed by belief reports is hardly unprecedented. Salmon, 1986, 1989b, for example, proposes the same thing. The propositionalist may choose to build in an extra requirement on the relational view, i.e. that it does not make this move. The propositionalist can then give a relational analysis that respects this additional constraint. This does not show that the constraint is motivated, nor that anybody who wants to give a relational analysis is committed to accepting it. In the absence of a motivation for accepting this constraint the sententialist has been given no reason to abandon her proposal. If the proposal I have just made on behalf of the sententialist is defensible, then it shows that there is nothing problematic about locating the objects of the attitudes in the minds of those who have those attitudes. That there is no one thing that distinct subjects believe does not show that no account can be given of the intuitive validity of arguments that attribute shared content.

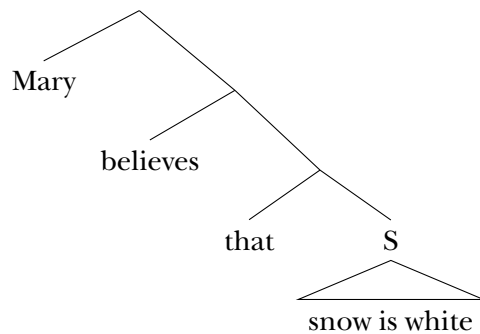
When I introduced the defence of sententialism I have just proposed, I framed the view in terms of a version of RTM. The representational theory is itself controversial, although it is mainstream enough for one of its critics, Robert Matthews, to refer to it as the received view in Matthews, 2007, ch. 2. The version that identifies Mentalese with the LFs associated with natural language sentences is much more controversial. It would be problematic for the sententialist if that was an essential part of the defence against the propositionalist’s shared content objection. Fortunately that is not the case. The difficulty is that some care

is needed in formulating the response adequately without that assumption.

Care is needed because now it becomes important to consider the relationship between the TCs of attitude-reports and the attitudes reported. Attitude-reports are of course sentences in their own right, and they can be associated with LFs. For example:

(17) Mary believes that snow is white.

(34)



The obvious thing for the sententialist to say about the report is that it expresses that the subject stands in the BEL relation to the LF that is in construction with the complementiser. The radical sententialist is already committed to the LF attributed by the report being distinct from anything that is in the head of the subject of the report, because the LF in the report is a component of the LF used to make the report. For example, suppose the (17) is used by John to report on Mary's belief. (34) will be his mental representation of (17) which accounts for his competence with the sentence he uttered. It will be nothing to do with Mary's belief, except in so far as a relationship can be established between the embedded LF and her belief state.

If Mentalese consists of LFs that match in content LFs associated with natural language expressions, in particular those used by the reporters, then it would be relatively easy to give an account of the relationship. It would just be content-matching. If that is not the right picture then something more complicated has to be said. The task is to say something systematic about the relationship between the mental states of subjects and the attitude-reports that can be truly made of them in virtue of their having such states. This is notoriously difficult. In order to carry out this project one would need to have a complete story about the nature of mental states and a complete story about the conditions of true reporting in English. Nobody has either of these. This is, of course, not just a problem for the sententialist.

I propose that the sententialist should avoid getting bogged down in the difficulties just mentioned by taking the following approach to the problem: leaving aside the difficulty of giving an account of what they are, suppose that one can identify the class of true attitude-

reports about a particular subject. A subject stands in the BEL relation to the LF embedded in one of these reports just in case that report is true of that subject. Assuming that (34) is the LF associated with an utterance of (17), and that that utterance is true, it will follow that Mary stands in the BEL relation to the LF embedded in (17). This claim says nothing about the realisation of belief states. As far as I can see it is compatible with any account of belief states, including but not limited to all versions of RTM. This more general claim is enough for the sententialist to motivate the existence of the BEL relation and use it to respond to the shared content objection.

Here is how things stand. The propositionalist may well object to the claim that the objects of the attitudes are representations in the minds of particular subjects. The question is whether there is a non-question begging argument behind the objection. An obvious place to look is in the vicinity of the notion of shared content, because things that exist in one mind or another cannot be shared. The response I have offered on the sententialist's behalf is an account of how the observations behind the shared content argument can be accommodated on her framework. There is no need to reject the advantages of the relational analysis just because strictly speaking there are not things that two subjects can both believe.

I will now discuss a final objection that might be raised to the sententialist who has chosen to respond in the way just outlined to the shared content objection. I presented the response in terms of a relation of content-matching, which I have defined in terms of a shared MERGE history. This puts some fairly strong requirements on content-matching. The propositionalist might object to the sententialist that she cannot explain the validity of certain arguments that ought to be valid. Here is one possibility:

- i. Mary believes that it was John who stole the money.
- ii. So, Mary believes that John stole the money.

If the sententialist holds that premise i expresses that Mary stands in BEL to the LF of premise i's that-clause, and that conclusion ii expresses that she stands in BEL to conclusion ii's that-clause, then it will not follow from her view that premise i entails conclusion ii. The LFs may be related but they are not identical. If the propositionalist chooses to associate the TCs with the same Russellian proposition, as some would, then she can give an account of the validity of the argument. She can do this by arguing that the same Russellian propositions are associated with the two that-clauses.

A similar pattern can be found with co-referring proper names. According to the sententialist the LFs associated with the that-clauses in the premises of the following argument

differ. The difference comes from the different phonetic properties of the NP, which mean that the lexical items in question have different phonetic features:

- i. Mary believes that Judy Garland sang.
- ii. So, Mary believes that Frances Gumm sang.

The neo-Russellian propositionalist will hold that the argument above is valid, and she will give a relational analysis that supports that claim. The sententialist's relational analysis will not support it; not only are the embedded LFs different but they differ in their MERGE histories and so do not match in content.

The best response for the sententialist is to stand by these consequences of her view. This is defensible because every account of the objects of the attitudes produces some results that some theorists reject, but there is no consensus about which are to be preferred. Among propositionalists, neo-Russellians will endorse the Judy Garland/Frances Gumm argument and neo-Fregeans will deny it. The sententialist will have to agree with the neo-Fregeans' verdict. Without an independent reason for thinking that it is the wrong verdict there is no argument against her view from just that consequence. The cleft argument is also controversial. For example, King has a neo-Russellian view on which it is not valid, and has defended that view in Jeffrey C King, 2011 by arguing that it should not be valid.

Because there is no consensus over whether or not the arguments are valid among propositionalists, there is no clear objection to the sententialist here. It looks like the sententialist will have to take on some commitments about the validity of these arguments, but so do the various sorts of propositionalist. There is no widely accepted proposal about how to work out which commitments are right. In that case there is no clear argument against the sententialist.

In conclusion, there is no argument against the sententialist based on shared content. She can give an account on which the arguments that clearly ought to be valid are valid. While she cannot give on account on which every argument that has been thought by some propositionalist to be valid is so, it is not clear that she is making wrong predictions in those cases. Such issues are extremely controversial among propositionalists themselves and so cannot be used as an argument against sententialism.

2.7 Against sententialism

I will now present my argument for the claim that the propositionalist should not abandon her view in favour of sententialism. I will do this by presenting an argument against

sententialism that uses premises that are common ground among propositionalists. If the premises are true then sententialism is refuted. Even if they are false, it will have been established that by her own lights the propositionalist should not accept that her view has nothing to offer over sententialism. The debate between the propositionalist and the sententialist will then turn on the status of the controversial premise. While the sententialist may well not be convinced, she will not be able to claim that propositionalism is redundant in the way that it is sometimes suggested that it is.

2.7.1 An argument for propositions

Defenders of structured propositions, including Jeffrey C King, 2007, sometimes argue for the view on the basis that the referents of that-clauses must be structured objects. That argument will not be relevant to the present debate. Both propositionalists and sententialists hold that the referents of that-clauses are structured objects. Because the sententialist takes the referent to be a LF, which is a kind of structured syntactic object, no argument based on the idea that such referents must have at least as much structure as that of the sentences embedded in the that-clause can count against the view. If anything, LFs are more fine-grained than most propositionalists require. This is a contentious issue which is discussed in e.g. Collins, 2007; Jeffrey C King, 2011. I will focus on the broad agreement between propositionalists and sententialists on the claim that the referents of that-clauses are structured objects without relying on any particular view of how course- or fine-grained they should be.

What else could motivate the propositionalist to reject sententialism? I think that the right place to look for such an argument is among the core commitments of various propositionalist views. These arguments tend to focus on the analysis of particular sentences involving that-clauses, or other constituents that seem to denote the objects of the attitudes. Here are two standard examples:

(35) Mary believes that Ibsen wrote *A Doll's House*.

(36) Necessarily, Ibsen wrote *A Doll's House*.

The relational picture is committed to assigning a referent to the occurrences of the syntactic constituent 'Ibsen wrote *A Doll's House*' as it appears in (35) and (36). By a plausible principle of *innocence* the same referent must be assigned in both cases, as both propositionalists and sententialists can happily agree. The main constraint on such an assignment is that the truth-conditions of these sentences must be captured by the theory of which that

assignment is a consequence.

It is well known that propositionalists are pulled in two directions by these requirements. According to one proposal the assigned referent should contain Ibsen. This allows for a smooth treatment of (36) because it correctly predicts a distinction between the truth-conditions of (36) and a sentence where the definite description ‘the most famous Norwegian playwright’ is substituted for ‘Ibsen’. This *Millian* proposal has less attractive consequences for (35) because it seems to predict that (35) entails any sentence where ‘Ibsen’ is substituted for a co-referring proper name. This fact has motivated *descriptivist* treatments of proper names, which take them to behave like definite descriptions. This explains substitution failure smoothly but less naturally accounts for rigidity.

I am not presently interested in how to resolve that debate, or even if it can be resolved. My goal is to provide an argument from principles that both propositionalist positions can agree. The dialectical advantage of doing this is that it reduces the number of questions that are begged against sententialism. If the propositionalist can assume Millianism then she has an immediate argument against the sententialist. The Millian position, as defended by e.g. Salmon, 1986; Soames, 1987, 2002, is that the propositional constituent contributed to the proposition expressed by ‘Ibsen wrote *A Doll’s House*’ is Ibsen, nothing more and nothing less. The sententialist claims that the constituent is a lexical item. Ibsen was not a lexical item, so her view is false. I am sympathetic to Millianism but I recognise that this argument begs the question of the nature of propositional constituents. The following argument is my attempt to do better. The importance of (35) and (36) is that they illustrate the sort of data that both the propositionalist and the sententialist are trying to explain, which in turn constrains the theories that they defend.

The first premise of the argument for propositionalism is that the referents of that-clauses have truth-conditions. Adopting the propositionalists’ way of speaking, the proposition in question is true *simpliciter* under certain circumstances, and true at a possible world *w* if those circumstances obtain there. This claim can be supported by appeal to the semantics of (36) and also by examples similar to those used by Schiffer, 2003, ch. 1 as part of an argument for the existence of propositions:

- (37) a. Mary believes that Ibsen wrote *A Doll’s House*, which is true.
 b. Everything Mary believes is true. Mary believes that Ibsen wrote *A Doll’s House*.
 So that, i.e. that Ibsen wrote *A Doll’s House*, is true.

How a structured proposition comes by its truth-conditions is a vexed question. I will assume no view on that although I think it is clear that every propositionalist must have one.

My strategy once again is to find a principle that those with different views can accept as common ground. One such principle is that the truth-conditions of a structured proposition depend on its constituents. This is intended to be a claim about the sort of explanation that can be given of the fact described in the first premise. The objects of the attitudes must have truth-conditions. Reflection on sentences such as (35) and (36) gives us a good idea of what these truth-conditions must be. A proposal about the nature of the objects of the attitudes must explain why they have the truth-conditions that our theory requires of them. This line of thought leads to a version of the *unity problem* for propositions. King defends a certain solution for a propositionalist view in Jeffrey C King, 2007, 2009, 2012 as do e.g. Soames, 2010, 2012 and Hanks, 2011 for their own versions of propositionism. I have presented my own account in chapter 1. Whichever solution one adopts to this problem, the view that emerges is one according to which propositions are structured objects which may have as constituents things which are either identical to properties, on King's view, or which are partly individuated in terms of properties. This latter view is the one defended by Soames and Hanks, who hold that the constituents are types of events or acts, respectively, that involve properties.

The importance of this point for the present chapter is that there is something that both propositionlists and sententialists must explain, namely the truth-conditional properties of the things they identify as the objects of the attitudes. Propositionlists offer a theory based on structured objects. Propositionlists differ on many issues. For example, they might disagree over whether the constituents are objects and properties, or other things that are individuated in terms of objects and properties. Propositionlists will also disagree over the issue described above, namely that of whether proper names contribute objects directly or not. But, as far as I know, every theory of structured propositions is committed to the claim that the correct truth-conditions are generated because the objects of the attitudes can be individuated in terms of the relations that their constituents bear to objects and/or properties. Evidence that this is a fundamental commitment can be found in the fact that such theorists have recently given so much attention to the question of how such objects can be said to fit together into unities that have truth-conditions. Given that the clause embedded in e.g. (35) and (36) is intuitively true or false depending on whether certain objects instantiate certain relations, this is an entirely reasonable thought.

With these two premises, a simple argument against sententialism can be made. Here is one way it might be put:

- i. The objects of the attitudes have truth-conditions.

- ii. Only an object with constituents individuated in part by objects and properties can have the truth-conditions that certain sentences in fact have.
- iii. LFs do not have constituents individuated in this way.
- iv. Therefore, LFs cannot be the objects of the attitudes.

The sententialist cannot deny premise i without abandoning the relational approach to attitude-reports. It is an essential part of such a view that objects are posited to be the referents of that-clauses as part of an account of the semantics of that-clauses. Premise ii is motivated by the thought that what is expressed by ‘Ibsen wrote *A Doll’s House*’ is in an important way about Ibsen, the relation of Authorship, and the play *A Doll’s House*. This claim stands in need of defence, although I think it is fair to say that many propositionalists take it as a kind of basic belief. One relevant line of argument is Soames’ defence of the idea that in order to know the meaning of the sentence in question one must know that it expresses something about Ibsen and the other objects. These arguments can be found in Soames, 1992, 2008a. For the purposes of this chapter I will make the more limited claim that denying premise ii amounts to denying a core claim of propositionalism. If that is the only way to defend sententialism then that is sufficient to establish my point that propositionalism is significantly different from sententialism. If nothing else, this argument brings out one of the deep issues that is at stake in the debate between propositionalists and sententialists even on the P2 and S2 versions of those views.

There are three ways that a sententialist might respond to this argument. The first would be to deny premise ii, the second would be to deny premise iii, and the third would be to deny the entailment of premises i–iii to conclusion iv. In the next subsection I will discuss each option in turn. In each case I will present a view inspired by recent work on related topics in the philosophy of language. The existence of these views might give the impression that these strategies are viable for the sententialist. In each case I will show that the impression is mistaken.

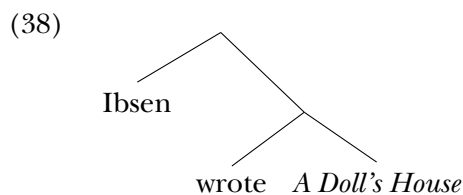
It will be important for the arguments to come to be aware of a particular constraint that the sententialist is working under. Sententialism, as I have described it, is a view that borrows its ontology, i.e. LFs, from generative syntax. The standard view in that discipline is *internalism*, which can be summarised as the view that LFs are to be individuated by features that are within the head of the language user who produces and consumes them. That claim is a central part of the move to I-language, which is a central part of the theory of LFs as well as the naturalising strategy of the propositionalist. This internalist commitment generates a problem for the sententialist when it comes to accounting for the truth-conditional

properties of LFs. The truth-conditions involve objects and properties in the world. But, in order to keep the theory of LFs internalist, the semantic properties of lexical items cannot be specified in terms that refer to objects and properties in the world. The brief version of my argument in the remainder of this section is simply that this problem cannot be solved.

While I do not intend this argument to be *ad hominem*, it is worth noting that Collins, the main defender of revisionist sententialism, is strongly committed to internalism. For Collins' views see Collins, 2003, 2009, 2010. The debate over internalism has interesting and deep connections to the influential externalist project in the philosophy of language and mind begun by Hilary Putnam and Tyler Burge in Putnam, 1975; Burge, 1979. Note that the issue that is most relevant for the present chapter is whether or not the entities found in syntactic theory are, according to the theorists in that discipline, specifiable internally. I will assume that they are. Broader questions about the individuation of psychological properties in general are not my concern here.

2.7.2 Sententialist strategies for resisting the argument

In this section I will discuss three strategies that are available for the sententialist who wants to respond to the argument for propositionalism presented above. The issues are clearest when the discussion is focused on a particular example. I will therefore present my arguments in the context of a sententialist response to the challenge of providing an adequate theory of the truth-conditions of the following LF:



In this representation *Ibsen*, *wrote*, and *A Doll's House* are *lexical items*.

The sententialist will typically appeal to a well-developed independently motivated theory of LFs, or what Collins calls EXPs. None of the arguments that follow depend on which one she chooses. Just because there are good reasons not to use LFs as replacements for propositions does not mean that there are reasons to reject the theories that use LFs. Those theories must be assessed on their own merits. I will proceed on the basis that the sententialist can appeal to any such theory.

The task for the sententialist is to explain how it is that (38) has the truth-conditions that, I presume, everyone agrees that it has. It should be true iff Ibsen wrote *A Doll's House*. On the assumption that we know under what circumstances (38) is true, the task for the

sententialist is to give a theory of how it comes by those truth-conditions. This theory must also explain the contribution made by the constituents. Focusing on *wrote*, the task is to explain what that lexical item contributes to (38) that makes it true iff Ibsen wrote *A Doll's House*.

Defining truth for LFs

It is important to clearly distinguish the objection I am discussing from another that is superficially similar. It might be objected to an account that takes sentences to be the objects of the attitudes that such things are not bearers of truth. That is the argument I am not making. The one I am making is that the prospects of giving an account of the contribution made by lexical items to the truth-conditions of an LF are poor. I will illustrate this point by first outlining Collins' response to the first argument, and then showing why his proposal does not offer a response to the second.

Collins, 2003, pp. 250–252 responds to an argument found in Soames, 1999, pp. 102–107, 243–244. Soames argues that propositions, rather than *inter alia* sentences, are the primary bearers of truth. The main point of his argument is that there is an *a priori* connection between a proposition and its truth-conditions, which is not the case for sentences. Instances of the following *disquotational schema* are not *a priori*, because one must know what an instantiation of *s* means in order to know whether an instance of the schema which instantiates it is true:

(DS) *s* is true iff *P*.

According to Soames, this matters because there is a conceptual connection between truth and meaning. Collins accepts that point, and accepts that DS is not *a priori* when traditional ideas about the nature of sentences are in play. His contention is that once one thinks of sentences as LFs a modified form of DS is *a priori*.

Here is one way to think of Collins proposal: lexical items have semantic features. We can define a function SEM which maps an EXP = ⟨PF, LF⟩ to 'The structure encoded by the [semantic] features [of the lexical items] of a given EXP.' (Collins, 2003, p. 251) As a lexical item has its features, including its semantic ones, essentially then the value to which a particular EXP is mapped by SEM is fixed by essential properties of that EXP. Unlike DS, the following schema is, according to Collins, therefore *a priori*:

(SEM-T) SEM(*s*) is true in L iff *P*.

Collins concludes from this that a sententialist can resist Soames' argument for the primacy

of propositions.

One might think that this proposal could be used as a strategy to deny premise ii of the argument made in section 2.7.1. If truth can be defined for LFs, then LFs can have truth-conditions after all. Unfortunately for the sententialist, Collins' proposal will not help to answer the propositionalist challenge that I am considering in this chapter. That challenge is based on the contribution made by the constituents to the truth-conditions of a whole. The constituents are the lexical items and the whole is the LF. On Collins' view, the truth-conditions of the whole are functions of the semantic properties of the lexical items, which are essential properties of those items. This provides only part of the answer to the problem I am interested in: the sententialist says that *wrote* contributes its essential semantic properties to SEM((38)). This is not yet providing an account of how these properties generate the right truth-conditions for that LF.

The point is that the sententialist, if she is an internalist, will struggle to give an account of the semantic properties of the relevant lexical items. This is easy for the propositionalist. Given that the propositionalist wants the proposition expressed by 'Ibsen wrote *A Doll's House*' to be true just in case a certain man stands in a certain relation to a certain play, she can propose that each constituent of the sentence contributes a referent. If the propositionalist can give an account of how these objects are combined in a way that gives the complex they form truth-conditions, there is no problem in explaining why these truth-conditions involve Ibsen. The same holds if Ibsen is essentially connected to the constituent of the propositions. The sententialist, if she is an internalist, cannot appeal to any such story. On her view, lexical items are the sort of thing that can be fully described without reference to any external object. That means that all of the semantic properties of *wrote* must be given in terms that do not refer to a relation in which Ibsen stands to *A Doll's House*, because relations are in the world and not in the head. The response to Soames' argument offered by Collins guarantees that if the sententialist could explain the connection between the essential semantic properties of *wrote* and its contribution to the truth-conditions of various LFs, then that connection will be *a priori*. But this does not explain what the connection in question is, nor does it explain how there could be such a connection between internalist semantic properties and truth-conditions given in terms of things that are not in the head. Therefore no response is suggested to the argument made in section 2.7.1. The conclusion to draw from this is that the argument is not avoided by appealing to the fact that semantic properties are essential properties of LFs. Furthermore, this very fact about semantic properties combined with internalism means that the sententialist cannot explain

the contribution made by lexical items to the truth-conditions of LFs.

Referential semantics for I-languages

Here is another response that might be made to the argument in the previous subsection: the real issue here is a fundamental tension between the tradition of generative semantics that gives us the theory of LFs and referential semantics as it is pursued by philosophers. It is the tradition that connects truth to reference that generates the problem about the truth-conditions of LFs. If that is right then the solution might well be found in resolving the tension. Ludlow has recently made proposals that seek to resolve the tension, see Ludlow, 2003 and Ludlow, 2011, ch. 6. It might be thought that Ludlow's work provides a way for the sententialist to deny premise iii of the argument from section 2.7.1. This is because Ludlow proposes that lexical items can stand in referential relations to objects and properties of a certain sort. I will argue that when the consequences of accepting Ludlow's view become clear, the appearance that this would be a viable strategy for the sententialist in the context of her debate with the propositionalist disappears.

The project Ludlow is engaged on can be summarised as the attempt to show that the following ideas are compatible:

- i. The semantic theory making use of the notion of *reference* i.e. 'a four-place relation that involves the speaker, the expression used, context, and aspects of the world' (Ludlow, 2003, p. 142). (This is the notion of reference that Ludlow calls R^2 .)
- ii. A language, as it is studied by semanticists, is an I-language i.e. 'a state of an internal system' (Ludlow, 2003, p. 143).

