

Scott Soames' Two-Dimensionalism

David J. Chalmers
Philosophy Program
Research School of Social Sciences
Australian National University

For an author-meets-critics session on Scott Soames' *Reference and Description: The Case Against Two-Dimensionalism*, at the meeting of the American Philosophical Association, Central Division, in Chicago on April 29, 2006.

1 Introduction

Scott Soames' *Reference and Description* contains arguments against a number of different versions of two-dimensional semantics. After early chapters on descriptivism and on Kripke's anti-descriptivist arguments, a chapter each is devoted to the roots of two-dimensionalism in "slips, errors, or misleading suggestions" by Kripke and Kaplan, and to the two-dimensional approaches developed by Stalnaker (1978) and by Davies and Humberstone (1981). The bulk of the book (about 200 pages) is devoted to "ambitious two-dimensionalism", attributed to Frank Jackson, David Lewis, and me. After a quick overview of two-dimensional approaches, I will focus on Soames' discussion of ambitious two-dimensionalism. I will then turn to a system advocated by Soames that is itself strikingly reminiscent of a two-dimensional approach.

Two-dimensional semantic theories are varieties of possible-worlds semantics on which linguistic items can be evaluated relative to possibilities in two different ways, yielding two sorts of intensional semantic values, which can be seen as two "dimensions" of meaning. The second dimension is the familiar sort of Kripkean evaluation in metaphysically possible worlds, so that necessarily coextensive terms (such as 'Hesperus' and 'Phosphorus' or 'water' and 'H₂O') always have the same semantic value. The first dimension behaves differently, so that there are typically at least some cases where necessarily coextensive terms have different semantic values on the first dimension. For this reason, the two-dimensional framework is sometimes seen as a way of granting many of the insights of a Kripkean approach to meaning (on the second dimension), while retaining elements of a Fregean approach to meaning (on the first dimension).

A number of different broadly two-dimensional approaches were developed in the 1970s. Most well-known is Kaplan's (1978) work on demonstratives, with two ways of thinking about possible worlds (as contexts of utterance and as circumstances of evaluations), and two corresponding semantic values (character and content). Another is Stalnaker's work on assertion, which distinguishes the familiar "propositional content" of an utterance from its "diagonal proposition" (the set of worlds containing the utterance in which it is true). Others include Evans' (1977) work on descriptive names and Davies and Humberstone's work on the logic of 'actually', both of which distinguish the familiar variety of necessity of a sentence from a novel notion ("deep necessity" for Evans, truth at all worlds "considered as actual" for Davies and Humberstone).

There are many formal and substantive differences between these frameworks (for extensive discussion, see the papers in Garcia-Carpintero and Macia 2006). Their key notions are defined in quite different ways, and yield quite different results. But they share a formal structure on which linguistic items can be evaluated relative to possibilities in two different ways. And they share a substantive feature, in that all these theorists claim a link between the framework and the necessary a posteriori and the contingent a priori. According to this link, relevant instances of the necessary a posteriori will be true at all possibilities on the second dimension (e.g. true at all circumstances of evaluation, superficially necessary, necessarily true), but false at some possibility on the first dimension (e.g. false at some context of utterance, deeply contingent, false at some world considered as actual). A corresponding thesis holds for relevant instances of the contingent a priori.

These theses suggest that the first dimension of the framework has some sort of link to the a priori, which in turn suggests that semantic values on the first dimension may have a quasi-Fregean link to rational significance. But the link is heavily attenuated by the restriction to relevant instances. In Kaplan's framework, the relevant instances of the necessary a posteriori and the contingent a priori are those that arise from the use of indexicals and demonstratives, such as 'I am here now'. In Evans' framework, the relevant instances are those that arise from the use of descriptive names, such as 'Julius invented the zip (if anyone did)'. In Davies and Humberstone's framework, the relevant instances are those arising from the use of 'actually', such as 'P iff actually P'. Stalnaker (1978) suggested an unrestricted connection, but he retracts the claim in later work, as every utterance has a contingent diagonal proposition.

2 Epistemic Two-Dimensionalism

In more recent years, some theorists (including Frank Jackson and myself) have suggested that there is a way of understanding two-dimensional evaluation so that there is a much more general connection between the first dimension of the framework and apriority. Here I will lay out what I see as the core theses of this sort of epistemic two-dimensionalism, before proceeding to Soames' characterization of the view.