Ludlow discusses arguments made by Chomsky, who holds (ii), against (i).⁷ Ludlow's reply is that when properly understood, (i) and (ii) are compatible. I am interested in one feature of Ludlow's response, i.e. the proposal he makes in order to defend the idea that reference and internalism are compatible.

Ludlow's proposal is that referential semantics can be pursued in a framework where the referents of the expressions are not things in the external world but are so-called *I-substances* (and, presumably, I-objects and I-properties) which are internal to the speaker.⁸ It might be thought that the compatibility of reference and internalism would help the

⁷ The arguments are scattered throughout Chomsky's work, see Ludlow's chapters for references. Chomsky has discussed these issues at some length in Chomsky, 1995.

⁸ In Ludlow, 2011, ch. 6 the terminology of 'narrow Ψ -language' and ' Ψ -substance' is used instead. The intended meaning is the same.

sententialist. If one can say that a lexical item refers to an object in virtue of its essential semantic properties, then the sententialist can claim that the lexical item contributes that object to the truth-conditions of LFs of which it is a part. In effect, it allows the sententialist to avoid the objection that individuating lexical items partly by referential properties is incompatible with internalism.

Here is one reason to think that the sententialist cannot employ this strategy: the propositionalist and sententialist both endorse a relational semantics for attitude-reports. The sententialist is also committed to some version of generative linguistics. The propositionalist can quite happily accept that. The debate between the propositionalist and sententialist is over whether one should use the ontology of generative linguistics to pursue the relational semantics of attitude-reports. Ludlow's proposed I-objects would be an addition to the ontology appealed to by the sententialist. The idea is not just that lexical items have a novel sort of referential semantic feature, there will also be a novel class of object to which the lexical items refer. The problem with this idea is that adopting it would remove the main advantage that the sententialist can claim over the propositionalist, namely that she has to add nothing to the ontology already given in generative linguistics.

One way to rebut this objection would be to show that I-objects are better motivated than propositions. That question turns on two points: (i) how costly is it to endorse the existence of propositions? Much of the recent work on the theory of propositions has been aimed at showing that it is not at all costly. That is the point of King's naturalising strategy and other work by propositionalists, such as Soames and Hanks, who endorse a version of P2. (ii) Is the I-object proposal something that can be motivated by considerations that come from generative linguistics itself? The reason why theorists such as Chomsky, 2003 have rejected Ludlow's proposal is that they do not see how it adds anything to the explanatory projects of linguistics. I do not want to beg the question against Ludlow, so I will not assume that Chomsky is right. For that reason I will not rely on (ii). Regarding (i), I think it is perfectly acceptable for the propositionalist to insist that her favourite account of naturalised propositions shows that they are at least no more unacceptable than I-objects.

In conclusion, Ludlow's proposal for referential semantics for I-languages does suggest a response on behalf of the sententialist to the argument for propositionalism I have been considering. The problem with this response is that it removes the main dialectical advantage that the sententialist had in her debate with the propositionalist. If something like King's naturalising strategy succeeds, then there is nothing problematic about making use of propositions. In the debate I described, the sententialist does not dispute that, but rather

argues that given the way that propositions are naturalised one might as well make use of LFs instead. Propositions are otiose, rather than inherently problematic. If the sententialist must supplement LFs with I-objects then she loses this advantage. Even if one thinks that I-objects are not inherently problematic, they might be considered just as otiose as propositions were alleged to be. This is an argumentative stalemate. In any case, I suspect that many sententialists will be reluctant to posit I-objects without some independent linguistic motivation.

Meaning before truth

The final strategy for resisting the argument against sententialism that I will consider is one inspired by Paul Pietroski. Once again, the idea I will be discussing is a contribution to a different but related debate. In this case it is one that might be taken to suggest that the argument for propositionalism is invalid. Once again I will argue that the appearance is misleading.

Pietroski, 2003, 2005 discusses a problem about the connection of meaning and truth from an internalist perspective. Pietroski introduces the problem as follows:

Chomsky offers a plausible though often ignored conception of linguistic meaning and its relation to truth: the meaning of a natural language sentence S is an internalistic property of S, determined by the human language faculty and the relevant lexical items; the semantic properties of sentences, which reflect how human beings understand natural language, are theoretically tractable; but if an utterance of S is true or false, its truth or falsity is typically a massive interaction effect due to the meaning of S and many factors not indicated by elements of S. In my view, this conception is preferable to more standard alternatives, which either (i) burden theories of meaning with implausible predictions, or (ii) abandon good explanations. (Pietroski, 2005, pp. 253–254)

This might be called a *division of labour* proposal. The idea is that meanings are, to use the terminology of McGilvray, 1998, ‘syntactically individuated and found in the head’. This is a standard internalist claim. Such an idea raises obvious questions about whether meanings can then be the sorts of things that are true or false. Pietroski’s distinctive response to these questions is to take the view that meanings do not have these properties. Something else, the things we use sentences to say on particular occasions, have them. On this account the work that was supposed to be done by one sort of entity, perhaps propositions, is done by two.

The division of labour proposal might be seen as a way for the sententialist to avoid the objection I have been discussing. If there are two sorts of entity in play, one of which is introduced explicitly to account for properties such as truth, then the objection that LFs cannot be the bearers of truth can perhaps be avoided. It will not follow from the fact that LFs do not have truth-conditions that there are no entities in the ontology of generative grammar that do have them. If truth-conditions arise from the kind of interaction effect Pietroski suggests, then it is at least possible that objects and properties could be part of the account.

The division of labour proposal will not help the sententialist in the debate with the propositionalist. That is so even if it is the right sort of thing to say on behalf of the internalist about the relationship between meaning and truth. Pietroski's proposal is that we should identify meanings with mental representations constructed out of lexical items. These are LFs, according to the way I have been using the term. The sententialist proposal I have been considering is the claim that LFs can be the referents of that-clauses. Such a theory is supposed to help with a philosophical theory of the following sentences:

- (37) a. Mary believes that Ibsen wrote *A Doll's House*, which is true.
 b. Everything Mary believes is true. Mary believes that Ibsen wrote *A Doll's House*.
 So that, i.e. that Ibsen wrote *A Doll's House*, is true.

Because the sententialist is committed to relationism, she cannot deny that the referents of that-clauses must be truth-bearers. At least if she does she is giving up on a relationist treatment of these sentences. That means that she cannot endorse the division of labour proposal without giving up another key component of her view.

The point I have just made is rather obvious. It is worth mentioning because the issue it raises suggests a possible alternative route for the sententialist. Because of the problem just raised for combining S2 and the division of labour proposal, the sententialist might claim that the best form of sententialism is not S2. Instead it is the view that referents of that-clauses are not LFs themselves, but the truth-bearing objects hypothesised by the division of labour proposal. The sententialist now faces a dilemma. She is committed to LFs, which are identified with meanings but not truth-bearers. She must now give an account of these truth-bearers. The sententialist can now be asked whether they are propositions, or some novel sort of entity. If she takes the latter option then the same sort of argument that can be made against the introduction of I-objects can be made here. The sententialist will lose the advantage of ontological conservatism. To make matters worse, the sententialist will presumably have to answer all the questions about truth that can be asked about LFs.

These questions can be avoided by identifying these new entities with propositions and borrowing the propositionalist's account of their truth-conditions. If the sententialist takes this way out then the question that originally motivated the argument under discussion can be asked of her: given the final form of sententialism, would it not be simpler to adopt propositionalism? Whatever the other merits of the division of labour proposal it is not something that the sententialist can use to respond to the propositionalist.

This concludes my discussion of possible sententialist responses to the argument for propositionalism. I have examined ways in which the sententialist might resist premise ii, premise iii, and the validity of the argument from premises i–iii to conclusion iv. In each case the sententialist will have to make various theoretical commitments. I have argued that none of these options will in fact give the sententialist a view that is superior to the propositionalist's.

2.8 Conclusion

The first conclusion of this chapter is that radical revisionist sententialism is not vulnerable to the traditional objections raised by propositionalists to sententialism. The second conclusion is that there are other arguments that can be used by the propositionalist which will force the sententialist to a position that is incompatible with the internalist sympathies of those who have proposed the view.

I think that a moral can be extracted from this story. As can be seen from discussion of the shared content objection, propositions are not useful because they are objects that are outside the head. They are useful because they are truth-apt in a way that defenders of internalism must accept that internalist meanings cannot be. The conclusion that should be drawn from this is that propositionalism is the best implementation of a relational semantics of attitude-reports even for those who adopt the I-language conception of language and endorse internalism. Those who accept that package of views are better off if they endorse propositions than they are if they deny them.

Chapter 3

The Relationship Between Sentence Structure and Propositional Structure

3.1 Introduction

It is widely agreed that the structure of a structured proposition is in some way related to the structure of the sentence that expresses it. This follows from the natural thought that a sentence's structure is at least an important factor in the meanings it has in various contexts. If these meanings are structured propositions then sentence structure and propositional structure are at least somewhat connected. In this chapter I will argue for two conclusions. The first is that two particular claims about the relationship between sentence structure and propositional structure are incompatible with a widely held thesis in linguistics and philosophy of language. The thesis in question is that there are so-called *unarticulated constituents*. The philosophical claims are that sentence structure determines propositional structure and that sentence and propositional structure are identical. I will introduce these claims in section 3.2. In section 3.3 I will introduce the debate over unarticulated constituents. In section 3.4 I will present the case for the incompatibility of the two theses and the existence of unarticulated constituents.

I will pay particular attention to Jeffrey King's recent work on structured propositions in Jeffrey C King, 2007, 2009, 2011, 2012. His view entails the stronger identity view. While my main point is that one cannot hold both that view and endorse unarticulated constituents, I will also clarify which part of King's view it is that has this consequence. I will also explain why it is that King's account of propositions faces particular difficulties with unarticulated constituents. By doing this I hope to advance the case for a different version of the sort of account King endorses i.e. the one proposed in chapter 1. In this chapter my aim is to

show a certain consequence of King's view is problematic. My positive view does not have this consequence. That is a point in its favour.

After making the main argument just described I will turn to a question that it naturally prompts. Suppose that one assumes for the sake of argument that the conclusion of my argument is true. This shows that two claims in the philosophy of language are inconsistent. It does not tell us which one should be rejected. In particular, there is no argument against a view such as King's that entails identity, because there is no reason why someone who holds that view has to believe in unarticulated constituents. King himself does not believe in them; in Jeffrey C King and Stanley, 2007 he defends a view that does without them. That does not cast doubt on the limited conclusion of the main point. After all, many theorists do believe in unarticulated constituents. It is highly plausible that their view can only be formulated in terms of structured propositions. That their view is incompatible with a certain view of the relationship between propositional structure and sentence structure is therefore interesting. Such theorists cannot consistently have a view of the sort that King proposes. I think that the same sort of considerations I raise can be used as the basis for an argument that does not assume that there are unarticulated constituents.

In section 3.5 I will conclude the chapter by discussing one such way in which the main argument might be extended. The extension I have in mind is an argument that there is reason to reject a theory of propositions that is incompatible with the thesis that there are unarticulated constituents that is independent from the claim that there are such things. I will give two arguments for this view. Firstly, I will argue that methodological considerations favour the view that a theory of propositions ought to be as neutral as possible on open questions in linguistics, at least when these questions have an empirical component. If two views on the metaphysics of content are otherwise equally reasonable, there is a good reason to favour the one that is compatible with the widest range of empirical linguistic hypotheses. This shows that the conclusion of the main argument can be used as evidence against certain views even if one does not think that the unarticulated constituents thesis has been established. Secondly, I will argue that the identity thesis, in particular, should be rejected because it entails an unacceptable relationship between knowledge of what a sentence means and its syntactic structure. If these arguments are correct then the identity thesis ought to be abandoned anyway.

3.2 Propositional structure and sentence structure

What is the relationship between a structured proposition and the sentence that expresses it? In starting to address this question it is helpful to assume that we have fairly good grip on what the proposition expressed is. The situation I have in mind is that of a theorist who has become convinced on general grounds that a theory of meaning for a natural language ought to be constructed in terms of assignments of structured objects to sentences. Generally the assignments will be made to sentences relative to a context, a qualification which I will leave unsaid in what follows. Arguments for this approach can be found in Scott Soames' work as well as David Kaplan's and Nathan Salmon's, among many others. See e.g. Salmon, 1986; Kaplan, 1989; Soames, 1987, 2008a, 2008b. Adopting this sort of theory does not fix the relationship between a sentence and the proposition it expresses. General considerations in favour of structured contents as the basis of a theory of meaning do not fix the details of the theory.

King's account of structured propositions is inspired by the work of the theorists just mentioned, but goes beyond them in interesting ways. In Jeffrey C King, 1994, 1995, 1996, 2007, 2009, 2012 he has defended at least three accounts of the nature of structured propositions. One feature of his views that has remained constant is that the structure of a structured proposition is identical to that of the sentence that expresses it, in the sense that graphs capturing their respective structures are isomorphic.

3.2.1 Determinism and identity

I will call the claim defended by King *identity*. This is the view that the structure of a structured proposition is identical to the structure of the sentence that expresses it. A weaker claim, *determinism*, is that the structure of the sentence determines the structure of the proposition. Identity entails determinism, but not *vice versa*. In his early work Soames endorses determinism rather than identity. In Soames, 2010, 2012 the view is different, and arguably does not entail determinism.¹ In this chapter I will use Soames' early views as my example of a determinist picture of the relationship between sentence structure and propositional structure. Determinism can be formulated like this:

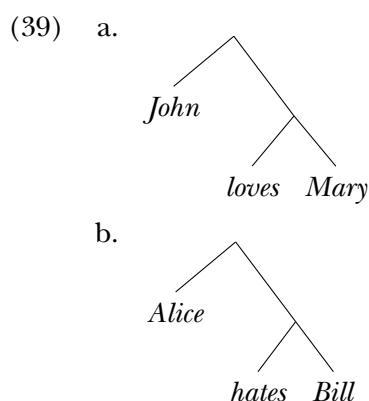
¹ The issue is complicated because according to Soames' most recent account view propositions are event types. I think that the most plausible reading of Soames is that event types are structured objects with parts, and hence that propositions are structured objects with parts. The same would hold for sentences if they are also types, which is a possibility raised in Soames, 2010, pp. 103–104. Soames is silent on the relationship between the two structures. The same can be said about Peter Hanks' proposal that propositions are act types in Hanks, 2011, 2012.

(DET) If sentence *S* expresses proposition *P*, then the fact that (i) *S* has the structure it has, and (ii) *S* expresses *P* entails that *P* has the structure it has.

In other words once the structure of *S* has been fixed, the structure of the proposition expressed by *S* is fixed too. Identity is a stronger claim:

(ID) Necessarily, if sentence *S* expresses proposition *P*, then the structure of *S* is identical to the structure of *P*.

It is not entirely easy to explain what it is for a proposition to have the same structure as a sentence in a way that is clear, general, and does not presuppose anything about what propositions are. I will try to say something to explain what I have in mind, which is hopefully the same thing as the philosophers I will be arguing against have in mind. It is not hard to say something about what it is for two sentences to have the same structure. Assuming some account of what the structures of the sentences are and that these structures can be represented as trees one might be in the position of comparing the following:



These two trees, or rather graphs, differ only in which lexical items occupy their nodes. That would be a good enough definition of what it is for two syntactic structures to have identical structures. One might also try to give a definition in terms of MERGE history. That would work for trees but not for propositions. If propositions are trees then the account of identity could be extended to them without any difficulty. Two propositions would have an identical structure just in case they differed only in the occupants of their nodes. This would also allow a comparison with the structure of sentences. If propositions are not trees then the situation is more complicated. Other sorts of structured object such as *n*-tuples or facts do not have nodes. If a definition in terms of nodes is used for ID then it looks like ID is trivially false unless propositions are trees. As far as I know, nobody thinks that propositions are trees.

In the literature on propositions the closest thing I can find to an answer to the question is in King's work. I propose to summarise what he says, focusing on his most recent

presentation, and then assume for the sake of argument that ID can be explicated in a way that is non-trivial. King employs two notions that are relevant, that of *sentential relations* and *propositional relations*. He writes about the former: ‘I call relations ... that lexical items stand in to form sentences *sentential relations*’ (Jeffrey C King, 2012, §2). The propositional relation is described in the same paper as ‘the relation that holds Michael and the property of swimming together in the proposition that Michael swims’ (Jeffrey C King, 2012, §2). I think it is clear from King’s overall picture that were the same lexical items to form a different sentence, or the same constituents to be combined in a different proposition, they would stand in different sentential/propositional relations. So, there are distinct relations for distinct sentence structures and propositional structures. This suggests that a sentence and proposition can be compared in terms of their respective sentential and propositional relations. Let F be a function which maps lexical items to their denotations. Sentence S and proposition P will have an identical structure just in case the following conditions hold: (i) The sentential relation of S relates lexical items s_1, \dots, s_n in that order; (ii) The propositional relation of P relates lexical items p_1, \dots, p_n in that order; (iii) For all i , $F(s_i) = p_i$. Something along these lines would make ID non-trivial and would allow us to compare sentence structure to propositional structure regardless of what propositions are. I will assume that some account along these lines can be made to work in what follows.

In the following subsections I will elaborate on the relevant features of Soames’ and King’s views focusing on the aspects of these views which entail determinism and identity. I will then discuss a related principle about the relationship between propositional and syntactic structure which is used as a premise in one of the key arguments in Jeffrey C King, 2011. I will argue that it fails if determinism does.

3.2.2 Soames’ theory and determinism

Soames, 1987 sets out a system for mapping formulae of an artificial language, one similar to predicate logic with identity, to propositions. The propositions are n -tuples. The system is defined on p. 62 as follows:

- (40) a. The proposition expressed by an atomic formula $\ulcorner Pt_1, \dots, t_n \urcorner$ relative to a context C and assignment f is $\langle \langle o_1, \dots, o_n \rangle, P^* \rangle$, where P^* is the property expressed by P , and o_i is the content of t_i relative to C and f .
- b. The proposition expressed by a formula $\ulcorner [\lambda vS]t \urcorner$ relative to a C and f is $\langle \langle o \rangle, g \rangle$, where o is the content of t relative to C and f , and g is the function from individuals o' to propositions expressed by S relative to C and an assignment f' that

differs from f at most in assigning o' as the value of v .

- c. The propositions expressed by $\lceil \neg S \rceil$ and $\lceil S \ \& \ R \rceil$ relative to C and f are $\langle \text{Neg}, \text{Prop } S \rangle$ and $\langle \text{Conj}, \langle \text{Prop } S, \text{Prop } R \rangle \rangle$ respectively, where $\text{Prop } S$ and $\text{Prop } R$ are the propositions expressed by S and R relative to C and f , and Neg and Conj are the truth functions for negation and conjunction.
- d. The proposition expressed by $\lceil \exists v \ S \rceil$ relative to C and f is $\langle \text{SOME}, g \rangle$, where SOME is the property of being a non-empty set, and g is as in (b).
- e. The proposition expressed by $\lceil t \text{ believes that } S \rceil$ relative to C and f is $\langle \langle o, \text{Prop } S \rangle, B \rangle$, where B is the belief relation, o is the content of t relative to C and f , and $\text{Prop } S$ is the proposition expressed by S relative to C and f .
- f. The proposition expressed by a sentence (with no free variables) relative to a context C is the proposition it expresses relative to C and every assignment f .

This is a paradigm example of a semantic theory that makes use of propositions. In a system such as this determinism is true but identity is false. One needs only to know the structure of a formula to know the structure of the proposition it expresses. Once the structure of the formula is fixed the structure of the proposition is fixed. Despite this link the structures are not identical. I take it that this is the sort of theory that those who aim to give a theory of meaning for a natural language in terms of structured propositions will usually have in mind.

I have used Soames as an example because his theory has been so influential and because the case is so clear. Jeffrey C King, 2011 uses the same theory as an example of a theory that entails the principle I will discuss in section 3.2.4. The same point would apply to other theorists' work e.g. Salmon, 1986; Kaplan, 1989.

3.2.3 King's theory and identity

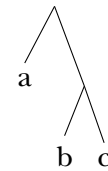
While King has given several different versions of his theory of structured propositions they all, since his 1995 publication, entail identity. Here is the key passage from his 1996 paper:

A certain view of propositional structure now suggests itself. Given a sentence S , whose SI [*semantic input*] is constituted by lexical items standing in some complex relation R , the proposition expressed by S consists of the semantic values of those lexical items standing in *the very relation* R (in the way in which the lexical items themselves stand in R in the SI). If we call the complex relation R obtaining between the lexical items in an SI associated with a sentence S *the*

sentential relation of S and call the relation obtaining between the constituents of the proposition *Q* that *S* expresses *the propositional relation of Q*, the view is that the sentential relation of *S* is the propositional relation of *Q*. Thus the recursive assignment of propositions to SI's merely "substitutes" a semantic value for each lexical item in the SI, leaving the sentential relation untouched, with the result being the proposition expressed by the SI. (Jeffrey C King, 1996, p. 498)

The chronology of King's work on propositions is slightly complicated. The paper quoted above was published in 1996 but, as noted in the first endnote of Jeffrey C King, 1996, it was written before Jeffrey C King, 1995. The view in Jeffrey C King, 1995 is an amendment of that in Jeffrey C King, 1996 which is itself a development of the view in Jeffrey C King, 1994. According to the later view the relations between the constituents of sentences and propositions are not themselves identical. Using as his example the proposition that Mary hit Lisa, King writes:

[T]he proposition consists of Mary, the relation of hitting and Lisa standing (in that order) in the following three-place relation: there are lexical items *a*, *b*, *c* that have as their sv's [(semantic values)] ..., ////////////// and ##### (respectively) and occur in an SI with sentential relation *R* as follows:



(Jeffrey C King, 1995, p. 520)

This relation holding between the constituents of the proposition is not the same as that holding between the lexical items in the sentence. It is however the same structure, the relative relations between the constituents are preserved. This theory therefore entails the identity thesis just as much as King's earlier view.

The most recent version of King's view, presented in Jeffrey C King, 2007, 2009, 2012, is that propositions are facts. Here is another quote from King describing that view, with the example this time being the proposition expressed by 'Dara swims':

I claim that the following fact is the proposition that Dara swims, where we include as part of the fact/proposition that the propositional relation in it encodes ascription: *there is a language L, a context c and lexical items a and b of L such that a and b occur at the left and right terminal nodes (respectively) of the sentential relation R that in L encodes ascription and Dara is the semantic value of a in c and the property of swimming is the semantic value of b in c.* (Jeffrey C King, 2009, p. 265)

Combined with King's notion of propositional and sentential relations discussed in section 3.2.1 this view entails that the sentence and the fact/proposition it expresses have identical structures. As this entails that the structure of the sentence determines that of the proposition all of King's versions of the view are vulnerable to the arguments made in this chapter. There are also particular problems for the newest version of the view which I will present in section 3.4.3 and section 3.4.4.