(E1) Every expression token (of the sort that is a candidate to have an extension) is associated with a primary intension, a secondary intension, and a two-dimensional intension. A primary intension is a function from scenarios to extensions. A secondary intension is a function from possible worlds to extensions. A two-dimensional intension is a function from (scenario, world) pairs to extensions.

(E2) When the extension of a complex expression token depends compositionally on the extensions of its parts, its primary, secondary, and two-dimensional intensions depend compositionally on the primary, secondary, and two-dimensional intensions (respectively) of its parts, by extending the compositionality of extensions across scenarios and worlds.

(E3) The extension of an expression token coincides with the value of its primary intension at the scenario of utterance and with the value of the secondary intension at the world of utterance.

(E4) A sentence token *S* is metaphysically necessary iff the secondary intension of *S* is true at all worlds.

(E5) A sentence token *S* is a priori (epistemically necessary) iff the primary intension of *S* is true at all scenarios.

The intensions in questions are assigned to expression tokens (which might be considered as utterances or as their products) rather than expression types, as in some cases, two tokens of the same expression type will have different intensions. Extensions are understood in the familiar way: the extension of a sentence token is a truth-value, the extension of a singular term is an individual, and so on.

Thesis (E1) captures the formal structure of a two-dimensional approach. Something like this structure is present either explicitly or implicitly in all of the two-dimensional frameworks discussed above. Here, "scenario" is used as a label for the possibilities invoked

on the first dimension of the framework. Scenarios are most frequently understood as centered possible worlds — ordered triples of worlds, individuals and times — although this understanding is not compulsory.

Thesis (E2) characterizes a natural compositional semantics for intensions. Thesis (E3) connects intensions and extensions in a natural way. For any utterance, one world is distinguished as the world of utterance, and one scenario is distinguished as the scenario of utterance. If scenarios are understood as centered worlds, the scenario of utterance is a triple of the world of utterance, the speaker, and the time of utterance. Thesis (E4) articulates a standard connection between secondary intensions and necessity, so that secondary intensions behave in the familiar Kripkean way.

The distinctive thesis of this sort of two-dimensionalism is (E5). This thesis generalizes the restricted connection between apriority and first-dimensional evaluation found in other two-dimensional frameworks to a general connection, applying to any truth-evaluable sentence.¹

Consequences of the above theses include the following:

(E6) A sentence token S is necessary a posteriori iff the secondary intension of S is true at all worlds but the primary intension of S is false at some scenario.

(E7) A sentence token S is contingent a priori iff the primary intension of S is true at all scenarios but the secondary intension of S is false at some world.

(E8) ' $A \equiv B$ ' is necessary iff A and B have the same secondary intension.

(E9) ' $A \equiv B$ ' is a priori iff A and B have the same primary intension.

Here ' $A \equiv B$ ' is a sentence that is true iff A and B are coextensive. E.g. if A and B are sentences, ' $A \equiv B$ ' is equivalent to the biconditional ' A iff B '. If A and B are singular terms, ' $A \equiv B$ ' is equivalent to the identity ' $A=B$ ' (modulo worries about empty extensions).

Thesis (E9) is reminiscent of the Fregean thesis that an identity ' $a=b$ ' is cognitively insignificant iff A and B have the same sense. Both entail that there is a semantic value that is

¹ Certain other theses (omitted above for simplicity) can be added. The value of an expression's primary intension at a scenario V will coincide with the value of its two-dimensional intension at (V, W) , where W is the world associated with V . (This requires an association relation between scenarios and worlds. If scenarios are understood as centered worlds, the world associated with V is the uncentered world involved in V .) The value of an expression's secondary intension at a world W coincides with the value of the two-dimensional intension at (V, W) , where V is the scenario of utterance. It is a priori that S is necessary iff S 's two-dimensional intension is true at all (scenario, world) pairs.)

constitutively connected to the epistemic domain. Primary intensions are somewhat less fine-grained than Fregean senses, due to cases of the cognitively significant a priori, but they behave in a closely related way. For example, given that identities such as ‘Hesperus is Phosphorus’ are a posteriori, it follows that ‘Hesperus’ and ‘Phosphorus’ have different primary intensions. The claim that identities of this sort are a posteriori might be regarded as a subsidiary thesis of core two-dimensionalism.