3.2.4 Same syntax, same structure?

I will now turn to a thesis defended in Jeffrey C King, 2011, §3 that is related to determinism but distinct from it. King formulates the principle of *same syntax, same structure* as follows:

(SSSS) Sentences of a given language with the same syntactic structure and that differ only in having lexical items with different semantic values occurring at the same places in their syntactic trees express propositions with the same structure that differ at most in having different constituents, corresponding to the lexical items with different semantic values, occurring in the same places in those propositions.

The question of the logical relationship between SSSS, identity, and determinism is important for the argument I will make in the rest of this chapter. I will now make the relationship explicit. ID, as I have defined it, is the claim that syntactic structure and propositional structure are identical. This entails that if two sentences have the same structure then the propositions they express have the same structure. It also entails the converse of this, i.e. it entails both SSSS and what might be called the *same structure, same syntax* principle. ID also entails determinism. In section 3.4 I will make arguments against determinism, which can straightforwardly be turned into arguments against identity. If SSSS also entails determinism then arguments against determinism will also count against SSSS. That this is so can be shown easily. Suppose that, as SSSS claims, it is necessary that all sentences with a certain syntactic structure express propositions with a certain propositional structure. It follows that if the structure of a sentence is fixed then the structure of the proposition it expresses is fixed, i.e. it is the structure that all the propositions expressed by sentences with that particular structure have. The converse holds too: SSSS and DET are extensionally equivalent.

SSSS is used as a premise in an argument King makes in the course of defending his view of propositions. That view entails that propositions are individuated very finely. It is a common objection to the view that ordinary intuitions about sameness and difference of content do not individuate so finely. Several examples of this line of criticism are discussed in Jeffrey C King, 2011. If this critical point is right then it would motivate a view

that ‘collapses’ the propositions expressed by sentences with different syntactic structures into identical structured propositions. A view of this sort is compatible with determinism, although not with identity. King uses SSSS as part of an argument against such collapsing views. I will briefly summarise his argument in this subsection, but the more important point is that arguments against determinism also threaten SSSS. While the failure of SSSS does not entail that King’s position is false, it does refute his main positive argument against the collapse view.

King’s argument proceeds by taking two pairs of sentences with the following properties: (i) all four plausibly have the same syntactic structure and (ii) one pair is a plausible candidate for collapse while the other is not. I will borrow one of King’s sets of examples:

(41) a. $1 = 2$

b. $2 = 1$

(42) a. $0 > 1$

b. $1 > 0$

A proponent of a collapse view might well claim that the proposition expressed by (41a) = the proposition expressed by (41b). But all four propositions expressed by the four example sentences have the same structure according to SSSS. As (42a) and (42b) express different propositions, despite having the same constituents, the propositions they express must differ in the way those constituents are combined. By SSSS, the way the constituents are combined must be the same in (41a) and (42a), and (41b) and (42b). That leads to a contradiction because the proponent of collapse is now committed to all of the following:

- i. The structure of the proposition expressed by (41a) = the structure of the proposition expressed by (41b).
- ii. The structure of the proposition expressed by (41a) = the structure of the proposition expressed by (42a).
- iii. The structure of the proposition expressed by (41b) = the structure of the proposition expressed by (42b).
- iv. The structure of the proposition expressed by (42a) \neq the structure of the proposition expressed by (42b).

This is a contradiction. King takes this to refute the collapse view, but this only goes through if SSSS can be appealed to in generating the contradiction. King thinks that SSSS is both widely believed and well-motivated. I will argue that SSSS is false on the basis that it entails determinism and that determinism is false.

It may well be that a similar argument can be formulated without SSSS, or determinism. King does not provide one. The collapse view might be untenable for other reasons. My point is just that if there is no argument against the collapse view the dialectic returns to the counterintuitive consequences of King's view. One consequence of my argument against determinism and SSSS is that the collapse view is rehabilitated.

3.3 Unarticulated constituents

I will now introduce the alleged linguistic phenomenon that plays the key role in my argument against determinism. In section 3.3.1 I will briefly summarise the thesis that the propositions typically expressed by a range of utterances contain unarticulated constituents. In section 3.3.2 I will make a distinction between *metaphysical* and *communicational* unarticulated constituents that will play an important role in my argument.

3.3.1 The phenomenon

The term *unarticulated constituent* was introduced by John Perry in his classic paper 'Thought Without Representation' (Perry, 1986). The example which Perry introduced, and which has been ubiquitous in the literature ever since, is:

(43) It is raining.

Here is what Perry says about the example:

It is a rainy Saturday morning in Palo Alto. I have plans for tennis. But my younger son looks out the window and says, 'It is raining'. I go back to sleep. What my son said was true, because it was raining in Palo Alto. There were all sorts of places where it wasn't raining: it doesn't just rain or not, it rains in some places while not raining in others. In order to assign a truth-value to my son's statement, as I just did, I needed a place. But no component of his statement stood for a place. The verb 'raining' supplied the relation *rains (t,p)*— a dyadic relation between times and places ... [...] The tensed auxiliary 'is' supplies a time, the time at which the statement was made. 'It' doesn't supply anything, but is just syntactic filler. So Palo Alto is a constituent of the content of my son's remark, which no component of his statement designated; it is an *unarticulated* constituent. (Perry, 1986, p. 138)

It is important to distinguish between Perry's data and his analysis. The data is that in an intuitive sense the location of the rain is part of the content of what Perry's son said. That

is the core commitment of those who believe in unarticulated constituents. Perry's analysis makes the further claims that (i) the content of the uttered sentence would be incomplete without the additional constituent, (ii) because rain necessarily happens at a location. That further claim and the proposed explanation are both controversial. Furthermore, Perry seems to suggest that one can only use the sentence (43) to express contents that are about particular places, and that this follows from the fact that raining occurs in some place or other. It is not clear that the observation about 'rain' is true, and it is even less clear that the principle on which it is based should be accepted. Dancing necessarily occurs in some place or another, but the sentence

(2) John dances.

need not express a content about the location of John's dancing. This point is discussed in Cappelen and Lepore, 2007. Cappelen & Lepore reject the argument suggested by Perry's quote on the basis that 'it would be crazy to infer, on that basis alone [i.e. that dancing always happens somewhere], that the location of dancing is an unarticulated constituent of the proposition expressed' (Cappelen and Lepore, 2007, p. 203).

I will be interested in this chapter in the data Perry noted, rather than the analysis he gave. Here is what I take to be a relatively neutral characterisation of what the observation is supposed to be, in a form that should be acceptable to all of those who believe in unarticulated constituents:

- i. An utterance of (43) relative to a certain context expresses the proposition that it is raining in Palo Alto.
- ii. Palo Alto is not the semantic-value of any constituent of the sentence (43).

Note that knowing (i) requires having access to the content expressed in one way or another. Knowing (ii) requires knowing what the semantic-values of the constituents of the sentence are. This in turn requires knowing what the constituents are.

Neither (i) nor (ii) are trivial. The sense of *expression* used in (i) is not entirely clear. It is part of the unarticulated constituency theory that the content they identify as being expressed is *literal*. It is what ordinary speakers identify as the content of the utterance in the context. This is to be distinguished from what they take to be conveyed by less literal means. Notions of literality and what is said are notoriously hard to pin down. For the moment I just want to note that the unarticulated constituent theorist must be able to make clear what they mean by such terms if they are to be able to describe the data they intend to capture. After that they will have to defend that conception. In particular they

must defend it against those who deny that there are unarticulated constituents on the basis that the relevant propositions are expressed but not literally. For examples of this position see Borg, 2005; Cappelen and Lepore, 2007.

Point (ii) is non-trivial because it is not entirely straightforward what the constituents of a sentence are. This is because, at least according to the mainstream view in philosophy of language, the relevant sense of *constituent* is that of being a constituent of the level of syntactic representation that receives semantic interpretation. It is convenient to have name for this level, so I will follow a common practice and call it LF. In adopting this way of speaking I am following e.g. Stanley, 2000, pp. 391-392 who cites Harman, 1970. I should also note that this is the way King uses the notion of LF in all of his work on propositional structure. Like Stanley, I use the term in way that is less specific than its use in many syntactic theories.² LF is not surface structure, and it is standardly thought that it is possible for LF to contain unpronounced elements. If there is an unpronounced location variable, for example, in the LF associated with (43) then the location in the content expressed is not unarticulated. The distinction between an unpronounced element and no element at all is crucial for assessing the claim that there are unarticulated constituents. Knowing that there is no such unpronounced location variable requires having a way to work out what the LF associated with a sentence is. Proponents of the view will appeal to some already understood account of how to discover such structures.

Here is one way to characterise the the claim that there are unarticulated constituents:

(UC) A constituent O of the proposition P expressed by utterance U of sentence S is *unarticulated* if O is not the semantic-value relative to the context of U of any element of S's LF.

This condition is sufficient, although arguably it is not necessary. Adam Sennet has recently argued that there are cases where what is intuitively an unarticulated constituent is in fact the semantic-value of a constituent of the sentence uttered. In his cases the constituent appears twice in the proposition, but only once is it articulated, see Sennet, 2011.³ The

² For example, sometimes debates about whether the outputs of a grammar are sent to the semantic interface at the end of the derivation or in phases during it are put in terms of the nature of LF. Similar issues are raised over the necessity of a level of representation distinct from that generated by the grammar. These issues are not immediately relevant for the debate over unarticulated constituents, which requires only that there are syntactic structures of some sort. I will say something about the possible nature of the structures in section 3.4. This point is also relevant to the argument in section 3.5.2.

³ Sennet, 2011, footnotes 15 & 16 p. 423 makes a connection between unarticulated constituents and King's work on propositions. Sennet's brief comments there suggest the sort of worry I will develop in section 3.4.

case of (43) is not one of those cases. If something like UC is a sufficient condition for unarticulated constituency the claim being made by those influenced by Perry is that there are cases, such as (43), that meet that condition. In what follows I will sometimes talk about a language having unarticulated constituents. I intend that as a shorthand way of saying that the language in question is such that UC is true of at least some of its sentences as they are used by its speakers.

3.3.2 Metaphysical and communicational varieties of unarticulated constituent

While it was Perry who introduced the idea of an unarticulated constituent into the philosophical literature, at least under that name, an important distinction needs to be drawn between his proposal and the version of the claim that I am concerned with in this chapter. I will follow François Recanati in labelling the distinction as one between *communicational* and *metaphysical* unarticulated constituents. Recanati introduces the distinction like this:

[T]here is an important distinction between the metaphysical variety and the communicational variety. An unarticulated constituent belongs to the communicational variety to the extent that it is part of the interpretation of an utterance and, as such, is ‘available’ to whoever fully understands the utterance. This feature is best appreciated by contrast to the other sort of unarticulated constituents — the metaphysical sort, for which no such constraint holds. (Recanati, 2002, p. 305)

I take Recanati to be making the following distinction: one might, following Perry’s original statement, hold that because certain sorts of event necessarily take place in some location the content expressed by certain utterances must include that location. That is a metaphysical claim aimed at avoiding the consequence that such utterances lack truth-values. This is the argument of Perry’s that Cappelen and Lepore, 2007 criticise for overgenerating. The argument in question is an argument for metaphysical unarticulated constituents. The argument for communicational unarticulated constituents is different. That argument is based on observations about the content that those who encounter utterances of sentences like (43) typically take to be communicated by them.

The communicational version of the thesis can be divided into two parts. The first part is a claim about what is communicated by an utterance of a particular sentence in context. The second is a claim about the logical form of the sentence uttered. Neither of these claims is trivial. The first is complicated by the need to distinguish between a certain sort of directly communicated content and other things that are more indirectly conveyed. It is hard

to find a neutral terminology for framing this distinction, I will use the terms *explicature* and *implicature* to mark it.⁴ Whatever one thinks about the distinction, and whatever terminology one chooses to mark it, the proponent of unarticulated constituents needs to make it. The second part of the claim is about the logical form of the sentence uttered. Taken together, these two claims entail UC. A particular notion of explicature is used to support the claim that the proposition expressed has certain constituents. This might be supported by an argument that the explicature of (43), i.e. the first available proposition, is in some contexts about Palo Alto. Combined with a claim about the LF of (43) this yields UC.

The issues discussed so far in this subsection tend to arise in the debate over unarticulated constituents. They are also connected directly to the question of the relationship between propositions and the structure of the sentences that express them. That question can only be framed once it is clear what is expressed by a sentence and the structure that the sentence has. Without fixing answers to these questions there is no substance to the debate. Everybody involved in it must agree that it is at least in principle possible to fix the distinction between explicature and what is implicated, and to come to know the LFs of natural language sentences. This must be done independently of theories about the relationship between sentences and the propositions they express. If this constraint were not in force it would be possible to defend any view whatsoever about the relationship by merely stipulating an appropriate LF for the relevant sentences. This point will play an important role in what is to come.

I should note that I have not even attempted to give a detailed account of the debate over unarticulated constituents. Instead I have focused on setting out what I need to make the points I want to make in section 3.4. As well as the work already cited a useful survey can be found in Sennet, 2008.

3.4 Four problems for structured propositions

The theorists of unarticulated constituents take themselves to have discovered something about natural language. What would be the upshot of making such a discovery? As well as the intrinsic interest of the view I think that such a discovery would raise problems for

⁴ These terms, especially ‘explicature’, are associated with *relevance theory*. See e.g. Sperber and Wilson, 1995; Carston, 2002. I do not mean to adopt their pragmatic theory along with their terminology. There are many other ways to mark the same distinction. Explicature is called *implicature* in Bach, 1994. Recanati, 2002, 2003 uses *what is said*, which is used very differently, but in different ways, by e.g. Bach, 2001; Borg, 2005; Cappelen and Lepore, 2007. I have chosen explicature because it is clearly a technical term and I have in mind a technical notion.

certain views about structured propositions. As far as I can see this is a blind spot in the literature.⁵ It is unfortunate that the question is not discussed, because there is at least the appearance of a tension between an account of content in terms of structured propositions and the claim that there are unarticulated constituents. I will illustrate this by developing arguments against such views based on the premise that there are unarticulated constituents.

Some of the following arguments are directed at the structured propositions account in general. Some are directed at one or another aspect of King's version of it. I will indicate which is which as I go along. In what follows I will assume that the version of the unarticulated constituent thesis that is in play is the communicational version described in section 3.3.2.

3.4.1 The semantic-value problem

The first objection to the combination of a theory of structured propositions and one of unarticulated constituents can be stated very briefly. The argument entails that determinism is false and therefore also that identity and same syntax, same structure are. One additional premise is required, which is that unarticulated constituents are *optional*. This claim has been defended mainly in Recanati, 2002, 2003, 2007, but is also found in Martí, 2006. The idea is that a genuine unarticulated constituent not just has different contents relative to context but appears at all only in certain contexts. To illustrate, one might compare:

(43) It is raining.

and:

(44) It is raining here.

An utterance of (44) always expresses a proposition with some location in it. An utterance of (43) might express a proposition that does not.⁶ The optionality shows that, unlike e.g. (44), the very structure of the proposition expressed by (43) depends on the context in which it is uttered. Here is how the argument might be put:

- i. Relative to context C the proposition expressed by sentence S with structure Θ has propositional structure Λ .

⁵ I have been able to find only two. One is Sennet, 2011, footnotes 15 & 16 p. 423, and the other is Jeffrey C. King, 2011, §1.

⁶ It does not matter for my purposes whether the proposition expressed in that case is that it is raining, or that there is an l such that l is a location at which it is raining. For an argument for the former claim see Cappelen and Lepore, 2007 especially fn. 3.

- ii. Relative to context C' the proposition expressed by sentence S with structure Θ has propositional structure Λ' .
- iii. $\Lambda \neq \Lambda'$.
- iv. So, it is not the case that the structure of a sentence determines the proposition it expresses.

Premises i–iii can be established for (43) by looking at its utterance in the context originally described by Perry and one in which it expresses a proposition which has no location. In these two contexts propositions with different structures are expressed, but the sentences that express them have the same structure. That there are such contexts is guaranteed by the optionality of unarticulated constituents. Conclusion iv follows because, if the same sentence structure allows for the expression of different propositional structures, then sentence structure cannot be determining propositional structure. The conclusion of the argument is just the denial of determinism as described in section 3.2.1. I will call this the *semantic-value problem*.

It is important for the argument that optionality is an essential feature of unarticulated constituents of the communicational variety. As I am using the notion of *unarticulated constituent* at least the idea of a non-optional unarticulated constituent would be oxymoronic. I take myself to be following standard usage in particular Recanati's. Metaphysical unarticulated constituents would be a different matter. That sort of unarticulated constituent is not optional. It would therefore not be possible to make the argument I have just made.

The structured proposition theorist might respond that the problem arises from the conflation of two notions of expression. The objection would begin by noting that the unarticulated constituent theorist has used a notion of expression that tracks the content that speakers take to be communicated by an utterance. That is the sense of 'expression' they appeal to in the formulation of their view. The structured proposition theorist might then argue that she does not need to accept that that is the thing that her notion of expression tracks. For instance, she might claim that her theory just is a theory of the contents composed from the structure and constituents of the LF. Such a thing need not be identical to what is expressed in the first, communicative, sense. Here is how the two notions might be formulated:

- (E1) A sentence S relative to a context C expresses, in the communicational sense, that proposition which competent hearers take to be communicated by the utterance of S .

- (E2) A sentence, i.e. LF, S relative to a context C expresses, in the semantic-value sense, the proposition that consists of the semantic-values of the terminal nodes of S composed according to the structure of S.

This sort of view would have precedents in the literature. For example, Kent Bach's neo-Gricean picture of linguistic communication makes use of the notion of *what is said*. In Bach, 1994, 2001 what is said just is the entity that the semantics maps the LF of an uttered sentence to relative to the context. This kind of view is described by Horn, 2005, p. 21 as the *Golden Age of Pure Pragmatics* view. As his terminology suggests, Horn takes this view to be a kind of traditional default in pragmatic theorising. According to Bach, the entities that are derived from LFs need not be propositions although they are structured and sometimes they are propositions. Bach has used the term *skeletal proposition* for the cases that fall short of being full propositions. If the structured proposition theorist is uncomfortable with the idea of non-propositional 'contents' then, provided that she is unmoved by the metaphysical arguments about incomplete propositions, she can hold that these entities are always propositional. This picture is not unique to Bach. Carston, 2002 defends something like it, as do other relevance theorists. It is part of this picture that *what is said*, in Bach's sense, is not necessarily what is communicated. In Bach's terms the thing communicated is the *implicature* of the utterance. For relevance theorists it is the *explicature*. In both cases the thing communicated is supposed to be an important level of literal speaker-meaning.

The structured proposition theorist can try to avoid the problem with unarticulated constituents by making this sort of distinction, between what is said and implicature, and hold that their theory is a theory of the former.⁷ The theory will no longer make wrong predictions about the latter. In fact it will not make any predictions, so the theory will be compatible with the unarticulated constituency theorist's claim about what is communicated, as well as her claim about the LF of sentences such as (43). In terms of the argument presented in this section, the response amounts to denying that such an argument would ever be sound. If expression is just the relation between an LF and a (skeletal) proposition that holds when the proposition is constructed out of the semantic-values of the lexical items and combined as they are combined then there will be no cases where structurally identical sentences express structurally distinct propositions.

This response will only solve the problem if the structured proposition theorist can maintain that the two notions should be kept apart. I think that this response does avoid

⁷ As I noted above, what Bach calls *implicature* is what I have been calling *explicature*. Confusingly, it is also called *what is said* by some theorists.

the simple-minded objection based on expression that I introduced in this section. This is not the end of the matter, because I think that there are good reasons why someone who wanted to establish the compatibility of the structured proposition and unarticulated constituents theses ought to avoid responding in this way. That discussion is best framed as separate argument, which I will discuss in section 3.4.2.

3.4.2 The expression problem

Why might it be a problem for the two notions of expression distinguished in the previous section to be kept apart? To see why, it is important to remember the motivations for the theory. The first motivation is to give a theory of meaning for natural languages. That means assigning structured objects to sentences relative to contexts, or so the structured proposition theorists argue. Secondly, propositions are required to play a role in the theory of communication. What is that role? The central idea is that theories of communication are concerned with what is conveyed by the use of language, and the ways in which this comes about. For example, think of the classic Gricean distinction between what is said when an utterance is made, and what is implicated. Bach's elaboration on the system introduces a third element but keeps the framework. So do other theorists who hold, unlike Grice, that the first available level is derived pragmatically. An account is needed of what these things are that are said, implicated, etc. There is a similar requirement for entities to be meant, believed, doubted etc.

The tension between the unarticulated constituency theory and the response to the semantic-value problem can be phrased as the following *expression problem*: The unarticulated constituency theory was supposed to be a claim about communicated content in a restricted sense. Different theorists put this point in different ways, but they all return to the same idea. This is the claim that there is a distinction between what is literally expressed by an utterance and what is conveyed in a more attenuated sense. This is what is supposed to be captured by the Griceans' distinction between what is said and what is implicated or Bach's distinction between implicature and implicative. According to the unarticulated constituent theorist it is part of the data to be explained that, at the level that is on the said/implicated side of the relevant line, a certain content is expressed. If the structured proposition theorist denies that their sense of expression converges on that level of content then they are not contributing to the explanation of communication. That was supposed to be one of the motivations for the view. At the very least this is an uncomfortable result for the structured proposition theorist.

By accepting the unarticulated constituents thesis the structured propositions theorist is accepting that the content of a class of utterances in context is not a structured object composed from the semantic-values of the constituents of the sentence uttered. Whatever theory one has of the content, even if one has the view that it is a structured object, it is not illuminated by the structured proposition theory. The structured proposition theorist can posit the existence of structured objects composed from the semantic values of the LF of the sentence uttered. They could even insist that these are propositions. The problem for the structured proposition theorist is that she would still need to show that these propositions are not mere idle wheels in the theory of communication. The charge is that the way out of the objection about semantic-values leads to the theory losing its theoretical point.

The conclusion of these two arguments is that determinism cannot be true if there are unarticulated constituents. This is not hard to show, so it is rather surprising that those who develop theories of structured propositions have not paid it more attention. I should say that this argument is not intended to cast doubt on the general theory of structured propositions. The point is that the relationship between a sentence and the proposition it expresses can only be as deterministic as e.g. Soames' and King's views entail if the relationship between sentences and their explicatures is extremely well-behaved. Whether English is that well-behaved is a controversial question. Those linguists and philosophers who have held that there are communicational unarticulated constituents deny that it is. If they are right then the structured proposition theorist must change that part of her view.

3.4.3 The existence problem

This is the first of the arguments that targets a particular account of the nature of propositions rather than claims that will be common to all such views. I have in mind the theory of propositions in Jeffrey C King, 2007, 2009, 2011, 2012. The view defended by King changes slightly over time, but the argument in this section will apply equally to all versions of it. These arguments are related to the previous two because they rely on the fact that King cannot make the obvious move that is open to other theorists of structured propositions. They can deny determinism. But King has a view on the nature of propositions which entails identity and therefore determinism. So there is a particular problem for King here.

Before I raise the objection I will give a brief summary of the relevant parts of King's view. King is responding to an objection that has been raised to the theory of structured propositions, namely that it is unclear that any such things exist. He responds by identifying a class of existing entities that can play the role of propositions. This is the first step towards

a solution, because this kind of account must also make it clear that the entities selected have the properties of propositions.

According to King's account, the proposition expressed by

(2) John dances.

is a certain fact, which I will label ' Ξ '. The following description of Ξ is taken from Jeffrey C King, 2009, pp. 263–264 with only a minor change to fit my example, i.e. 'John dances' rather than 'Dara swims':

(Ξ) There is a language L, a context c and lexical items a and b of L such that a and b occur at the left and right terminal nodes (respectively) of the sentential relation R that in L encodes ascription and John is the semantic value of a in c and the property of dancing is the semantic value of b in c.

This approach is supposed to secure the existence of the proposition that John dances. If the proposition that John dances is Ξ , then the proposition that John dances will exist in case the sentence 'John dances' exists and means what it does.⁸

The existence of unarticulated constituents would make such a view untenable. (2) guarantees the existence of Ξ because it itself is a sentence that, relative to some contexts, has John as the semantic value of its left terminal node and the property of dancing as the semantic-value of its right terminal node. This generalises. For every sentence of the language, there will be for each context a proposition (i.e. a fact of the sort that Ξ is) that is the fact that there is a language L ... So, King claims, the existence problem is solved. The problem is that, while this secures the existence of many propositions, it does not secure the existence of the proposition expressed. This can be illustrated by applying the principle that generated Ξ to the sort of sentence that has been used to illustrate the unarticulated constituent theory. Because 'It is raining' presents special difficulties, i.e. the question of the semantic-value of 'it' as it occurs there, I will use another example, discussed by Recanati, 2002; Martí, 2006, that has been taken to motivate the unarticulated constituents thesis:

(45) John is eating.

The idea is the same as with the case of (43), which is that the proposition communicated by an utterance of (45) is e.g. that John is eating the poisonous mushrooms. This analysis is defended in Recanati, 2002. It seems to be more controversial than the 'raining' case. I

⁸ King has offered more than one proposal as to the nature of the facts that are identified with propositions. In later work such as Jeffrey C King, 2012 he uses a 'larger' fact that might be called Ξ^+ . This fact incorporates the way that the propositional relation is interpreted. Both Ξ and Ξ^+ face the objection I will make in this chapter.

think that the argument would work just as well with the less controversial example except that it would be harder to state. The difficulty would come from assigning a suitable referent to ‘it’ when describing a fact similar to Ξ . For that reason I have used (45) as my example. Assuming a LF for (45) that does not articulate the thing eaten then the fact that exists in virtue of (45) existing and meaning what it does will presumably be:⁹

- (II) There is a language L, a context c and lexical items a, b, and d of L such that a and b occur at the leftmost, middle, and right terminal nodes (respectively) of the sentential relation R that in L encodes ascription and John is the semantic value of a in c, the identity function is the semantic value of b in c and the property of eating is the semantic value of d in c.

This fact cannot be the proposition that is expressed by (45) in the context where it expresses a proposition containing some mushrooms. In order to be that proposition it would have to have the mushrooms as a constituent. Call this proposition/fact ‘ Υ ’. But, unlike Υ , II does not have the mushrooms among its constituents. It has as constituents only John, the identity function, and the property of eating.

In what follows I will talk of a sentence *guaranteeing* the existence of a proposition. As I use the term, X guarantees Y iff the existence of X entails the existence of Y. The preceding argument can be summarised as follows:

- i. The existence of a proposition is P guaranteed by the existence of S only if the structure of S is identical to the structure of P. (From King’s proposal)
- ii. Sometimes, a sentence S relative to a context C expresses a proposition P such that the structure of S is not identical to the structure of P. (From UC)
- iii. So, sometimes the existence of a sentence S does not guarantee the existence of the proposition S expresses relative to some context. (From premise i and premise ii)

The point of the argument just made is that sentences do not always guarantee the existence of the propositions that they express. I take it that this is a bad result for any theory that takes propositions to exist in virtue of the sentences that express them existing and meaning what they do. Of course it is open to those who defend such a theory to downplay the worry by pointing out that, just because the existence of (45) does not guarantee the existence of the proposition expressed that it follows that that proposition does not exist. The existence of Υ is guaranteed by the existence of the sentence

⁹ Following Heim and Kratzer, 1997, pp. 61–62 I have taken ‘to be’ as semantically vacuous and assigned as its semantic value the identity function i.e. the function that maps everything to itself.

(46) John is eating the poisonous mushrooms.

As there is such a sentence, then there is such a proposition/fact as Υ . So, someone who wants to defend King's view could claim, the observation about unarticulated constituents does not show that there are any propositions missing. If there are no propositions missing then there is no serious problem for the view. The idea behind this defence is that the existence problem is solved as long as the existence of all needed propositions is guaranteed, there is no need to worry just because not every proposition is guaranteed by every sentence that expresses it.

The objection to King's view is that it does not rule out the possibility of there being missing propositions. Propositions that contain unarticulated constituents need to be shown to exist, and this needs to be true for a reason other than contingent histories of actual language use. King's original claim, that propositions exist in virtue of the existence of the sentences that express them, will at least have to be amended. In what follows I will argue that King's view cannot be amended in this way.

The key question now is whether, and in what sense, a sentence that has never been uttered can be said to exist. I am presuming that it is a contingent fact that any particular sentence has been uttered. If it has been uttered then it certainly exists and, I will presume, can be said to have a meaning relative to a range of contexts. In terms relevant to King's account of propositions, when a sentence is uttered it guarantees the existence of a certain fact. These are not always the right facts to play the role in the theories of meaning and communication concerning those uttered sentences, given the unarticulated constituent thesis. King's account has to explain the existence of the propositions that are actually expressed by the utterances of the language. If only uttered sentences exist then the account relies on the right sentences having been uttered. Even if this is in fact true, it is no kind of guarantee. In order to avoid the objection the defender of King's view must explain how it is that his view guarantees that there is a proposition equivalent to the explicature of every utterance.

The problem is avoided if one thinks that sentences both exist and are meaningful necessarily. Of course, if one thinks that, then the problem of worlds without language that has been raised as an objection to views like King's would be solved too. Clearly King does not think that because he feels the need to defend the position against that objection with other arguments, see Jeffrey C King, 2007, ch. 3. Pursuing this line of thought means confronting some extremely difficult issues in the metaphysics of linguistics. In what follows I will suggest one possible view that might seem to help with the problem raised for King's

proposal. I will then argue that it does not offer a way out of the problem.

The view that might seem to offer help to King's theory is the idea that languages are collections of mathematical objects, such as graphs or entities constructed out of sets. This *Platonist* account has been offered as an alternative to the Chomskyan view of language in Katz and Postal, 1991. If someone is willing to hold that view then, if sentences are mathematical *abstracta* they exist necessarily. This solves the existence part of the problem. It does not solve the meaningfulness part of the problem. When I have been talking informally about King's view I have sometimes put it like this: there are facts that exist because certain sentences exist and mean what they do. These facts are propositions. The part about 'meaning what they do' is what is captured in e.g. the specification of Ξ by including that the sentential relation encodes ascription. It is because the sentential relation encodes ascription that the sentence (2) means that John dances. This ascription is then built in to the fact. No mathematical *abstracta* intrinsically encode ascription. That English sentences do shows that they are not just mathematical *abstracta*. Even according to the Platonist account the idea must be that they are *abstracta* that are used in a certain way. Whatever the details of the view, it looks like there is no guarantee from a Platonist metaphysics of linguistics that sentences necessarily exist and mean what they mean when they are used as sentences of English. This point suggests a refinement of the one made at the end of the previous paragraph. Perhaps in one sense the sentences of a language can exist even if that language does not. This will be the case if sentences are LFs and LFs are *abstracta*. These will not be sentences of English, in the sense of meaning what English sentences mean. In that case the existence of the *abstracta* will not guarantee the existence of the facts that King identifies with propositions.

There is another possibility for the defender of King's view. I think it is the only remaining option. It seems at least coherent to hold something like the following: sentences are *abstracta* so they are necessary existents. Furthermore, they exist as systems of *abstracta*. Each system is a *language*, which is a set of sentences closed under the operations by which grammatically well-formed sentences are constructed. That is compatible with standard Platonism. These languages are then available to be used by speakers. When they do so they endow the sentential relation of all the sentences of the language with the semantic force that their use endows the actual sentences they utter with. The upshot of this claim is that the fact that there are meaningful sentences of English used makes it the case that every well-formed sentence of English is meaningful. If any abstract object from the set of LFs of English is used to encode ascription then every sentential relation holding between

elements of members of that encodes ascription. Assuming that every content that can be expressed can be expressed by a sentence that fully articulates it, this would avoid the possibility of missing propositions. There would be a sense in which the fact that (43) or (45) exist and mean what they do guarantees that the propositions expressed by utterances of these sentences exist.

The version of Platonism I have just described is not obviously wrong although it is a controversial view. In any case, adopting it will not help to avoid the existence problem that faces King's view. Here are two reasons why, even if it is not incoherent, the defender of King's view might be reluctant to save the view in this way. Firstly, one of the motivations for first version of his account of structured propositions in Jeffrey C King, 1994 was to make them 'naturalistically acceptable'. The particular way he did this was to argue that the things he wanted to identify with propositions would exist just in case the sort of syntactic structures posited by syntacticians existed. In that paper he made use of the objects posited by Chomsky's *Extended Standard Theory* (Jeffrey C King, 1994, p. 59). In later work, particularly Jeffrey C King, 2007, King has appealed to the different structures posited by those working in Chomsky's minimalist framework. The motivation is the same. To abandon the Chomskyan background to the theory in order to save it might not be a price worth paying for the defender of King's view. The problem with the proposal is that it seems to be returning to a view of language, as an independently existing system of meaningful sentences, that Chomskians reject as obscure and unhelpful metaphysical speculation. This picture is the kind of view defended in Wiggins, 1997 as a response to Chomsky, 1995. I take it that one of the points in favour of the Chomskyan view of language is that it can locate meaning purely in the psychological operations of speakers. There is no need to posit things that are meaningful independently with which speakers get in to contact in some way or other.

The second objection takes up a point suggested by the first. If the plan for saving King's view under discussion here is spelled out then the following picture will be arrived at. According to the view under consideration there will be a class of necessary existents that can be endowed with representational properties in case speakers adopt them as their language. If they are adopted, then there will come to exist another class of abstract objects i.e. facts of a particular sort. These facts can then inherit the representational properties that allow them to play the role of propositions. I take it that that is a fair summary of the combination of King's view with a Platonist metaphysics of language. The problem with the picture that emerges is that there is no obvious need for the entities that King identifies with propositions. If there are already a class of *abstracta* that are suitable for interpreting

then why take the extra step of adding the facts to the system? As the facts are structurally identical to the sentences, according to King's view, it is hard to see how there could be a reason to prefer one view over another.

These considerations suggest a general lesson for those developing theories of structured propositions. That is to avoid the claim that propositions are things that do not exist necessarily. If they exist only contingently then, if there are unarticulated constituents, in order to avoid the existence problem it will be necessary to claim that there are necessarily existing entities that can in fact play the role of propositions. In that case one may as well take those entities to be the propositions, rather than the things that exist contingently.

The remarks above are all intended to apply to those views that take it that propositions are not primitively representational. Those who think that they are, and therefore that they are a *sui generis* sort of entity, will already hold that they exist necessarily. At least they have no reason not to do so. The argument that the reductionist should think so too relies on the claim that the right thing to think about propositions is that they are objects that are interpreted, rather than requiring no interpretation. That is a key component of King's view and others like it, so it is legitimate to use it in an argument for a particular version of that sort of view. Those with a *sui generis* account will reject the claim about interpretation, but they are not the intended audience for the argument I have just given.

This subsection has focused purely on King's views about the sorts of things that propositions are. I have argued that if there are unarticulated constituents then problems will arise for the view that can only be solved by abandoning some of its key claims. I will now widen my focus again, and discuss another aspect of the metaphysics of propositions.

3.4.4 The cognitive access problem

I will now present a second problem for King's account of structured propositions. The objection applies to theories such as King's which take propositions to be things that are interpreted, rather than things that are primitively representational. In particular, the objection targets King's account of how it is that certain things get to be interpreted, rather than other things. Unlike the objection based on existence, it does not rely on any other features of King's view. It does not only apply to views that take propositions to be facts. It would apply equally well to the claim that propositions were any other sort of thing. The claim that propositions are not primitively representational but are the sort of thing that needs to be interpreted is a new development in the debate. I will argue that there is a problem for the view to face based on unarticulated constituents.

It is important to get clear about exactly what King is claiming when he puts forward the view that propositions have to be interpreted. The story is quite complicated. I will summarise the main points of the view presented in Jeffrey C King, 2009, 2012. King's account is supposed to be an account of how certain structured objects get to be interpreted in such a way that they can play the role of propositions. Minimally, this requires the object associated with 'John dances' to be interpreted as something that is true iff John dances. King's account is presented using facts such as Ξ , as given in the previous section.

King's account consists of two ideas. Firstly, assuming that an object exists and has the right constituents, the relation that the constituents of that object stand in can be interpreted as encoding ascription. I take it that the intuitive comparison is supposed to be with diagrammatic representations of various sorts. Such things are interpreted as representing the world. This happens partly because of the way the interpreter is and is also partly due to properties that the representations have. The more substantive question is why it was that those particular facts were in fact interpreted in the right way. King's claim is that facts such as Ξ are uniquely suited to undergoing the process of representation because they are facts to which language users enjoy a particular sort of what he calls *cognitive access*:

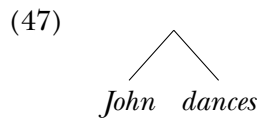
Since speakers must have cognitive access to the fact that is the proposition that Dara swims and do so in virtue of employing sentences like 'Dara swims' and 'Dara schwimmt', it seems that the fact that is that proposition must be intimately connected to sentences like 'Dara swims' and 'Dara schwimmt' in such a way that we can understand how employing such sentences gives speakers of different languages cognitive access to the fact in question. (Jeffrey C King, 2009, p. 270)

Language users have this access because the facts in question are closely connected to what King calls *interpreted sentences*:

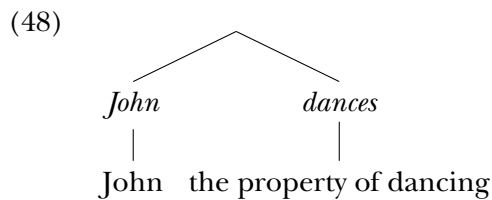
Sentences are themselves facts of a sort. The words 'Dara' and 'swims' stand in a syntactic relation in the sentence 'Dara swims'. I won't here worry about what words are, but I am thinking of word types, and ultimately it seems likely that they are just properties. If so, the sentence 'Dara swims' is two properties standing in a syntactic relation. Clearly, speakers of English have cognitive access to this fact/sentence (at least those do who have 'Dara' and 'swims' in their idiolects). But I think they also thereby have access to the fact that is what we might call the *interpreted sentence*: this is the fact consisting of the sentence, to-

gether with the semantic relations between ‘Dara’ and Dara and ‘swims’ and the property of swimming. (Jeffrey C King, 2009, p. 270)

Interpreted sentences, on King’s view, are a hybrid between purely linguistic structures and worldly objects. Supposing that a sentence such as (2) is to be represented diagrammatically as follows:



The object interpreted sentence consists of that structure with the semantic-values of the constituents added in:



The fact Ξ , repeated from the previous section, can now be thought of as an abstraction away from everything that is linguistic in the interpreted sentence:

- (Ξ) There is a language L , a context c and lexical items a and b of L such that a and b occur at the left and right terminal nodes (respectively) of the sentential relation R that in L encodes ascription and $John$ is the semantic value of a in c and the property of dancing is the semantic value of b in c .

King’s position is that cognitive access to Ξ is secured by the fact that language users have cognitive access to the interpretations of the sentences they use. Because the user of a sentence with the LF given in (47) has cognitive access to (48) she will automatically have cognitive access to Ξ . And that is what makes Ξ a good candidate for interpretation and therefore for being the proposition that $John$ dances.

If there are unarticulated constituents then the account of interpretation just sketched cannot be right. In a case where a speaker uses a sentence and expresses a proposition with an unarticulated constituent, no fact that could be got from abstracting away from the interpretation of the sentence she used could be interpreted as the right proposition. It could be interpreted as a proposition, just not the one that the theory needs. The theory needs a proposition with the unarticulated constituent in it, but it can provide only a proposition with the objects at the terminal nodes of the interpreted sentence. Maybe King’s account of interpretation can be extended to cover this case. I do not see how, given the appeal to

interpreted sentences related as they are to the LF of the uttered sentence. At the least, some story needs to be told about how subjects can be suitably related to facts that are not abstractions from the interpreted sentences associated with the LFs of the sentences that they utter.

The problem is that King is trying to give an account of why certain objects are interpreted. His account is based on cognitive access, a notion which he elaborates on by saying that a subject has cognitive access to those facts which are abstractions from the interpretations of the sentences that she uses. That story about cognitive access cannot work if the propositions expressed are not related in the right way to the interpreted sentences. If there are unarticulated constituents in the propositions expressed, then the interpreted sentences cannot be abstracted from to get facts that can be the propositions in question. The argument against King's view might be summarised as follows:

- i. A sentence *S* relative to a context *C* can be mapped to an interpreted sentence, which is structurally identical to *S*. (From King's proposal)
- ii. A subject has cognitive access to a proposition only if she has cognitive access to some interpreted sentence which is structurally identical to that proposition. (From King's proposal)
- iii. Sometimes, a sentence *S* relative to a context *C* expresses a proposition that is not structurally identical to *S*. (From UC)
- iv. So, that a subject uses a sentence *S* to express a proposition *P* does not entail that she has cognitive access to the *P*. (From premises i–iii)

Premises i and ii follow from King's account of cognitive access and entail that using a sentence to express a proposition does not entail that one has cognitive access to it.

One way to respond on behalf of King's view would be to suggest that it is enough for there to be some LF of a sentence of the speaker's language which has an interpretation of the right sort. In that case subjects would have cognitive access to the propositions that they express even if they do not have them in virtue of having cognitive access to the interpretation of the sentence used to express that proposition. That is all very well, but it will lead to all the same issues that were raised in section 3.4.3. I concluded there that there is no entirely satisfactory way to maintain the view that propositions are facts once that option is taken. For the same reason I conclude that the response will not work as a response to this new interpretation objection.

I will now briefly recap this section. I began with an argument that unarticulated constituents are incompatible with standard theories of structured propositions that endorse

determinism. I suggested that the right response for the theorist of structured propositions is not to retreat to a notion of expression according to which determinism is trivial. Instead the best response is to loosen the connection between sentence structure and propositional structure. I then considered King's account of structured propositions. Not only does his view entail identity, and therefore cannot loosen the connection between structures, two of the main points of his view face serious objections if there are unarticulated constituents. I conclude from this that King's view in particular faces very serious problems if the connection between natural language sentence structure and explicature is as ill-behaved as many theorists now think it is.

3.5 Propositional structure and syntax

In this final section I will argue against views that entail identity in a way that is independent of empirical claims about unarticulated constituents. I will put forward two arguments in favour of this conclusion. The first is based on a requirement of neutrality between empirical claims. I will argue that it is better, other things being equal, for a theory of propositions to be neutral on the issue of unarticulated constituents. The second argument is based on specific considerations to do with the relationship between theories of propositions and theories of syntax. There are principled reasons to think that propositional content is not constrained by syntactic structure.

Before I begin I would like to point out an argument that I do not mean to endorse, but which could be confused with those that I do. Suppose someone were to argue that theories that entail identity should be rejected because they are incompatible with the existence of unarticulated constituents, and that this conflict with an empirical linguistic thesis is problematic. The idea would be that a theory of propositions should not give up hostages to fortune by entailing a commitment one way or the other on such an issue. Such a view is not entirely without merit. It seems right to say that if a philosopher has no idea whether or not some empirical claim is true, then, if she can avoid giving a theory that commits her one way or the other on that question, then she has done well. This does not mean that she has done well by remaining neutral on every empirical question; if something is known to be true then it can hardly be an objection to a view that the view entails it. That argument against empirical hostages to fortune is itself an empirical hostage to fortune: it might be that future developments in linguistics will show that there are no unarticulated constituents. My arguments in this section are intended to work equally well in case the thesis about unarticulated constituents is conclusively established, conclusively refuted, or,

as I think it is at present, an open question.

An alternative suggestion might be that it is better to avoid controversial empirical commitments, or commitments on empirical open questions. The problem is that everything is controversial even which questions are open questions. I do not think that this should make philosophers reluctant to posit views which have empirical consequences, especially if they think that these predictions are borne out by the facts. If anything it is good for a view to make predictions and so to be falsifiable. For the reasons just given I will not be making either version of the argument from empirical commitment. The arguments I make are related but they do not rely on the mere fact that a theory which is inconsistent with the existence of unarticulated constituents has empirical commitments. The arguments depend on the particular claims that are being made rather than the mere fact that they are empirical claims.

3.5.1 Neutrality and propositions

That there are unarticulated constituents is an empirical claim about some language or other. Actually, as I said in section 3.3.2, there are two claims, one about the psychology of language users, and another about the LFs associated with particular sentences. This suggests a possible objection to theories of propositions that entail identity:

- i. If identity is true of a language L then there are no unarticulated constituents in L.
- ii. Identity is proposed as a necessary truth, i.e. if it is true for any language it is true for them all.
- iii. It is possible for there to be languages with unarticulated constituents.
- iv. If identity is true for any language, then there could not be any language with unarticulated constituents. (From premise i and premise ii)
- v. So, identity is false. (From premise iii and conclusion iv)

Premise i is the conditional claim that I have argued for in the preceding sections. Premises ii and iii require some work to elaborate and defend.