Of course the framework only delivers these results if the core theses can jointly be satisfied. The key questions are whether one can define primary intensions so that they satisfy thesis (E5), along with the other theses, and if so, how? If one follows the Kaplan or Stalnaker models, it is natural to try to understand primary intensions in terms of *context-dependence*, so that scenarios are contexts of some sort, and primary intensions pick out what an expression would pick out as used in that context. But it is not hard to see that no such understanding of primary intensions can satisfy thesis (E5). (See Chalmers 2004 for extended discussion.) So a quite different understanding is required.

On my view, the key is to understand primary intensions *epistemically*. Scenarios should be understood as epistemic possibilities, in a certain sense. Roughly, they are entities corresponding to certain highly specific hypotheses about the world that cannot be ruled out a priori. The primary intension of a sentence, evaluated in a scenario, corresponds to our rational judgment about the truth of the sentence, given that the hypothesis in question actually obtains.

For example, ‘water is not H₂O’ may be metaphysically impossible, but it is epistemically possible, in the sense of not being false a priori. In its vicinity are many highly specific epistemically possible scenarios: Twin-Earth scenarios in which the liquid in the oceans and lakes is made of XYZ, and so on. If we accept that a scenario like this actually obtains, then we should rationally accept the sentence ‘water is not H₂O’. So we can say that the primary intension of ‘water is not H₂O’ is true in such a scenario.

Of course this does not conflict with the Kripkean claim that it is metaphysically necessary that water is H₂O. One simply needs to distinguish metaphysical from epistemic modalities. Secondary intensions are tied to the former, and primary intensions to the latter. The secondary intension of ‘water is H₂O’ is true at all worlds, including Twin-Earth worlds. But the primary intension of ‘water is H₂O’ is false at some scenarios, including Twin-Earth scenarios.

If a sentence S is a priori, then its primary intension will be true in all scenarios. For example, no scenario will lead us to rationally reject ‘Julius invented the zip, if he exists’. If S is not a priori, so that ~S is epistemically possible, then there will be specific epistemic

possibilities such that accepting that these scenarios obtain will lead us to rationally reject S, so that the primary intension of S will be false at such a scenario. For example, corresponding to the non-apriority of ‘Hesperus is Phosphorus’, there are scenarios where the heavenly bodies visible in the morning and evening are quite distinct. If we accept that such a scenario actually obtains, we will rationally reject ‘Hesperus is Phosphorus’. So the primary intension of ‘Hesperus is Phosphorus’ is false at such a scenario. Extending this sort of reasoning, there is good reason to accept that the primary intension of S is true at all scenarios iff S is a priori, so that thesis (E5) is true.

One can make all this somewhat more precise by saying that the primary intension of S is true at a scenario V iff D epistemically necessitates S, where D is a canonical specification of V. A full characterization requires characterization of scenarios, epistemic necessitation, and canonical descriptions, each of which might be characterized in multiple ways. Full details of my own preferred characterizations are given in Chalmers (2004), but to summarize: (i) scenarios can be understood either as centered possible worlds or as maximal epistemically consistent sets of sentences; (ii) epistemic necessitation can be understood as a priori entailment, and (iii) if scenarios are understood as centered worlds, canonical descriptions are restricted to “semantically neutral” (roughly, non-Twin-Earthable) terms plus indexicals; if scenarios are understood as maximal classes of sentences, there is no need for such a restriction.

For what follows, the details do not matter too much. Most important are the core theses, and the broadly epistemic characterization of the framework.

3 Soames’ Book

Soames starts by presenting the “traditional descriptive picture”, followed by Kripke’s attack on this picture. Chapter 3 of the book gives a brief account of descriptivist resistance to Kripke. Soames sees this resistance as sowing the seeds for two-dimensionalism, along with the “slips” and “errors” by Kaplan and Kripke in the 1970s. Chapter 5 of the book discusses Stalnaker’s two-dimensional accounts of assertion, while Chapter 6 discusses Davies’ and Humberstone’s broadly two-dimensional modal logic and its application to semantics.

These chapters foreshadow some key features of the book. Soames gives detailed, careful, and substantial arguments that make most of his assumptions clear. Because of this, his arguments are often rewarding to work through. Soames also takes great care to give clear statements of the positions that he is arguing against. He takes less care in attributing these positions to his opponents. Support for the attributions, where it exists, is often highly

selective. In the chapter on Stalnaker, for example, Soames cites Stalnaker's 1978 paper but ignores Stalnaker's many later papers that contain important additions to, clarifications of, and qualifications to his view. In the chapter on Davies and Humberstone, he attributes to them (against their express denial) the view that worlds "considered as actual" are contexts of utterance, when the notions of a context and of an utterance quite clearly play no role in their discussion. (Evaluation in a world "considered as actual" is defined fully and explicitly in terms of the modal logic of 'actually'.) These passages have a Procrustean flavor in which one has the sense that Soames is fitting the opponent to the view rather than fitting the view to the opponent.