What reason is there to think that identity is supposed to be a necessary truth about language rather than a contingent claim about one or more particular natural languages? Here is the formulation of identity I have been using:

- (ID) Necessarily, if sentence S expresses proposition P, then the structure of S is identical to the structure of P.

This way of putting the claim is not sufficient for premise ii of the argument now under consideration. ID is a claim about the relationship between the sentences of a particular language and the propositions that are expressed. Nothing about ID itself entails that it could not be true of some languages and false of others. The necessity encoded in ID is supposed to capture the fact that ID is true or false about some particular language for a substantive reason and not merely because of accidental facts about the things that have actually been expressed by the speakers of that language. What is required for supporting premise ii is a reason to think that ID is a claim about how sentences must be related to the propositions they express relative to a context. As I have argued above, King's view at least has this consequence. It is part of what it is to be a proposition that it has the same structure as the sentence that expresses it.

Premise iii of the argument can be defended by showing that it can coherently be stipulated that an invented language has unarticulated constituents. The same argument could be made by identifying an actual language which does not have unarticulated constituents. That is a worse strategy given the dialectical point of the argument, because those that the argument is directed against think that there are no such actual languages. The most important example is King, who rejects unarticulated constituents in his paper with Stanley, see Jeffrey C King and Stanley, 2007.¹⁰ The point of the appeal to an invented language is to force those theorists either to accept that the lack of actual languages with this property is contingent, or to give a convincing account of why it is necessary. It may be that they can give such an argument, my point here is just that they have not done so.

Two things are required for a language to satisfy the unarticulated constituents hypothesis. Firstly, certain utterances must be taken by the speakers of the language to express certain propositions. And, secondly, the syntax of the language must have the relevant properties. Let *English'* (*E'*) be a language which has lexical items *it*, *to be*, and *rain* that have many of the same properties as their English counterparts.¹¹ Take

(43) It is raining.

as an *E'* sentence and stipulate that, relative to a context such as that in Perry's original example, it expresses the proposition that it is raining in Palo Alto. I will stipulate further

¹⁰While the point is made is passing, it is worth noting that King & Stanley write 'Like us, most neo-Russellians accept a conception of semantic content according to which, by definition, there are no unarticulated constituents of semantic contents.' (Jeffrey C King and Stanley, 2007, footnote 35) This suggests the response to the expression problem that I rejected in section 3.4.2.

¹¹For the purposes of the present argument I am remaining neutral between various accounts of what languages and sentences are. Nothing in what follows turns on differences between the possible views on this question.

that this expression is literal in the sense that is operative in the debate over unarticulated constituents. Note that nothing so far has been stipulated about E' that theorists such as King do not take to be true of English. Suppose it is then stipulated that the LF associated with the E' sentence (43) contains nothing that has a location as its semantic-value. That would entail that there are unarticulated constituents in E' . So, it is possible that there are unarticulated constituents, at least if that stipulation about the structure of E' is coherent.

Is there a way to argue that the stipulation is incoherent? The idea is that the defender of identity might block the argument on the grounds that, given what we know about syntax, there could not be a syntactic structure assigned to (43) without something that receives a location as its interpretation. I do not see how such an argument would go, and as far as I know one has never been made. There are also some difficulties with the principle of arguing in this way. The problem is that it will not do to argue against the possibility of unarticulated constituents in the standard way that they are argued to be non-actual. Take, for example, the *binding argument* used by Stanley and his co-authors for this conclusion. See Sennet, 2008 for an overview of the binding argument. The idea behind that argument is to take individual sentences, embed them in larger constructions, and then argue that facts about the available readings of those constructions can be explained only by the presence of variables that do not show up in the surface form. This is then taken as evidence that the variables are present when the matrix sentences occur unembedded. Whatever one thinks about this sort of argument, or about the quality of the data that is appealed to, it does not show that no possible language has unarticulated constituents. It is perfectly consistent with even the soundness of the binding argument when applied to English that its premises are false of E' . There are at least two ways that this might be so. Either the relevant readings might not exist, or the constructions of which they are readings might not exist. Perhaps the second option is ruled out on syntactic grounds, for example, perhaps a language that has quantifiers at all must allow them to be embedded within the scope of other quantifiers. In any case, the first possibility seems to me to be perfectly coherent. This shows that all the data that is used as a premise in a binding argument can be stipulated not to apply to E' . In other words, it can just be stipulated that bound readings do not occur when E' sentences are embedded under quantifiers in the relevant way. Whatever one thinks about the readings found when English sentences are embedded, there is no non question-begging reason to think that the other pattern is impossible. On that supposition the binding argument for E' would not go through. So, unless there is some other good reason to think that the stipulated readings are incoherent the binding argument will not

show that they are impossible. The same general point will apply to other arguments against unarticulated constituents that rely on empirical premises about available readings.

The argument just made can be summarised as a challenge to the proponent of identity. That view entails not just that no languages have unarticulated constituents, but also that there could not be a language with unarticulated constituents. But the claim that there could be seems perfectly coherent. The theories that entail identity predict that, despite the apparent coherence of the idea, such languages are metaphysically impossible. Even if one thinks that they are not actual, and many philosophers of language and linguists maintain that they are actual, it is a strong claim to say that they are impossible. That claim needs an argument. Nothing like that has been defended by those who hold views with this consequence and it is not easy to see how such an argument would go.

3.5.2 Neutrality and syntax

The second argument is also just against identity, not determinism, and is based on the nature of the relationship between syntactic theory and propositional content. The argument I have in mind is one which describes a form of inference which is valid, but ought not to be sound. I will first describe the form and give an example. Then I will argue that it ought not to be sound. The form of inference I have in mind is the one in the following schematic argument:

- i. Sentence S expresses proposition P and P has structure Θ .
- ii. Necessarily, if sentence S express proposition P, then the structure of S is identical to the structure of P. (ID)
- iii. So, S has structure Θ . (From premise i and premise ii)

Premise ii is just ID from section 3.2 i.e. it is my formulation of identity. The notion of sameness of structure is used in the same way as it is in my earlier discussion of identity and determinism in section 3.2. If that form of inference is acceptable then certain arguments that ought to be unsound would be sound. Take as an example an utterance of

(43) It is raining.

in a context where the proposition expressed has Palo Alto as a constituent. Without making any particular assumptions about the exact structure of the proposition we can conclude that there is a place in it for a location. If the syntactic structure of (43) is identical to the structure of that proposition, then we can conclude that this structure, i.e. (43)'s LF, has a place for a location of raining. This, of course, would refute the hypothesis that Palo

Alto is an unarticulated constituent of the proposition expressed. This is the source of the problem. If this argument is valid, then somebody who who knew the premises would be in a position to infer the conclusion. Here I am using *being in a position to infer* to stand in for whatever epistemic relation one stands in to the conclusions of valid arguments of which one knows the premises. In the case under discussion this would mean that someone in possession of knowledge provided by ordinary linguistic competence would be in a position to refute, or confirm, hypotheses about syntactic structure. The ordinary linguistic knowledge in question is that of what is expressed by a particular sentence relative to a context. Roughly, it is what one knows when one knows what one's conversational partner meant by one of her utterances. This conclusion can be avoided only if a problem can be found with the pattern of reasoning in the schematic argument.

One option would be to deny that speakers do have access to the sort of knowledge in question about the propositions expressed by utterances. If the notion of expression in play is the standard one, something equivalent to what might be called the explicature of the utterance relative to the context, then this option can be ruled out. Explicature in this sense is supposed to be what ordinary speakers take to be the meaning of the utterance relative to the context, at least in standard cases. It is what is *available* to the speakers in the sense Recanati uses that term in Recanati, 2002, 2003. In that case the principle at fault is identity. I should note that premise ii is intended to be a modal claim; that is why I have formulated it with 'necessarily'. I emphasise this point in order to make clear that I do not intend the rejection of the premise to entail that no proposition ever has the same structure as the sentence that expresses it or even that this might always happen to be the case. For example, it could be the case that nobody ever expressed a proposition with an unarticulated constituent because for some reason they chose not to. In that case every proposition that was ever expressed might happen to have an identical structure with the sentence used to express it. Furthermore, I am not assuming the empirical claim that there are unarticulated constituents nor am I assuming that two sentences with different syntactic structures ever express the same proposition. If I were to assume this, then I would be begging the question against the argument in Jeffrey C King, 2011. That is why I avoid that assumption in my argument. It might turn out that both these claims are false. In that case both the antecedent and the consequent of the conditional in premise ii would be true. That would not be enough for the truth of premise ii, because premise ii requires not just that propositional structure and syntactic structure are identical, but that this could not have been otherwise. That is the sort of identity entailed by a view like King's, and the

sort that would allow for ordinary speakers to be in a position to refute syntactic hypotheses on the basis of their linguistic competence. The stronger claim that King is committed to connects the very notion of what a proposition is with that of having the structure of the sentence that expresses it. Something without this property is just not a proposition. That is the claim I am arguing against here.

What would be so bad about the soundness of arguments of this form? Clearly it would mean that linguistic competence is sufficient to refute or confirm hypotheses about syntactic structure. I will now give my argument for why that would be a bad thing. It is worth noting to begin with that it would be extremely strange if linguistic competence were sufficient for knowledge of syntactic structure. This is especially so when the competence in question is that of coming to know the explicature relative to the context. Every speaker can do that at least in favourable circumstances. But not every speaker can discover facts about syntactic structure on that basis. If they could, then it would be very easy to study syntax. Discovering syntactic structure would be a matter of reflecting on expressed content rather than the construction of grammars. I do not want to rest my argument on this sense of strangeness alone. Maybe some theorists do not find it as strange an idea as I do. I will shortly present an argument that does not rely on this intuition of strangeness. I mention it because it is important to separate the negative reaction to identity on the grounds that its consequences are just absurd from the argument I am about to consider. The second reason is that the intuition of absurdity will play a role in my assessment of determinism.

An objection might be raised on behalf of the proponent of identity against the way that I have presented the consequences of that principle. I said that it would be absurd for ordinary linguistic competence to give knowledge of syntactic structure and I supported that with the suggestion that investigations into syntax do not proceed that way. The objection would be that I am overstating what a competent speaker would be able to infer about syntactic structure on the basis of identity. I have spoken as if the linguistic competence of ordinary speakers entails that they not only know what was expressed but also that they have complete knowledge of the structure of that proposition. That would be something that could be combined with knowledge of identity to derive a complete account of the syntactic structure of the sentence that was used to express the proposition. But ordinary speakers do not have that kind of knowledge. They know what was expressed but they do not know what the structure of the proposition in question is; at least not in the right kind of way to draw conclusions about the syntactic structure of the sentence. This objection is hard to assess without getting involved with the specifics of various theories of propositions

and linguistic competence. Some philosophers have certainly held the stronger view. For example, Soames has repeatedly argued in favour of structured propositions as the basis of a theory of meaning see Soames, 1992, 2008a, 2010. Soames' arguments rest on the idea that only knowledge of of which proposition is expressed by an utterance is sufficient for a theory of meaning.

On the other hand, it seems at least possible that one might think that this full knowledge of the proposition expressed is not required for linguistic competence. For example, one might hold that a speaker can know which proposition is expressed without being able to give the structure of that proposition. Alternatively, perhaps speakers are systematically bad at e.g. distinguishing explicature and implicature in ways that do not thereby make them linguistically incompetent. Rather than try to resolve these questions here I will move to a weaker claim. All I need for my argument is that, if the pattern of reasoning is sound, then linguistic competence would entail more knowledge of syntax than it is reasonable to think that ordinary speakers have. In the example application I did not need to make any stronger claim. The problematic result came from the fact that linguistic competence, combined with knowledge of premise ii, was enough for inferring that a constituent of the proposition expressed by (43) was articulated. That is not complete knowledge of the structure of (43). But it is more knowledge about that structure than it is reasonable to think that linguistic competence alone imparts. The objection is still based simply on the intuition that it would be absurd to know that sort of thing about the syntactic structure of a sentence based only on having arrived at its explicature. The knowledge of the proposition expressed need not be complete knowledge of its structure, but merely that the proposition has a place in its structure for a location. Assuming that e.g. (43) as uttered in the context described by Perry does express a proposition about Palo Alto then the unwanted conclusion about syntax can be drawn. Therefore the objection to identity that I am considering would go through even with this weaker premise. Note that even if one denies that (43) expresses a proposition containing a location, as Borg, 2005; Cappelen and Lepore, 2007 do, the reasoning would not thereby rendered unsound. Knowing that the expressed proposition does not have Palo Alto as a constituent also leads to a conclusion about syntactic structure. In this case the conclusion would be that the LF lacks an element which has a location as its semantic value. The same problems arise for a theory that entails this merely on the basis of linguistic competence with the utterance.

I will now turn to an argument that is based less on intuitions of absurdity. The following considerations are based on points made in Collins, 2007 as part of a response to the

arguments found in Stanley, 2000, 2002; Stanley and Szabó, 2000. Collins is criticising the proposal that domain variables cohabit nodes with quantifiers.¹² The point of that proposal is to maintain the view that the restriction of the domain of a quantifier is controlled by a variable present at LF. Collins is arguing for a general point: syntax has less structure than propositional content. More specifically, the kind of considerations that are admissible in arguing for syntactic claims only license structures that are less rich than the propositional contents of the relevant expressions. I will not try to summarise Collins' detailed discussion. Instead, I will extract what I take to be one of his main points. The idea is that there should be no syntactic structure posited without a syntactic motivation. The point of this slogan is to warn against the conflation of two notions: LF as an independently motivated level of syntactic representation, and a notion of *logical form* that is essentially driven by semantic concerns. The latter notion has more to do with philosophical notions of logical form than it does to anything found in generative syntax. Here is how Collins puts the point:

Nowhere does Stanley say what he means by 'logical form' save that it is a syntactic level that inputs to semantics. In one sense, this lack of specificity is perfectly innocent. Stanley's proposal, on the assumption that syntax does interface with semantics, is that at the interface the syntax should record the kind of readings that the contextual variables make available. So, the proposal is neutral about which syntax would best provide for this service. However, the lack of specificity raises serious worries that the proposal is quite unhinged from *any* account of syntax. The problem is simple: What reason do we have, semantics apart, for thinking that the 'best' syntax admits the covert contextual variables? The question is not rhetorical. No level of syntax is a mere receptacle for whatever we may identify at the semantic level. *Anything occurring in the syntax must enter into syntactic relations, not just semantic ones.* There is an all too easy equivocation between construing 'logical form' as a level of meaning and construing it as a level of syntax that is sometimes called 'logical form'. (Collins, 2007, p. 838)

What Collins objects to here is the practice of identifying a 'reading' of a sentence, i.e. a particular explicature of an utterance, and inferring on that basis that there is a level

¹²Some of Collins' particular arguments target the notion of cohabitation as syntactically unmotivated. That objection would apply only to the particular syntactic proposal Stanley & Szabó make about quantifiers because that is where cohabitation is appealed to. The argument I discuss in detail in this section is supposed to have more general application.

of syntax that supports that reading by being a suitable input to a process that generates it. Such an inference might support a claim about logical form, where that is taken to be whatever it is that is the input to the derivation of a meaning. But it cannot support a claim about LF unless it can also be shown that the posited element is present in the syntactic derivation of that structure. What that means is that the element must be shown to MERGE at some point in the derivation. Once these two notions have been distinguished it is clear that claims about the ‘readings’ available as explicatures are not yet evidence for claims about LF. Claims about the available explicatures leave open the possibility that LF and logical form come apart.

Making the sort of argument that I think Collins has in mind is not entirely straightforward because it must be formulated in terms that appear in contested parts of philosophy of linguistics. The argument relies on the following assumptions:

- Ai. Utterances are processed by means of a series of representations which are divided into levels.
- Aii. Among these levels there is one which might be called the *last level of syntax* (what Collins calls LF).
- Aiii. Also among these levels is one which might be called the *first level of meaning* (what Collins calls logical form).

Assumptions i–iii seem to be common among those involved in the semantics/pragmatics debate. As Collins notes, assumption ii is not now the consensus among syntacticians because on some models certain parts of a derivation are passed along to semantic interpretation before the whole structure has been constructed. But it seems that a majority of philosophers take it that there is a syntactic structure assigned to a sentence which has e.g. lexical and syntactic ambiguities resolved and is the input to semantic interpretation.¹³ The debate between e.g. Stanley and Recanati is whether the first available output of this interpretation is arrived at by interpreting that level, or something else. The something else would be what I have called the first level of meaning. Recanati’s view is that this is arrived at after the last level of syntax has been enriched by pragmatic processes. Stanley argues that they converge. Collins’ argument is based on an objection to counting certain sorts of fact, namely facts about meaning, as considerations in favour of the convergence of the two levels. At least that is the argument I am interested in here.

¹³This is the picture found in e.g. Heim and Kratzer, 1997. The issues of levels of representation and logical form are discussed in Recanati, 2010, ch. 4.

If identity is true, then there is a simple argument that the final level of syntax and the first level of meaning do converge. They converge because any element of propositional structure must have a corresponding element in syntactic structure. That is the conclusion that can be drawn from the pattern of reasoning that I introduced in this section. This shows that there is a tension between identity and Collins' claim that syntactic structure requires syntactic motivation. It does not yet show which should be rejected.

I think, along with Collins, that it is clearly preferable to reject identity. The reason is that rejecting the claim about the motivation for syntactic claims entails denying the autonomy of syntactic theory. This sort of autonomy is certainly something that Stanley would want to preserve. Without it he cannot claim that his indexicalist theory has any independent motivation. Furthermore, it would be hard to explain what is at issue between e.g. Stanley and Recanati if there is no way to get a grip on syntactic structure independently from semantic intuition. King also requires there to be an independent way to get a grip on syntactic structure if he wants to carry through his project of using that structure in an account of naturalised propositions. As well as these *ad hominem* points a case can be made for the autonomy of syntax based on the kind of project syntactic theory is. Especially in recent minimalist approaches, syntactic theory is supposed to describe a mechanism generating legible structures under computational constraints. The mechanism can only 'see' the features of lexical items and it can only build structures out of them using the operation of MERGE.¹⁴ The claim that something other than the features of lexical items that combine through merge can be part of a derivation would amount to abandoning the presuppositions of syntactic theory. There is no reason why a philosopher of language should not change the subject in this way, but she would no longer be giving a theory that connects with syntactic theory. Accepting identity entails denying that syntax is autonomous in the relevant way. Some philosophers, I think that Collins would be one of them, would take this as a *reductio* of identity simply because philosophers ought to pay attention to the best syntactic theory. I would be happier with a weaker claim: Given that a philosopher wants to make use of a notion of sentence structure that is grounded in the best theories of generative syntax, she should reject identity. The cost of accepting identity would be denying that there is such an independently definable level of sentence structure.

In summary, if identity is true then facts about which proposition is expressed by an utterance have immediate consequences for the structure of the sentence uttered. Even

¹⁴In making this claim I rely recent work in the philosophy of linguistics see Collins, 2011; Ludlow, 2011. I do not think that these claims are particularly controversial. As far as I know nobody who holds the thesis I am arguing against has denied them.

if that idea is not thought to be simply absurd, it has unacceptable consequences for the independence of the study of such structure. Philosophers and linguists frequently make use of a level of LF that is generated by well-defined syntactic operations. While these structures may converge in some or all cases, no principle that entails that they must do so is acceptable.

3.6 Conclusion

In this chapter I have argued against two claims about the relationship between sentence structure and propositional structure. I have argued against the claim that the structures are identical, and the weaker claim that sentence structure determines propositional structure. While there are more arguments against the stronger claim, there are sufficient reasons to abandon the weaker as well. I have not made any positive proposals, but I suggest that the moral to be drawn is that a theory of propositions ought to be able to accommodate a flexible relationship between sentence structure and propositional structure.

To illustrate this point I have paid particular attention to King's theory of propositions. His theory is not flexible in the way just described. I have argued that this raises insoluble difficulties for his theory. This in turn motivates the search for other accounts of the nature of propositions which take account of the insights to be found in King's work, but which avoid the difficulties raised in this chapter.

Chapter 4

Underdeterminacy, Communication, and the Metaphysics of Content

4.1 Introduction

In this chapter I will attempt to think through one issue in the metaphysics of content that arises in recent work on communication in philosophy of language and linguistics. I take as my starting point recent work by Ray Buchanan in which he has argued that ubiquitous underdeterminacy of expressed content by natural language semantics should lead to a revision of our views on meaning, communication, and the semantics of propositional attitude-reports.¹ I will argue that in all three cases there are relatively conservative modifications to the standard view that will allow for the accommodation of underdeterminacy. In particular I think that one of the key claims of Buchanan's paper, that the semantic-values of that-clauses are not propositions, can be refuted. My strategy will be to give an outline of such a semantics compatible with what I take to be the genuine insights of his work.

Before I begin I would like to issue a disclaimer. It is hard to say anything that touches on the semantics/pragmatics distinction that is not extremely controversial. This is particularly unfortunate because theorists sometimes motivate their interest in that distinction by suggesting that getting clear about it will have instrumental value for some other area of philosophy. For one example of this sort of claim see Jeffrey C King and Stanley, 2007, 133–135. Because of the variety of theories and systems of terminology now found in the literature it is now harder to discuss those things that are somehow related to the semantics/pragmatics debate than it was before the explosion of interest in the topic. My

¹ I will focus here on the argument given in Buchanan, 2010. The same point is made in Buchanan, 2012.

focus in this chapter is what I will be calling *theory of communication*. While it is closely related to what is discussed in the semantics/pragmatics literature my goals here are largely independent of drawing that distinction. The point of this disclaimer is to make it clear that I am doing my best to be as neutral as possible about the most controversial parts of the semantics/pragmatics debate.

With the warning out of the way I will give a summary of what I will be arguing for in this chapter. The goal is to investigate some consequences of the thesis that linguistic meaning underdetermines communicated content. In section 4.2 and section 4.3 I will argue that some arguments that purport to show that this underdeterminacy has very radical consequences do not show it. That part of the chapter is conservative and critical. In section 4.4 and section 4.5 I make a positive proposal: philosophers of language and linguists should adopt a model of meaning and communication where particular utterances are used to mean a collection of things, and to express them. I will argue that this follows from the sort of underdeterminacy that was supposed to motivate the arguments I reject. That, I contend, is the real lesson of those arguments.

The upshot is that underdeterminacy is extremely important. Formal languages such as predicate logic do not exhibit it, or at least they can easily be constructed so as to avoid it. But, so many theorists now believe, every natural language necessarily exhibits it. It would be very worrying for those of us who identify as philosophers of language if it turned out that claims we took to be central to our investigations of language as such turned out to be applicable only to artificial languages that deliberately abstracted away from an important feature of natural language. If I am right, then this conclusion would be an overreaction. Whether or not we should ultimately accept either underdeterminacy or the theses that have been claimed to be in conflict with it no good argument has been made that one cannot. That being said, I think that in fact underdeterminacy and the relevant theses about meaning and communication are all true.

4.2 Theories of communication

How to theorise about linguistic communication is a central concern of philosophy of language and linguistics. I will talk about *communication theorists* in what follows to denote the theorists in those fields that have that project. Such theorists are motivated by an obvious fact: people do, or at least attempt to do, something called communicating. As a rough first pass we might say that they communicate successfully when they succeed in alerting their conversational partners to the fact that they intend them to entertain a certain thought by

getting those partners to recognise that intention as being behind the uttering of certain sentences.

This kind of picture is not be the only way to think about communication. Suppose that a theorist were to contend that we should think of communication in terms of the encoding of the speaker's thoughts in a language which can then be decoded by her audience. Assuming a mutually known method of encoding and decoding there is no role for speaker intention. I take it that the considerations against this are largely empirical: this does not seem to be how creatures like us do actually communicate. These considerations are also the ones that motivate the underdeterminacy thesis that I will be concerned with in this chapter. In what follows I will be assuming that some version of the intention-recognition story is right for roughly these reasons.

Assuming that an intention based model is to be adopted, various terms of art are needed. For instance, many *Gricean* communication theorists think that the essential next step is to make use of a technical term *non-natural meaning* as introduced by H. P. Grice in Grice, 1957. This notion is supposed to capture a special sort of meaning that attaches to linguistic acts of communication and distinguishes them from merely natural signs of various phenomena. Furthermore, in order to have a fully satisfying theoretical account of what is going on in cases of communication, it seems natural to introduce definitions of the *content* of an utterance and criteria for its *success* as an act of communication. One way to introduce the notion of a content is to appeal to *propositions*. For my present purposes a proposition is just the thing a sentence means on a particular occasion. They are kept distinct from sentences in order to account for the fact that (i) several sentences can mean the same thing, and (ii) that one sentence can mean different things on different occasions. Successful communication can then be defined in terms of intention-recognition where the objects of the intentions are propositions. This sort of approach is not limited to Griceans. It is the part of the Gricean programme that has been most widely accepted so even those who argue against the neo-Gricean approach are committed to something like this general picture.²

Buchanan, 2010 sets out what he calls the *standard view*. This standard view is very much in the spirit of the one I have been describing. Buchanan writes 'At the core of the standard view are two basic assumptions, *Content* and *Success*' (Buchanan, 2010, p. 342). He formu-

² In particular I have in mind here *relevance theorists*. They are directly in conflict with modern neo-Griceans on many points, but not this one. For the classic statement of their ideas and a recent survey see Sperber and Wilson, 1995 and Wilson and Sperber, 2004 respectively. For an overview of the neo-Gricean approach see Horn, 2005.

lates them as follows:

(CON) What a speaker means, or intends to communicate, (at least in cases of indicative speech) must be a proposition.

(SUC) Understanding a speaker's utterance U requires (minimally) entertaining what she meant by U.

Buchanan's paper covers a lot of ground. Firstly, he makes an argument that, given certain plausible assumptions about the way natural languages work, at least one of CON and SUC is false. Secondly, he argues that this undermines traditional accounts of meaning. Finally, he makes some suggestions about how to reform the theory of communication. Part of his reform is a wholesale change in the way we should think about the propositions expressed by propositional attitude-reports. Buchanan's argument is extremely interesting and I will present a version of it in this chapter that I think is indeed fatal to the standard view as formulated. I will argue that it is not fatal to a reformulation that preserves the spirit. Buchanan also claims that his argument shows that we must revise another aspect of the theory of communication. Following Grice he gives the following definition of meaning (in both Buchanan's paper and my chapter 'meaning' always denotes non-natural meaning in Grice's sense):³

(M) A speaker means the proposition P by uttering U only if, for some audience A, she produces U intending that (i) A come to entertain P on the basis of her utterance, (ii) A recognise her intention (i), at least in part, on the basis of the fact that she uttered U.

I will assess Buchanan's argument against taking M to be an acceptable theoretical definition of meaning. I will argue that his argument once again shows that we must reform rather than reject the traditional notion.

In section 4.3 I will present a version of Buchanan's argument that, if sound, will trouble a variety of different sorts of theory. I will accept for the sake of argument that it is sound because I am interested in its consequences. I will argue in the remainder of that section that the most troubling upshot of the argument is that it denies two plausible principles of traditional theories of attitude-reports that I call *specification* and *propositionalism*, following Kent Bach's terminology. This discussion is necessary in order to block the objection that it would be simpler to deny propositionalism than to take on the revisionary burden. In

³ Buchanan gives three different formulations in the course of his paper. My M is his M* from Buchanan, 2010, p. 343.

section 4.4 and section 4.5 I will describe and defend my own view. In brief, I think that Buchanan has pointed out an important and often overlooked fact that the theory of communication must deal with. I argue that my way of dealing with it is better than Buchanan's not only because it is less revisionary but also because it introduces fewer novel theoretical concepts than his proposal. Not only does my view posit fewer entities, it also preserves some appealing principles about attitude-reports that have motivated philosophers of language to adopt a relational analysis of such constructions.

4.3 Buchanan's arguments

One way to think of Buchanan's central argument is as applying to particular cases and then being generalised. The case he gives most attention to is:

(49) Every beer is in the bucket.

Buchanan describes a short dialogue in order to provide context for the utterance:

An hour before the party is to begin, Tim asks Chet 'Are we ready to rage?' 'So bro', Chet responds, 'We are totally ready. The living room totally looks like a pirate ship. The strobe lights are up. **Every beer is in the bucket.** I just need to find an eye patch to wear with this pirate hat.' (Buchanan, 2010, p. 347)

Here is my formulation of Buchanan's argument in a generalised form:

- i. The utterance of (49) was an instance of successful communication.
- ii. So, the audience must have entertained the proposition the speaker meant.
(From CON and SUC)
- iii. So, there is a proposition such that it is a necessary condition for successful communication that the audience entertained it. (From premise i)
- iv. But, there is no such proposition.
- v. So, we must deny premise i or premise ii. (From conclusion iii and premise iv)
- vi. It is better to deny premise ii. The conjunction of CON and SUC entails premise ii, so we must deny at least one of them too.

Some work needs to be done in order to motivate premise iv. Why is there no such proposition? The answer Buchanan gives is that this falls out from the commitments of contemporary theories of communication. I will describe Buchanan's point in the next subsection and explain why I think it can be taken even further than he does.

4.3.1 Against the standard view

Buchanan asks us to consider a theory of communication that holds that some or all of the sentences we utter do not have a proposition determined as their content in context by the semantic rules of the language. Instead of nothing at all, what is determined is a (*propositional*) *template*. Buchanan argues that premise iv of his argument against the standard view will be true if that is the case for (49). He suggests on p. 348 that the propositional template for (49) is:

(TEMP) [The y: Bucket(y) & _ y] ([\forall x : Beer(x) & _ x] (x is in y))

I will follow Buchanan in referring to this sort of thing as a *template*. Some theorists with this sort of view call such things *propositional radicals*, *propositional skeletons*, or *propositional schemata*. For the purposes of this chapter there are no important differences between these notions.

It helps to have a set of propositions in mind when thinking about the variety of contents that are compatible with such templates as TEMP. Here is a list Buchanan gives on p. 349:

- P1. Every beer *we bought at the bodega* is in the bucket *in the backyard*.
- P2. Every beer *we will serve at the party* is in the bucket *decorated in pirate motif*.
- P3. Every beer *for our guests* is in the bucket *filled with ice*.
- P4. Every beer *at the apartment* is in the bucket *next to the hot tub*.
- P5. Every beer *we bought at the bodega* is in the bucket *next to the hot tub*.
- P6. Every beer *at the apartment* is in the bucket *in the backyard*.

P1–P6 are all propositions that are compatible with TEMP in the context of utterance specified.⁴ For the sake of simplicity I will pretend that these are all the compatible propositions.

Many theorists do endorse some version of the template view for some class of sentences. Anybody who endorses it for any sentence will be vulnerable to a version of Buchanan's argument that uses just that sentence as its problem case. In order to be specific I will focus on one thesis defended by Robyn Carston called *underdeterminacy* (U). Carston, 2002, p. 19 defends U formulated as follows:

⁴ Buchanan's view allows for cases where e.g. the set of beers Tim and Chet bought is not identical with the set that they will serve at the party. That means that even on a Russellian view of propositions P1–P6 can express different propositions. Buchanan has a *Fregean* metaphysics of content according to which the constituents of propositions are Fregean senses, so he will have the non-identity of P1–P6 trivially because the senses will be distinct. See Buchanan, 2012, §2.2 for some more details.

(U) Linguistic meaning underdetermines what is said.

Both *linguistic meaning* and *what is said* are terms of art. I follow Carston in taking the former to be a property of sentences in contexts, namely the thing they encode relative to that context as a result of the values assigned to their parts and the compositional rules of the language they belong to. The latter I take to be the proposition(s) that speakers of the language take to be communicated, or expressed, by the utterance of the sentence in context.⁵ What U tells us is that the composition of the meanings of the parts does not determine the proposition expressed by the whole. On the other hand, on Carston's view and every other sensible view, it does constrain the meaning of the whole. For example, take:

(50) This steak is raw.

Relative to some context the proposition expressed may be that the steak in question is raw*, which is the property of being not quite uncooked but insufficiently so to eat. The lexical item 'raw' does not encode this property, it has been modulated in context so that the proposition expressed is the one indicated. The speaker could not have been taken to express just anything by that utterance but she can be taken to have expressed one of a number of things that are compatible with the linguistic meaning of the sentence uttered. What is going on here can be called *modulation* of the meaning of 'raw.' Just how this is brought about and what the constraints are on such processes is where a lot of the action is in the kind of detailed semantics/pragmatics interface theorising that I am reluctant to get too involved with.⁶

Underdeterminacy is a radical thesis but at the same time it is rather mainstream among theorists of communication. If it is true then there will be problem cases for the standard view, and there will still be problem cases if there is only a restricted sort of underdeterminacy in the language. By *restricted underdeterminacy* I mean simply that some sentences have the relevant properties. This would amount to saying that linguistic meaning sometimes underdetermines what is said. I am going to grant in what follows that at least the restricted underdeterminacy thesis is true.

⁵ It should be clear from the use to which I put the notion of *what is said* that I, and Carston, mean what is also sometimes called *explicature* or, by e.g. Bach, 1994 *implicature*. If there are differences between these three notions then they are not relevant for my purposes here. What is important is that there is a line between what is encoded and what is expressed but not through implicature. See Carston, 2002, p. 20.

⁶ For further discussion of what is there called *approximation* see Wilson and Sperber, 2002, §3. The phenomenon is ubiquitous. For another discussion of so-called 'loose talk' see Lasnik, 1999.

I think it is worth noting that it is possible to get the sort of problem case that motivates the defence of premise iv even if the template view is completely rejected. I will briefly discuss a view defended by Herman Cappelen & Ernie Lepore and called by them *minimalism*. I will illustrate my discussion with their approach to quantifier domain restriction (QDR) in order to make the best connection with Buchanan's argument.

One way to summarise Cappelen & Lepore's view is as the claim that every sentence of English expresses a particular minimal proposition on every occurrence of use unless it contains context-sensitive expressions. If it does contain context-sensitive expressions, then the sentence expresses a proposition on each occasion of use but maybe not the same proposition. This is the view defended in Cappelen and Lepore, 2004. In that work they also defend the claim that very few sentences are context-sensitive because only a very restricted class of indexical expressions are.⁷ According to the minimalist view the minimal proposition expressed by a sentence without context-sensitive constituents just is the proposition that it expresses in all contexts. The minimal proposition expressed by (49) will be that every beer is in the bucket. This is so even in a context where the audience will naturally take the speaker to be trying to communicate something about a certain group of beers and a particular bucket out of the many that exist. This feature of the view means that the point I want to make about minimalism will also apply to views that are not strictly speaking minimalist but which do claim that the semantic value of (49) in context is an unrestricted proposition. The unrestricted proposition view is defended by Bach in his response to Jason Stanley & Zoltán Szabó's work on quantifier domain restriction is of this sort, see Stanley and Szabó, 2000; Bach, 2000.

This minimalist story by itself would not allow for problem cases. They arise when another claim is added to minimalism which is called *speech act pluralism* in Cappelen and Lepore, 2004. Speech act pluralism is the view that more than one proposition is expressed by an utterance of a sentence in context. I will not go in to the arguments for the claim here. The important point is that the move is made to allow just the sort of propositions listed in P1 – P6 to be communicated by an utterance of (49). Otherwise the theory would predict that the minimal proposition is what is communicated, which is simply false. Once the minimalist has accepted that propositions such as Buchanan's P1 – P6 can be expressed by an utterance of (49) she must accept the kind of generality and indifference that motivates premise iv of the argument presented. Note that the minimalist cannot retreat to the

⁷ For Cappelen's views on templates, rejection of which is one motivation for minimalism, see Cappelen, 2007. For another view that is in my terms minimalist see Borg, 2004.

idea that communication is successful just in case the minimal proposition is entertained. That is not sufficient in the problem case Buchanan sets up because the minimal proposition is that every beer is in the bucket. This obviously absurd proposition is not what the speaker wants his audience to entertain. Merely entertaining the minimal proposition would constitute communicative failure.

The points made above about minimalism follow from a very general point about pragmatic effects on what is said. The calculation of the semantic value of an expression can be seen as the product of demonstrative reasoning only if it is fully controlled by the semantics of the language and only if the effects of context are available to both speaker and audience. If there are pragmatic effects that are of a piece with the calculation of implicatures then there enters in to the picture a sort of non-demonstrative inference to the best explanation. Those theorists, such as Borg, who appeal to implicature in order to account for what is communicated are committed to this point. So are those who reject minimal propositions in favour of a pragmatically modulated content. This means that *inter alia* Bach, Carston, and François Recanati are all committed to it. For Recanati's views on the matter see Recanati, 2003, 2010. The use of such reasoning enters in to the minimalists' pluralistic account of what is said as well. I have used minimalism as an example because it is the view in the literature which is furthest from relying on templates. This shows that the particular claims about TEMP as the semantic-value of (49) are inessential to Buchanan's main point.

It would be nice to be able to say that every possible theory of communication will have the necessary features to generate the problem cases. The weaker claim that any theory that can account for certain basic facts about English and its speakers will have the features that generate problem cases would be almost as good. I do not take myself to have established that. That is not just because I cannot claim to have considered every possible theory, but because it is debatable whether the theory actually held by so-called *indexicalists* generates the problem. The kind of view I have in mind is that defended by Stanley and several collaborators in the papers collected in Stanley, 2007. Stanley et al.'s view is that the semantic values of sentences in context are propositions the pragmatic influence on which is limited to the fixing of values of variables found in the logical forms of the sentences expressing them. I will return to this issue in section 4.5 where I will suggest the possibility of raising an analogous worry to Buchanan's for the indexicalist view.

The key point of the preceding discussion is that speakers will make utterances in the full knowledge that pragmatic processes will partially determine the interpretation arrived at. Given the nature of these processes there will be more than one outcome compatible

with the utterance made and the context. The speaker will typically be indifferent between these different interpretations. I take this as a kind of hypothesis about the required psychological state of the speaker given that she is under no illusions about how her language works and that the communication is successful. This last point can be justified by pointing out that if the speaker is not indifferent between the propositions that can be derived by the processes she knows will be employed that she should not have uttered what she did. I will elaborate on these points in section 4.4.

I think that theorists of many persuasions should accept that the argument I set out based on Buchanan's is a good argument against the standard view as formulated by him. I think that that by itself should not worry us too much. This is because there is no reason to be committed to CON and SUC as they stand. For instance, here is an alternative to SUC:

(SUC') Understanding a speaker's utterance U requires (minimally) entertaining what U expresses and then entertaining something compatible with her communicative intentions.

The conjunction of CON and SUC' does not entail premise ii of Buchanan's argument. Therefore that argument is not an argument against this formulation of the standard view. I think that a debate over whether this is a minor revision or a minor reformulation of the standard view would be merely terminological. I would happily concede either claim.

SUC' is extremely schematic as it stands although it is arguably no less schematic than SUC. All that has been altered is the requirement for uniqueness. Having that requirement leads to trouble, so dropping the requirement will presumably avoid the trouble. In order to make the proposal clearer it will be helpful to go through what is being claimed about the case Buchanan discusses. The speaker in this case has a communicative intention. He makes an utterance, in this case an utterance of the sentence

(49) Every beer is in the bucket.

The audience comes to entertain one or more propositions on the basis of hearing the utterance. They do so by working out its linguistic meaning and performing whatever pragmatic inferences are prompted by the context in order to arrive at a hypothesis about the communicative intentions of the speaker. Given that these processes, which are needed to restrict the domain of the quantifier and complete the definite description, are pragmatic there will be several hypotheses compatible with the evidence. I have presented P1 – P6 as an idealisation of this complexity. The intention that the speaker has must be one that he could have expected his audience to be able to fix on using his utterance as evidence. Otherwise he could not have legitimately formed the intention to communicate. That rules out

the possibility that he intended to communicate one of P1 – P6, e.g. P2, in particular. He must have had an intention directed towards all of P1 – P6. But that intention cannot just be the ordinary intention to communicate them all. If it were, then the intention would be thwarted if the audience only entertained some subset of the propositions. This is just not an accurate description of the case. At least that is what Buchanan claims and I agree. In section 4.4 I will present an option for thinking about the special kind of intention required.

Compatibility is being used here in a slightly restricted sense. It is the sense in which each of P1 – P6 are compatible with the linguistic meaning of the utterance. That only certain propositions are compatible restricts the communicative intentions that can be expressed by uttering such a sentence. Compatibility with linguistic intentions in the sense of SUC' is therefore stronger than mere consistency with them. Entertaining something compatible with the speaker's communicative intentions requires the audience to entertain something compatible with the linguistic meaning of the utterance. In the case I have used as my example that means entertaining one of P1 – P6. This is the result that the reformulation of SUC' is intended to capture.

In this section I have argued that there will be problem cases for the view Buchanan attacks and for a deep reason. The claim that speakers have communicative intentions towards only one proposition that they expect their audiences to identify cannot be true of those who use a language that exhibits underdeterminacy. Buchanan's argument is a good one against CON and SUC because the standard view builds in uniqueness in the formulation of SUC. But it is no argument at all against CON and SUC'. So far it looks as if the revisionary implications of the argument have been small because SUC' is not a particularly radical departure from the standard view. In the next two subsections I will look at some cases that seem to be far more serious.

4.3.2 Against meaning

Grice famously gave an intention based account of meaning. Here is an early formulation:

“A meant [non-naturally] something by x ” is (roughly) equivalent to “A intended the utterance of x to produce some effect in an audience by means of the recognition of this intention[.]” (Grice, 1957, p. 385)

There have been various attempts at interpreting and reformulating this principle, both by Grice himself and by those who have inherited his project. Some of this work is discussed in Neale, 1992. I think it is fair to say that most of those working in the field see this 1957

formulation as an essential insight that needs to be refined rather than replaced by their own contributions.⁸

Buchanan formulates his principle M along Gricean lines, but unlike most other theorists he then presents an argument against it. Here is Buchanan's formulation:

- (M) A speaker means the proposition P by uttering U only if, for some audience A, she produces U intending that (i) A come to entertain P on the basis of her utterance, (ii) A recognise her intention (i), at least in part, on the basis of the fact that she uttered U.

The argument against M goes much as the one against the standard view:

- i. The utterance of (49) was an instance of successful communication.
- ii. So, the audience must have entertained what the speaker meant.
- iii. So, there is a proposition such that the speaker intended the audience to entertain it on the basis of recognising the speaker's utterance as expressing the intention to cause the audience to entertain that proposition. (From M)
- iv. But, there is no such proposition.
- v. So, we must deny premise i or conclusion iii. (From conclusion iii and premise iv)
- vi. It is better to deny conclusion iii than premise i and M entails conclusion iii so we must deny M.

The defence of premise iv is the same as in the previous argument. I should note that in this argument premise ii is unsupported. I think it is justified for all those who think that the notion of meaning, in the roughly Gricean sense, has a theoretical role to play in the theory of communication. That means that it will do the traditional Gricean theorist no good to deny this premise of my formulation of Buchanan's argument. What we are left with is a kind of counterexample to M as a proposed definition aimed at elucidating our pretheoretical notion of meaning. We know that meaning is important, but when we look closely at a clause formulating the principle and compare it to some cases that arise in the interpretation of natural languages we find the formulation wanting. The argument brings out the way that it is unsuccessful.

Looked at in this way the problem does not seem particularly bad. After all, this is not an argument for scepticism about meaning because nobody who is a meaning sceptic will

⁸ The sort of account of speaker-meaning given here in terms of intention recognition is common but not quite ubiquitous. Wayne Davis has defended a quite different account where the relevant intentions are to express beliefs in Davis, 1992. Buchanan, 2010, endnote 7 cites Davis, 2002 and suggests that Davis' ideas might provide a way for a neo-Gricean to reformulate the standard view.

think that the argument against M is sound. The problem is with formulating M in such a way that it requires that there is a unique proposition meant by an utterance. The obvious solution is to reformulate M so that it does not make this requirement.

I will now propose such a reformulation. Before I do so I want to make a brief point about what I take myself to be doing. I am engaged in a conversation about how best to introduce a term of art into the theory of communication that allows theorists to sharpen their intuitive understanding of the term ‘meaning’ in such meaning-reports as:

- (51) Tim meant that every beer that Tim and Chet will serve to their guests is in the bucket of ice in the backyard.

If we grant the points about indifference that arose in my discussion of the standard view then it follows that there were a range of propositions compatible with the intention that Tim made manifest to Chet through his utterance. let us suppose that all the propositions from P1 – P6 were among them, and so the one reported in (51) was too.

What is required is a way to accommodate the relevant sort of indifference in an account of speaker-meaning. Such an account must make (51) come out as true but, as we have seen, were it to make (51) true while making alternatives to (51) using other members of P1 – P6 false then it will not do justice to the kind of communicative intentions that the users of languages exhibiting underdeterminacy must actually have. My approach to making the required reformulation is to deploy a special sort of intention. Fortunately I do not have to start from scratch, because there is already a suitable notion around in the literature on underdeterminacy and communication. I hope to make the points I need without taking on too many commitments about the nature of intentions and empirical claims about human psychology. The following sketch is supposed to illustrate the possibility of a certain sort of approach while acknowledging that a lot of work would need to be done to fill in the details.

In earlier work with Gary Ostertag on the problem of underdeterminacy as it relates to definite descriptions Buchanan introduced the useful notion of a *sloppy-intention* or *s-intention*:

Thus, in uttering *g* [(‘The guy’s late’)], *S* didn’t mean, indeterminately or otherwise, any description-theoretic proposition. Nevertheless, *S* would, if asked to be more explicit, offer any one of a number of such propositions. For example, though in uttering *g* *S* didn’t mean that the author of *Smells and Tickles* is late, he would be happy if *A* would, on the basis of this utterance, come to entertain this proposition. *S* would, however, be equally happy if *A* were instead to

entertain the proposition that the guy reputed to have solved the mind-body problem is late, or that the guy we are waiting for is late, and so on. In general, *S*'s communicative intentions, whatever they are, will be satisfied if *A* entertains any one of these propositions. To give this phenomenon a label, call such communicative intentions *sloppy meaning-intentions* (henceforth we will use *s-means* for 'sloppy means' and *s-intends* for 'sloppy intends'). (Buchanan and Ostertag, 2005, p. 902)

Leaving aside the original debate in which Buchanan & Ostertag were engaging I propose to extract the notion of s-intention and use it to accommodate the indifference principle into an intention based theory of meaning.⁹

I should note that I do not require anything peculiar to the Buchanan & Ostertag notion of s-intention. I have adopted their idea because I think it is sufficient to do the work I want without building in any unwanted features that I would be better off without. I also think that it is interesting that an idea that Buchanan himself would presumably be happy to use is sufficient to do the work. That being said, at least one other notion in the literature on communication would do the same kind of work namely that of *weak implicature* or its more general form *weak communication*. Weak implicature is described in Wilson and Sperber, 2004, §4. According to Wilson & Sperber's relevance-theoretic approach, implicatures are generated in order to satisfy the standing assumption that communicating agents make utterances in order to express relevant propositions. Very roughly, if the linguistic meaning does not satisfy the expectation of relevance then a search for a implicated content is triggered. If a proposition *P* must be entertained in order to secure the relevance of the utterance then it is strongly implicated. If a range of propositions are such that any one of them would secure the relevance of the utterance but none of them are strongly implicated then they are all weakly implicated. If this notion is generalised to cases other than implicatures then a notion of weak communication could be formulated. I would be happy to reformulate *M'* in these terms. My only reservation about doing so is that it might appear that the view is then committed to a relevance-theoretic account of other issues. I would

⁹ Roughly speaking Buchanan & Ostertag were interested in an objection to a certain view of definite descriptions. On that view an incomplete definite description is taken to be made complete in context. Buchanan & Ostertag are concerned to rebut the objection that there will be no unique completion available. They deny that that counts as an objection. I should note that the idea that the proposition expressed by an utterance that underdetermines communicated content expresses a range of propositions can also be found in that literature for example in Blackburn, 1988. Blackburn's discussion is limited to definite descriptions.

prefer to remain neutral.¹⁰

Here is my proposal for using a notion of indifferent and general intention in an account of speaker-meaning:

(M') A speaker means the proposition P by uttering U only if, for some audience A, she produces U s-intending that (i) A come to entertain P on the basis of her utterance, (ii) A recognize her s-intention (i), at least in part, on the basis of the fact that she uttered U.

If this is on the right lines then the revisions that need to be made in the theory of meaning to accommodate Buchanan's points are fairly minimal.

This reformulation of the account of speaker-meaning has an obvious consequence. Speakers can mean a whole range of propositions when they utter sentences. They mean everything compatible with the intention that they are attempting to have their audience recognise. This amounts to a proliferation of meant propositions. I take this proliferation to be a welcome consequence of the view and I will rely on it in section 4.4 when I discuss the semantics of attitude-reports. I will call the sort of proliferation I have in mind *conservative proliferation*. I do this in order to mark a distinction between my view and those, such as speech act pluralism, which hold that the propositions that make up what is said are not constrained by the linguistic meaning associated with the uttered sentence. That might be right, but the move from M to M' does not entail it.

Of course the notion of an s-intention needs to be spelled out in order to make something like M' work. The central idea is that there are sorts of intention that are satisfied by several states of affairs. The kind of case I am thinking of is one where we think that the overall psychological state of the subject warrants a certain intention-report. The intention might be *to have a cup of tea*. For the sake of argument grant that this intention is propositional, i.e. that it is a state relating the subject to the proposition that she have a cup of tea. Suppose that for a particular subject Anne the intention in question is such that it will be satisfied if Anne has a cup of tea in a red cup, or a blue cup. Which of the following are then true?

- I1. Anne intends to have a cup of tea.
- I2. Anne intends to have a cup of tea in a red cup.
- I3. Anne intends to have a cup of tea in a blue cup.

¹⁰I would like to thank Robyn Carston for drawing this option to my attention. I would also like to thank Deirdre Wilson for subsequent useful discussion, and in particular for making me aware that something like weak *explicature* is suggested in Noveck and Sperber, 2012, §3.

The obvious thing to say is that I1 is true, and so are I2 and I3. But on the interpretation on which they are all true it does not follow that Anne's intentions are thwarted unless she gets both a red cup and a blue cup. She has the sort of intention that can be satisfied several ways and she will typically be indifferent between those ways. The desire to give an analysis on which I1 – I3 are all true suggests a philosophical analysis using s-intentions. These are after all the sort of intention that one has towards a proposition when its truth is sufficient for the realisation of one's intention but not necessary. For this sort of case, which I will call *boring* cases, there is an obvious alternative to the description in terms of s-intentions that makes no real difference to how we think about the case. A philosopher who is sceptical about s-intentions can avoid using them and the only cost is that I2 and I3 will have to be judged false. That does not seem like too high a price to pay. After all, the proposition that Anne has a cup of tea can be made true in many ways. So perhaps the best description is that Anne has an intention towards that proposition and only that proposition. In that case I1 is true and I2 and I3 are false. Nothing much seems to turn on which option is adopted for this case, which is why it is boring.

For at least one reason the case used by Buchanan is an *interesting* case. Interesting cases are those where the re-description that eschews s-intentions will not keep the same objects of both the intention and s-intention. On Buchanan's view, which I will describe in detail in section 4.3.3, the only objects that can be intended to be communicated are not propositions. Buchanan argues, successfully, that propositions cannot be intended and concludes that they cannot be meant. I propose that propositions can be the objects of communicative s-intentions and, if meaning is formulated in terms of s-intentions, that they can be meant. The view stands in need of clarification and further defence. My point is that there is an option for keeping the objects of communicative intentions as propositions as long as the intentions are s-intentions. One could get the same result simply by redefining the notion of intention so that it allowed for the right kind of generality and indifference. The key point is the generality and the indifference, which is supposed to be captured by the move from M to M'. Once generality and indifference of intention are captured by an intention based account of speaker-meaning then the mere fact of that indifference and generality cannot be part of an argument against the intention based account. Once M is reformulated the argument against the intention-based account will not go through.

4.3.3 Against propositionalism and specification

I have now discussed two of the three claims made in Buchanan, 2010. I have concluded that there are responses available to those who want to preserve the spirit of the views that are criticised there. The third and final argument is perhaps the most interesting. It has extremely radical consequences if it is sound. I will show that it can be resisted, but only by adopting a view that is itself somewhat novel and radical. I take the argument for that view to be the real lesson to be learnt from Buchanan's investigation of underdeterminacy.

Buchanan makes a radical proposal towards the end of his paper, one that he acknowledges takes him into quite speculative territory. I will set out the point he makes in this subsection. In section 4.4 I will continue in the spirit of Buchanan's inquiry by offering an alternative response to the points he makes. I would like to explicitly limit the scope of my discussion before I begin it. Buchanan is committed to a Fregean metaphysics of content. The conclusions that he argues for may well follow from that view of content. As it happens I reject it, but I accept that the argument from it to Buchanan's conclusion is valid. I will not argue against the Fregean metaphysics here.

Specification is a controversial thesis about the semantics of attitude verbs first formulated under that name, or more fully as the specification assumption, in Bach, 1997. He presented three theses that were supposed to be individually plausible but jointly to lead to Frege's famous puzzles about attitude-reports:

Relationalism: belief-reports express relations between persons and propositions.

Propositionalism: The semantic value of a that-clause is a proposition.

Specification Assumption: belief-reports specify belief contents, i.e., to be true a belief-report must specify a proposition the person believes. (Bach, 1997, p. 222)

One way for specification to be false would be for a situation with the following structure to occur: (i) S believes that P, (ii) 'S believes that Q' is a true report of fact (i), and (iii) $P \neq Q$. For an example of such an argument see Fara, 2003. This argument is not the one Buchanan makes. I will call a proposal of the sort made by Fara a *difference* thesis because it keeps relationalism while denying specification. Subjects are still related to propositions by attitude-reports just not the propositions expressed by the that-clauses in the reports. Denying propositionalism as well results in a stronger *difference-in-kind* thesis. I use that term to denote the view that attitude-reports express relations between persons and some entity other than a proposition. Specification will then be false because the belief-report does not specify a proposition at all. On this way of looking at things, Buchanan is not committed to

denying relationalism. On his view belief is still a matter of relation to propositions, and a belief-report expresses something about the propositions to which its subject is related.¹¹ It is the latter two claims that he denies. On his view, which he takes to be motivated by underdeterminacy, the semantic-values of that-clauses are not propositions and in addition a true report does not attribute a unique proposition via specifying it. My first task will be to explain how he gets to that result.

Here are two examples of attitude-reports from Buchanan, 2010, p. 362:

- (52) a. Chet said that George W. Bush lives in Washington.
 b. Chet believes that George W. Bush lives in Washington.

Here is what Buchanan has to say about the examples:

[W]hile believing is a relation to propositions, the similarity between, for example, [(52a)] and [(52b)], is that in both reports the semantic value of the that-clause is a proposition-type, say Ψ . The crucial difference between saying and believing would then consist in the fact that, while [(52a)] is true just in case Chet said Ψ , [(52b)] is true if, and only if, Chet believes some proposition of the type Ψ . On this suggestion, the fundamental objects of our beliefs are not the contents of our speech acts. (Buchanan, 2010, pp. 362–363)

I will formulate his point as the *proposition-type thesis* (PT):

- (PT) In both speech and belief-reports the contribution of the that-clause to the proposition expressed by the report is a proposition-type.

If PT is true then propositionalism and specification are false. I will follow Buchanan in using upper case Greek letters as schematic letters for proposition-types. Here is how Buchanan defines the notion of a proposition-type:

[T]he character of ‘Every beer is in the bucket’ is a proposition-type — a property which is instantiated by those propositions that can be “constructed” from it. For example, each of the candidate propositions we have mentioned [i.e. P1 – P6] might be said to instantiate the proposition-type displayed in [(TEMP)]. (Buchanan, 2010, p. 357)

He then defines a further notion:

¹¹This is the position in Buchanan, 2010. In Buchanan, 2012 he uses similar arguments in order to defend the conclusion that sometimes things other than propositions are believed. On that view relationalism is false too. If my response to Buchanan’s earlier arguments succeeds then it will also succeed against the later ones.

Let us say that a *restricted proposition-type* is a propositional template plus contextually relevant constraints on how that template is to be completed, allowing that the speaker need not have any very clear such restriction in mind. (Buchanan, 2010, p. 358)

I should note that while I will object to some revisionary ideas that employ the notion of a restricted proposition-type I have no quarrel with the idea that is being introduced. In fact I think it can usefully be adapted to fit with s-intentions and M' . Given Buchanan's idea we can think of the restricted proposition-type as a set of propositions i.e. the set that has the property of being compatible with the linguistic meaning. That set of propositions will be co-extensive with the set of propositions meant in the M' sense. The claim I want to resist is the move to saying that such types are the semantic-values of that-clauses, or that they are what we say.

Here is how I see the argument for PT that starts with the fact of underdeterminacy. I think this is close to what Buchanan has in mind, although I am more concerned with the argument and responding to it than I am with faithfully capturing Buchanan's intentions. In the terms I have set things up the following contrast can be drawn between the traditional relational view and Buchanan's new proposal. According to the traditional view, belief is a matter of a subject standing in the belief relation to a proposition. The proposition expressed by:

(53) Jane believes that that steak is raw.

might be represented as:

(54) $\langle\langle \text{Jane}, P \rangle, \text{BEL} \rangle$

where 'P' is a schematic letter for some suitable proposition. According to Buchanan's proposal this picture might be amended as follows: a sentence determines a proposition-type Ψ which is the property shared by all and only those propositions compatible with the linguistic meaning of the sentence. This requires a second alteration because now the relation in question is not *belief*, but some other relation BEL^* that holds between subjects and Ψ s (i.e. restricted proposition-types). This proposition expressed by (53) might now be represented as:

(55) $\langle\langle \text{Jane}, \Psi \rangle, \text{BEL}^* \rangle$

Someone attracted to this proposal might give the truth-conditions of (54) stipulatively as:

(56) $\langle\langle \text{Jane}, \Psi \rangle, \text{BEL}^* \rangle$ iff $\exists P (\Psi(P) \wedge \langle\langle \text{Jane}, P \rangle, \text{BEL} \rangle)$

I should also note the obvious similarity between this toy account of the proposition expressed by (53) and the semantics given in Forbes, 1987, 1990. This is intentional on my part and I hope it accurately captures Buchanan's idea. (55) is more complicated than the traditional idea, not just because there are new entities (proposition-types) but also because, while subjects believe propositions, the propositions expressed by belief-reports do not relate them directly to propositions but to proposition-types.

Why should we analyse (53) as (55) rather than (54)? I take it that the idea is that no other proposal can handle the facts of underdeterminacy. Buchanan makes two distinct claims. Firstly that proposition-types are the things that are said. That would follow if propositions were not the kind of thing that can be speaker-meant. I have argued in the previous two subsections that this is not so. There is no reason to think that the reformulated accounts of communicative success and speaker-meaning given there are refuted by underdeterminacy. In that case underdeterminacy does not refute the idea that propositions are the objects of sayings.

What about the second claim, namely that proposition-types are semantic-values of that-clauses in belief-reports? Buchanan endorses that idea on the grounds that such that-clauses will not be able to specify a unique proposition to be attributed to the subject of the report. Given the relational semantics being used to analyse such sentence, some other object is required. The one he selects is that of a proposition-type. This motivates the analysis of (53) as (55).

This is where things stand: Buchanan suggests that the argument against the standard view of communication and of meaning gives us reason to adopt the sort of account I have sketched, one that is independent of the Fregean tendency in the metaphysics of content literature. I have suggested that conservative responses are possible to these arguments. If Buchanan's argument against specification is to go through he must establish that there is no conservative response there either. In section 4.4 I will set out a way to accommodate Buchanan's central insight in a way that does not require the sort of proposal he makes. If I am granted that a simpler view is *ceteris paribus* a better one then it will follow that my view is better. As an additional benefit, the view I propose allows for the original motivations for the relational analysis of attitude-reports to be respected. By a relational analysis I mean one which holds that attitude-reports, including speech-reports, relate subjects to the very objects of their attitudes and do so by specifying those objects with a that-clause. Even if my proposal is no better than Buchanan's, as long as it is a possible analysis and compatible with underdeterminacy the claim that underdeterminacy entails the denial of specification

and propositionalism is refuted.

4.4 Communicative intentions

In this section I will bring together my remarks about communicative intentions with the issue about attitude-reports raised in the preceding section. My goal is to give an outline of an account of attitude-reports that both respects the relational analysis and the upshot of the considerations about communicative intentions. This will show that Buchanan's conclusions are not warranted by the observations he takes to motivate them. My strategy is to appeal to certain general features of communication when it is undertaken with languages in which linguistic meaning underdetermines what is said. Assuming that such communication is thought of in terms of the recognition of intentions, it follows that the intentions themselves must have a degree of generality and indifference. As I have said above, recognition of this point suggests that some modifications of the theory of communication are required. The point I wish to make in this section is that the recognition of this point as it applies to unembedded sentences of the language suggests a natural extension to constructions such as attitude-reports. This in turn suggests an attractive alternative picture to Buchanan's. The advantage I claim for this alternative picture is that it requires the least modification of traditional doctrines about meaning, communication, and attitude-reports.

Here is what I take to be the central issue that everything I am discussing in this chapter revolves around. As Buchanan points out, utterances of natural language sentences are made with intentions that are in a certain way both *general* and *indifferent*. Here is how he introduces the terms:

The fundamental problem with the standard theory is that even if the theorist appeals to vagueness (and indeterminacy) she cannot adequately capture the special kind of generality and indifference characteristic of the communicative intentions of a speaker uttering sentences such as [(49)] ... while retaining [CON and SUC]. (Buchanan, 2010, p. 356)

I think that the term 'fundamental problem' is too loaded. I do not think that there is a serious problem. I will call it the *fundamental fact*. I think this fundamental fact follows from the features of natural language I mentioned in section 4.3.1. One way to approach the point I have in mind is through the following considerations. For simple formal languages it is well understood how to go about pairing up the formulae of the language with propositions. Following e.g. Soames, 1987 we can speak of formulae expressing a proposition relative to

a context and an assignment. I refer to Soames because he gives a complete system for a relatively rich formal language. The general idea can be extended to include modal operators and second order quantifiers. In such a framework it is perfectly acceptable to use a technical notion of expression. When it comes to natural languages this is much more problematic if *expression* is supposed to track the intuitive notion speakers of the language have of what is expressed or communicated by utterances of sentences.

The way in which the relationship between formulae, thought of as disambiguated and interpreted representations of sentences, and propositions expressed is to be complicated varies from theory to theory. Many views accept that in the case of natural languages the semantics of the language underdetermines what is said. The ‘slack’, so to speak, is taken up by one or another kind of pragmatic process which is why intentions are relevant and why those intentions must be s-intentions. They must be s-intentions because they must be recognisable by the audience and plain intentions could not be. Ordinary intentions would not be recognisable because an intention to express one pragmatic enrichment of an uttered sentence rather than another is not a legitimate communicative intention if both are possible enrichments. Communicative intentions have to be recognisable.

Given that we speak a language like that, we must go about communicating a certain way. When Chet utters

(49) Every beer is in the bucket.

he has to consider not just his s-intentions but Tim’s capacity to recognise those s-intentions on the basis of his utterance. I take that to be equivalent to saying that Chet’s actual intentions are characteristically general and indifferent. I have claimed that the thesis I have called conservative proliferation follows from this. Once it is recognised that a language is like that, the only way to give an intention based account of meaning and communication is to acknowledge that a number of propositions are meant. I will first elaborate on that consequence of the view, then I will apply it to attitude-reports.

I will now fix ideas by talking about a case. I will use a new example. Take a sentence such as:

(57) Aisha is ready.

I take it that everybody thinks that in some context (57) will be taken to express the proposition that Aisha is ready to go to the party, and in another it will be taken to express the proposition that Aisha is ready to take the bar exam. I will label these contexts C and C’ respectively. This might be explained by a theory that takes (57) to express a template

that needs completion with an activity that Aisha is ready for, or it might be thought that there is such a thing as being ready *simpliciter* and the stronger proposition is a kind of implicature. The template story can be compatible with any theory of pragmatic enrichment. I think that all the same remarks will apply to e.g. ‘It is raining’ and other similar cases. A minimalist story will involve the speech act pluralist idea that more than one proposition is expressed, both the minimal one that Aisha is ready and the stronger one e.g. that Aisha is ready to go to the party.

However the phenomenon is to be explained it is generally agreed that that is how the utterance will be taken. I am using the notion of being taken to express in such a way that it allows for the fundamental fact, i.e. it may be taken to express any one of a number of propositions and if it can be so taken the utterer had better be prepared to accept any and all such interpretations. I certainly do not mean to use ‘express’ in a way that entails that all and only those propositions assigned to an utterance context pair by the semantics of the language are those expressed. I mean what a minimalist means by *what is taken to be said*, or what a relevance-theorist means by what is taken to be the *explicature*. What I have in mind is the theoretically interesting idea of what is said that tracks the propositions that are communicated by utterances and are taken to be done so directly. The fundamental fact generalises to all utterances of all sentences of the kind of languages that humans learn as first languages because the semantics of these languages do not determine all of what is said by such utterances.

My proposal is just that the recognition of the fundamental fact has to extend to attitude-reporting sentences as well. Here are analogues of (52a) and (52b) that embed (57):

- (58) a. Emile: Jane said that Aisha is ready.
 b. Emile: Jane believes that Aisha is ready.

I think that it is fair to assume that the sort of propositions that such reports are supposed to get their audiences to entertain are about the mental states of the subjects of the reports. That is common ground between those who deny specification and relationalism and those who accept them. The audience is supposed to be able to discern what is being said about the content of the subject’s states from the content of the clause in construction with the complementiser ‘that’.

Looking at attitude-reports this way is not supposed to be particularly controversial. I intend to make only the following modest points: (i) The proposition expressed by an attitude-report is about the subject’s mental state and is determined in part by the that-clause of the report, (ii) as a matter of empirical fact the claim taken to be made about that

state is sensitive not just to the semantic value of the that-clause, but also what is said, if these differ. One direction to take this line of thought would be to think through in more detail the way contents derived pragmatically enter into the explicit content of attitude-reports. This will be connected to the way in which these contents embed in other constructions. For a discussion of these issues see Carston, 2004. My conjecture is that something like the following will turn out to be true: When the content at issue is the kind that is generally associated with a sentence uttered in context, that content will end up in the proposition expressed when the sentence is in construction with an attitude verb.

Here is my proposal for the accommodation of the fundamental fact by a semantics for attitude-reports. Given a context C where the restricted proposition-type for a sentence S determines a set $\{P_1, \dots, P_n\}$ then for a report that embeds S uttered in C the restricted proposition-type for the report will be $\{\langle\langle S, P_1 \rangle, BEL \rangle, \dots, \langle\langle S, P_n \rangle, BEL \rangle\}$, where S is the subject of the report. Recognising that all these propositions were meant, and that they all relate subjects to propositions dispels the idea that there is a requirement to give the proposition expressed in terms of a relation to a propositional property. Each of these propositions relates a subject to a proposition, not to a proposition-type.¹²

The motivation for my idea is that a general observation about the consequences of speaking a certain sort of language needs to be kept in mind when considering the fragment of the language that embeds other sentences of that language. I have already argued that it is perfectly acceptable to think of speakers as having meant all the propositions compatible with their utterance. If the point holds for simple sentences then it holds for sentences that attribute propositional attitudes. I take it to be a positive feature of the view that nothing has to be added to it in order to handle attitude-reports as a kind of special case. Everything follows from the basic idea of speaker-meaning. That idea itself is traditionally Gricean as I have presented it. The only departure is that it allows for a proliferation of the propositions meant. It is no longer just the proposition that the speaker means, but the propositions that she means. This follows from the nature of the communicative intentions that she can form when using a language that exhibits underdeterminacy.

The point about intention, or rather that there are constraints on intentions, is not a novel proposal on my part. The point has frequently been made by Stephen Neale, and, as he says in the following passage, it goes back to Grice himself:

¹²I have assumed for simplicity that 'to believe' and 'to say' make a complete and context-insensitive contribution to the proposition. Otherwise I would need to complicate matters by giving a longer list to set out the relevant restricted proposition-type. This is the position that a certain sort of contextualist will be in when they come to think about 'to know' in this framework.

There is no plausible alternative to construing what *S meant* by uttering *X* on a particular occasion — assuming this to be the notion at the heart of a theory of interpretation — as determined by, and only by, certain very specific *interpreter-directed intentions* *A* had in uttering *X*. The precise content of a psychological state such as a belief or intention may be determined, in part, by something external to *A* and beyond *A*'s control ('externalism'). Furthermore, the formation of genuine intentions is severely constrained by beliefs. I cannot intend to become a prime number, intend to digest my food through my lungs on alternate Tuesdays, or swim from New York to Sydney because (roughly) *I cannot intend what I believe to be impossible*. (There is no need to get into the exact force of the modal or the exact formulation of the constraint here. It is enough to recognize, as Grice, 1971 does, that it is severe.) If, as Grice suggests, what *A* meant by uttering *X* on a given occasion is determined by certain interpreter-directed intentions, then assuming he is being co-operative *A* cannot mean that *p* by uttering some sentence *X* if he believes it is impossible for his audience *B* (or at least any rational, reasonably well-informed interpreter in *B*'s shoes) to construe him as meaning that *p*. Among the things constraining *A*'s communicative intentions are *A*'s beliefs about the world, his (tacit) beliefs about the sorts of interpretive principles *B* will be employing, and his (tacit) estimation of *B*'s capacity to work certain things out (the list is not meant to be anywhere near exhaustive). So without some stage-setting *A* cannot mean that Jones is no good at philosophy by producing the sentence 'Jones has excellent handwriting and is always punctual', for example, or by reproducing the mating call of some exotic bird. (Neale, 2005, p. 181)

I find the constraint Neale suggests extremely plausible, although perhaps some philosophers will be attracted to the view that it is at least metaphysically possible to intend what one believes to be impossible. I do not know how to settle that debate. Grice, 1971 points out the suggestive fact that it is odd to ascribe an intention to a subject unless she believes that the intended outcome is likely. But that is not sufficient for the strong conclusion suggested by Neale. Rather than rely on that claim I will argue for something weaker. The premise I need is merely that there would be something defective about intending to do what one believes to be impossible in the particular case of communicative intention.

Consider what it would be for a speaker of a language which exhibited systematic underdeterminacy to form communicative intentions that were not general and indifferent. Such

a speaker will be engaged in the following activities: She has produced a signal, intending that signal to provide evidence of her intention to communicate some proposition. But she has done so knowing that that evidence is compatible with her intention to communicate any of a range of propositions. If Neale is right, her very intention is impossible. She cannot reasonably expect her audience to fix on the right proposition in virtue of recognising her intention, because she cannot reasonably expect her audience to recognise the intention in question on the basis of the evidence she provides. Even if the intention is possible, it is clearly defective. The speaker intends the audience to fix on a proposition despite not being given enough evidence to do so. If underdeterminacy were a marginal phenomenon then this would not be so bad. But, if Carston and other proponents of underdeterminacy are right, then underdeterminacy is absolutely ubiquitous. Buchanan's suggestion is that it is the intention recognition model of communication that is at fault, as well as the metaphysics of content given in terms of propositions. My alternative proposal is that it is thinking of the relevant intentions as unique and specific that is at fault. One way of putting the point is that the intention to communicate will be constrained by the methods that are available. If the method is a language in which linguistic meaning underdetermines what is said, the intentions that the communicator can form will be constrained by the kind of evidence that that language can provide about her intentions. So, the intentions must be indifferent and general.

This concludes my assessment of Buchanan's arguments. The position I have arrived at can be summarised as follows. Underdeterminacy is a serious issue for traditional accounts of meaning and communication. One way to respond would be to abandon the traditional accounts. If they are abandoned then the relational analysis of attitude-reports must be abandoned as well. That option looks extremely costly. The alternative is a conservative reformulation of the traditional accounts. This allows for the relational analysis to be preserved. On this view the facts about underdeterminacy motivate a kind of speech act-pluralism that might be called conservative proliferation. A set of propositions are expressed by the utterance of sentences. These are constrained by the linguistic meaning of the uttered sentence. The main point in favour of this view is that it preserves the relational analysis.

I will finish this section by discussing a pair of related objections to my proposal. Doing so will clarify what I am committed to.¹³ The first objection turns on the standards required

¹³I would like to thank Derek Ball and Torfinn Huvenes in particular for discussion of these points and a resulting clarification of my views.

for legitimate assertion of attitude-reports. I will make my points with:

(53) Jane believes that that steak is raw.

According to Buchanan's proposal the proposition expressed by (53) is:

(55) $\langle\langle\text{Jane}, \Psi\rangle, \text{BEL}^*\rangle$

I have suggested that the better treatment will represent the speaker as having meant in the relevant sense each of the following: $\{\langle\langle\text{Jane}, P1\rangle, \text{BEL}\rangle, \dots, \langle\langle\text{Jane}, Pn\rangle, \text{BEL}\rangle\}$. Given that speakers are committed to what they mean, it might be thought that making such an assertion requires one to be committed to each of these propositions and therefore to the following conjunctive proposition:

(59) $\langle\langle\text{Jane}, P1\rangle, \text{BEL}\rangle \& \dots \& \langle\langle\text{Jane}, Pn\rangle, \text{BEL}\rangle$

The worry is that (59) is obviously stronger than (55). It entails it, but is not entailed by it. This would mean that on my proposal speakers are being held to higher standards. Typically the propositions they express are logically stronger than on Buchanan's proposal.

My response to this is just that I endorse the consequence. If a speaker really is indifferent between the expression of a set of propositions then she is irresponsible if she does not believe them all. My account captures this in a way that its rival does not. So this is not an objection to my view unless it can also be shown that my claim about the judged responsibility of speakers is false. I am happy to rest my case on it.

The second objection is related to the first, although it takes a somewhat different approach. It is accepted by many theorists that so-called *indirect disquotational speech reports* such as (52a) are in an important sense *easy*. Easiness is used as a diagnostic for context-sensitivity in Cappelen and Lepore, 2004; also relevant is the new account of easiness in Cappelen and Hawthorne, 2009, ch. 2. It might be objected that my proposal makes the reports hard, because I take it that the reporter is committed to the subject having said all the propositions having the restricted propositional-property determined by the context of the report.

I have no strong theoretical commitment to easiness. I take it to be an empirical claim about the intuitions of speakers. The details of that debate are complicated.¹⁴ That being

¹⁴There are lots of interesting things to say about easiness, indirect disquotational speech reports, and the uses to which they are put by Cappelen & Lepore and Cappelen & Hawthorne. A relevant contribution to the debate is Gross, 2006. Cappelen & Lepore respond to Gross in Cappelen and Lepore, 2006, §6. See also Gross' response to the response in Gross, 2008.

said I do not think that easiness has to be rejected in order to accept the view I am proposing. All I am committed to is that the report is misleading. Here it is helpful to use the sort of example that Cappelen & Hawthorne use to illustrate easiness:

- (60) a. Aisha (in Aberdeen): Felicity went to a nearby beach.
 b. Emile (in Sorrento): Aisha said that Felicity went to a nearby beach.

My first point is that this could be very misleading. It could be misleading in a case where the audience of the report will take Aisha to have said that Felicity went to a beach nearby to Aberdeen whereas she in fact said that she went to a beach nearby to Sorrento. It might be so misleading in a particular case that Emile would be considered to be extremely irresponsible. Nothing that the proponent of easiness wants to say, or can plausibly say, contradicts this point. I can therefore respond to the objector by saying that I am not denying easiness on any plausible reading of easiness. The data was not that reports will always to judged responsible.

Before leaving this objection I would also like to point out that nothing in my account contradicts the claim that the easy reports are in fact true, and for the reason that Cappelen & Hawthorne think that they are true. I will not give a full account of their view. The essential point is that they think that context-sensitive expressions that allow for easiness can do so because they are contextual parasites. The semantic-value of the embedded clause gets to be fixed by the original context of utterance. That means that the report gets to be true, because the semantic-value of the clause is whatever value that utterance had as actually made. Cappelen & Hawthorne argue that this is supposed to be a feature of how ‘nearby’ interacts with reports, arriving at it as a kind of inference to the best explanation of easiness. Their account preserves the truth of the report but truth does not guarantee responsibility. If Cappelen & Hawthorne are right about their parasitism story then I can preserve easiness in the same way if I choose.

4.5 Proliferation implemented

In section 4.4 I gave an account of attitude-reports that preserves the standard virtues of the relational analysis while accommodating what I chose to call the fundamental fact. The view was not developed there in much detail. Here I want to say some more about it, and compare it to some other proposals in related philosophical and linguistic work.

Firstly I want to make a feature of the view explicit. The claim is not that a sentence relative to a context has more than one proposition as its semantic value relative to that

context. I have argued for proliferation in what is expressed, in a limited class of cases and with certain restrictions. The argument is supposed to work for those who think that the sentence has either zero propositions as its content relative to a context, or one minimal proposition. The conclusion is supposed to be compatible with both those views and is not intended to replace either of the claims they make about semantic value in context. The view I have described as conservative proliferation is the view that an utterance in context expresses all and only those propositions determined by the utterers s-intentions towards her audience. Those s-intentions are constrained by the semantic value of the sentence in context and by the fact that these are communicative s-intentions.

In section 4.5.1 I will discuss a sort of view that would take issue with my claim and suggest an alternative. This view aims to proliferate contexts rather than contents expressed. In section 4.5.2 I will discuss an approach that proliferates utterances. In both cases I will conclude that there is nothing to prefer in such an alternative.

4.5.1 Proliferation of contexts

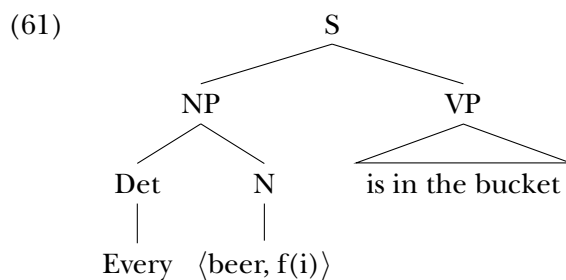
In order to set out the issue here I need a rough and ready distinction between two ways that the term ‘context’ might be used in the literature I am engaging with. I take it that in one sense the context of utterance of an expression can be characterised as the situation in which the utterance was made. Features of the situation will include who made the utterance, when they made it, and where they were at the time. One term for this might be the *position* of the utterance.¹⁵ The utterance’s position is the kind of thing that the story Buchanan tells about context of utterance the utterance of (49) is supposed to fix.¹⁶ The story is supposed to make clear that both the speaker and his audience will have mutual beliefs about which beers and bucket are in question. There is another notion of context one might use, which is the *context of evaluation* as found in theories inspired by David Kaplan. The system LD in Kaplan, 1989 is an example of the type. The idea is that such contexts are *n*-tuples, for instance speaker, time, location triples, that are mapped by the characters of expressions to contents. These notions of situation and context may or may not come apart substantively. One might think that every parameter in the context gets fixed by facts about the situation. One might also think that being in possession of all the facts about the

¹⁵The notion of a position is similar to a notion often attributed to Bach called *wide context*. The difference is that while wide context, at least as it is defined in Recanati, 2003, p. 56, is limited to semantically significant intentions, the position includes absolutely everything that is going on at the time of the utterance. See Stokke, 2010, §2.1 for discussion.

¹⁶I take the term ‘position’ and the idea of positional context from Egan, 2009.

situation allows one to know the values of these parameters. But this also might not be the case i.e. it might be that the context of evaluation is not fixed by the position. Note that the notion of a position fixing a context of evaluation I am using is metaphysical, but there is also an important epistemic question related to it. The epistemic question is whether or not someone who knows the position of an utterance also knows its context of evaluation. If the former does not fix the latter than that suggests that the answer is negative. It follows from this that, depending on how exotic the parameters are, it might be that it is impossible to know which context an utterance is made in.¹⁷

I will now give an example of a view that makes use of rich contexts of evaluation in order to deal with data that is used by some to argue for underdeterminacy. According to the analysis of quantifier domain restriction presented in Stanley and Szabó, 2000 the semantics for the language determines the proposition expressed by a sentence such as (49) relative to a context. This indexicalist approach is supposed to be an alternative to an account that relies on underdeterminacy. The central idea is that nouns share their nodes with a function variable and an index variable. When the variables are free the values are set by the context. Crucially for the analysis these variables can be bound by quantifiers if the variables are in the quantifiers' scopes. Part of the proposal is a syntactic analysis such that the logical form for (49) can be partially given as:



Suppose one grants the theorist that $\llbracket \langle \text{beer}, f(i) \rangle \rrbracket_C = \llbracket \text{'beer'} \rrbracket \cap \{x: x \in c(f)(c(i))\}$, $\llbracket \text{'beer'} \rrbracket = \lambda x. x \text{ is a beer}$, and that context sets values for f and i such that $c(f)(c(i))$ is a subset of

¹⁷Egan, 2009 argues that the situation does not determine the context in all cases because the situation is the speaker's predicament and the context for a given utterance is partly fixed by the audience. In Kaplan's classic paper there are only three parameters and they are things that do seem to be easily available to the audience. In that case knowledge of situation can be knowledge of context while keeping knowledge of context easy. When such things as speaker intentions are allowed into contexts this is less clear. See Stokke, 2010 for a view that admits intentions into the sort of context that determines the referents of indexicals. In general the various contextualist treatments of certain natural language phenomena will allow for more contextual parameters and a less mechanical connection between the situation and the context. See Glanzberg, 2007 for discussion. The point I will return to is that there is a *prima facie* tension between rich contexts and easy identification of contents by an audience.

the beers that matches the content expressed by the speaker e.g. those in the bucket of ice in the garden. This semantics then predicts the right results. Assuming the only somewhat controversial claim that the values of variables are fixed before what is said is calculated it follows from this analysis that a full proposition gets assigned as the sentence's semantic value rather than a template. Unlike the minimalist proposal, the proposition varies from context to context.

It will still be possible to generate problem cases of the sort Buchanan appeals to. Given this semantics (49) expresses different propositions in different contexts, where a context is what fixes the values of the relevant variables. If the context is fixed by the intentions of the speaker then, if the audience only has the sentence uttered to go on, it follows that there are several propositions compatible with the intentions that the audience can discover from the utterance. Even if the context is a more public thing then the audience has the same sort of problem. She will not know which of a class of propositions the speaker has expressed. This is because the values assigned to *f* and *i* are fixed by the context of evaluation which, as it is distinct from the position, is not something of which the audience has knowledge. In no case is there scope to say that one of the propositions from the class is such that it is necessary that it be entertained for communication to succeed. At least there is no way that is not *ad hoc*. I take this to be another example where a view that does not fit the pattern of underdeterminacy also illustrates the fundamental fact.

There are things to be said for and against indexicalism as a treatment of quantifier domain restriction and as a general approach. Nothing I have to say here suggests that we should go one way or the other on that debate. My point is just that the indexicalist proposal does not avoid the issue raised by the case Buchanan uses to show the fundamental fact.

My view is that there is no very interesting difference between the view that says that (49) does not express a proposition in its context of utterance and one that says that it does, but that the audience has access to information that does not reduce the number of contexts that might be relevant to one.¹⁸ That is not to say that there are not hard questions for the advocate of context-proliferation. One is whether they deny the claim about indifference

¹⁸There are interesting ways to develop what might be called a cloud of contexts view and link it to a theory of assertion, retraction, and disagreement. See von Fintel and Gillies, 2011. Towards the end of their §4 von Fintel & Gillies briefly discuss applying their view to quantifier domain restriction case. The central idea is that a class of expressions is used to put into play a class of related propositions. This is modelled formally with a set of contexts. All these propositions are available for uptake/denial, although according to the proposal only one will in fact be taken. On some cloudy views, perhaps my claim that context-proliferation is not interestingly different from proposition-proliferation is false. One issue in need of discussion is whether the cloudy context-proliferating view can account for the way in which speakers and hearers are indifferent.

and generality that Buchanan pushes. It is one thing to say that the utterance of (49) in a context that includes certain speaker intentions gives only P1 and another gives only P2 if it is clear that the speaker has some such intention. The less it is clear that she does, the less likely this is as a solution.

One way to avoid that worry would be to go for a more interesting version of context-proliferation that is formally different from both the underdeterminacy and propositional proliferation views. The approach I have in mind does not have the problem raised in the previous paragraph. Earlier in this section I suggested that there are two ways of thinking about a context of utterance that might, or might not, come apart. I suggested a view where the positional context and the context of assessment do not come apart. Suppose that they do. Andy Egan makes a proposal in Egan, 2009 about the semantics of certain indexicals in a system based on Kaplan's but in which their content is set by both the utterer's context and that of the audience. The case he uses to motivate the view is an utterance of

(62) Jesus loves you.

by a priest to a congregation. We are supposed to imagine a case where each of the congregants takes the priest to have asserted to her a singular proposition that is true just in case Jesus loves that particular congregant. Crucially, the priest has not asserted that Jesus loves the group, or anything like that. There are two important things to say about the proposal. Firstly, it is clear that the audience is setting a kind of context of assessment but is not changing the positional context. So these two things can come apart. Secondly, it is clear that at least in some sense the uttered sentence does not have a proposition determined by the speaker's context. None of the propositions determined by an audience member's context of evaluation is determined by the speaker's context of evaluation. There is something that looks formally like underdeterminacy going on in these cases according to Egan's treatment.

The issue now is whether proliferating these sorts of context in this way provides any kind of grip on the issue Buchanan is interested in and the more general issues in the theory of communication it leads in to. I am inclined to think that it does not. It is just not the case that what is going on is that each audience member is able to fix on one of $\{P_1, \dots, P_n\}$ and that means that some parameter in the context of evaluation has been fixed by some feature of that audience member's. My conclusion is that this would be an interestingly different proposal to mine, but also one with very little to recommend it. The case I have been discussing is just not the kind of case that Egan's proposal helps with. My conclusion is that there is no reason to think that proliferating contexts will deal with the

kinds of issues Buchanan raises.

4.5.2 Proliferation of utterances

Another possible alternative would be endorse proliferation of the utterances made. The thought here is that each utterance expresses at most one proposition, and the cases where it looks like more than one proposition is expressed are to be explained as cases where more than one utterance has been made. This could be offered as an alternative to the proposal I have made where the same utterance expresses several propositions. The alternative proposal could be fleshed out in several ways. There are three possibilities which are distinguished by the way they make precise the notion of an *utterance*.

Firstly, one might think of an utterance as the making of certain sounds. This is certainly a notion in common use but it is also a bad fit with the idea that utterances are being proliferated. The speakers in the cases I am interested in clearly make only one utterance in this sense.

A second notion of *utterance* makes use of certain formal machinery. On this view there is a technical notion of a sentence, being the kind of thing that determines a function from contexts to contents, and a context. This notion of sentence is more restricted than just the thing uttered, because making the same sounds can be part of the utterance of several different sentences on different occasions in cases of lexical and/or structural ambiguity. Utterances are thought of as sentence context pairs. If contexts are contexts of evaluation in the sense introduced in section 4.5.1 then proliferation of utterances will amount to proliferation of contexts. All the same remarks I made in that section about that proposal will still apply. This point only holds if we hold the sentence fixed, but in the case I have been discussing there is no reason to think that a different sentence is involved. If the context is positional then, given that the same sentence is involved every time, there is nothing to proliferate. That is because nothing changes about the speaker's position.

A final way to type utterances is due to Egan. He proposes something that I will call the *conversational move test* and formulate as:

(CMT) There is exactly as many utterances as there are conversational moves made.

Here is Egan's discussion:

It's not just context-sensitive vocabulary that one can use to express different propositions to different audiences. The con man says, "the money is in the bank", communicating to his dupe the false proposition that the money has

been deposited in the financial institution, and to his confederate that the money's been buried by the side of the river. We can use ellipsis to the same effect — when I'm involved in two simultaneous conversations, I can use "I will" to communicate to one audience *that Egan will be at the party* and to another *that Egan will pay the cable bill on time this month*. In these cases, we haven't even got the same (syntactically individuated) sentences being directed at the different audience members. In the "bank" case, the con man's utterance to the dupe and to the confederate contain different lexical items, and in the "I will" case, the utterances I make to my two audiences contain different bits of elided material. In these cases, it's much more natural to say that the speaker's made one utterance to one audience and a different utterance to another audience, than to say that the speaker's single utterance has got different constituent structures relative to different audiences. And, thinking of utterances as something like conversational moves, I find it much more attractive to say that the speaker's made two distinct *conversational moves*, rather than making a single move that has very different upshots for different audiences. And once we're multiplying utterances in the ambiguity and ellipsis cases, it seems fairly natural to do so in the context-dependence cases as well. (Egan, 2009, p. 270)

If this is the test, then it is clear that it is negative in the case I have been discussing. That case has one audience member, and one sentence. To say that more than one conversational move is made would be bizarre. In that case I conclude that there is no proliferation of utterances.

In this section I have argued that there is only one way in which the utterance proliferation view can be made even *prima facie* plausible as a response to the case I am interested in. That one way amounts to proliferation of contexts of evaluation. Therefore utterance proliferation offers nothing new.

4.6 Conclusion

I will conclude with a brief recapitulation of my project in this chapter. I took Buchanan's argument as a starting point. My claim has been that the insight that motivates him is a genuine one, but that none of the revisionary conclusions that he claims to follow from it have been shown to do so. Along the way I have made claims about the sort of business a theorist of communication ought to be in and the lessons to be learnt from recent work

on context-sensitivity and underdeterminacy. I think that those points are interesting even beyond the narrow focus of my discussion of Buchanan.

Other morals emerge as well. I have argued that it is possible to accept Buchanan's fundamental fact and make sense of it in a very conservative extension of traditional frameworks for the study of communication. In particular such frameworks can accommodate underdeterminacy. That can be taken as an argument for underdeterminacy, or at least as an argument against one argument against it.

Finally, I have offered reasons to think that both minimalists and those whose views are more traditionally associated with underdeterminacy ought to embrace what I call conservative proliferation. Some minimalists, i.e. Cappelen & Lepore, already defend a radical propositional proliferation, although other minimalists, e.g. Borg, do not. Those contextualists associated with underdeterminacy tend to talk about the proposition expressed by a sentence in context. I have tried to show through my discussion of Buchanan's underdeterminacy based arguments that they ought not to do so.

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