The Procrustean flavor is present throughout Soames' discussion of "ambitious two-dimensionalism". Soames' characterization of this view consists of a series of numbered theses that are often hard to recognize in the writings of the opponents to whom he attributes the view (Jackson, Lewis, and me). It could be that Soames drew some of these theses from discussion with Lewis, with whom he co-taught a seminar on the topic. It is hard to know, as Lewis published very little that was explicitly about two-dimensionalism, although he was known to be sympathetic with the framework, and a broadly two-dimensional conception of meaning and content is implicit in a number of his writings. At any rate, in what follows I will not try to speak for Jackson or Lewis, but I will contrast Soames' characterization of the framework with the way that I think it should be correctly understood.²

Soames distinguishes three main forms of ambitious two-dimensionalism: "strong", "weak", and "hybrid" two-dimensionalism. The most important difference between these three forms is in their treatment of propositional attitude ascriptions, which for reasons of space I will discuss only briefly here. In what follows I will focus mostly on Soames' "strong" two-dimensionalism, but most of what I say will also apply to the other views.

² In discussing my views, Soames focuses especially on the 10-page discussion in *The Conscious Mind* (1996), with occasional selective attention to "On Sense and Intension" (2002a) and "The Components of Content" (2002b). As in the case of Stalnaker, I think this focus on an early work is unfortunate, as the later works give much fuller and more satisfactory statements of the view, and the main elements of characterization I give below can be found there. An even fuller statement is given in "Epistemic Two-Dimensional Semantics" (2004), but Soames' failure to cite this work (published in print just a year before his book, although published online well before this) is more understandable.

4 Two-Dimensionalism and Context-Dependence

The first thesis of Soames' "strong two-dimensionalism" is the following:

T1. Each sentence is semantically associated with a pair of semantic values — its primary intension and its secondary intension. Its primary intension is a proposition which is true with respect to all and only those contexts *C* to which the Kaplan-style character of *S* assigns a proposition that is true at *C*. When contexts are identified with world-states, and propositions are taken to be sets of such states, the primary intension (proposition) associated with *S* is the set of world-states *w* which are such that the character of *S* assigns to *w* (considered as a context of utterance) a set of world-states (i.e. a proposition) that contains (i.e. is true at) *w*. The secondary intension of (or proposition expressed by) *S* at a context *C* is the proposition assigned by the character of *S* to *C*.

The fine details of this thesis do not matter much for our purposes. The important point is that according to this thesis, primary intensions are not just inspired by Kaplanian characters — they *are* Kaplanian characters (with the small difference that they return a truth-value rather than a content at a context). Likewise, on this view, scenarios are to be treated as contexts of utterance.

It will be clear from the preceding discussion that two-dimensionalism is committed to no such view. This understanding of two-dimensionalism is explicitly rejected in Chalmers (2002a, 2002b, and 2004): scenarios are not contexts of utterance, and evaluation of primary intensions in scenarios works quite differently from evaluation of characters in contexts of utterance. Even the less satisfactory discussion in Chalmers (1996), which stresses the inspiration of primary intensions by characters, notes some differences. There is also little in Jackson (1998) to suggest this understanding. So this thesis is a mischaracterization of the position of Soames' opponents.

This mischaracterization plays a central role in some of Soames' arguments against ambitious two-dimensionalism. In the lengthy chapter that focuses on my work, a crucial section (pp. 220-27) rests on this misinterpretation. Soames observes that intuitions about what 'water' would refer to when used in a Twin Earth world are equivocal between two different readings. We can ask what 'water' would refer to when used with the same meaning as in our world — in which case it would plausibly pick out H₂O, not XYZ. Or we can ask what 'water' would refer to when used with its meaning in the Twin Earth world — in which

case it may well pick out XYZ, but this answer will be irrelevant to the meaning of ‘water’ in our world.

Soames takes the two-dimensionalist to hold that ‘water’ will pick out XYZ on Twin Earth even when it is used with its English meaning. He explicitly attributes to me the thesis that ‘water’ is an indexical like ‘I’ or ‘you’, in the sense that the term can be used with its ordinary meaning in a different context with a different content. Against this view, Soames urges the view that ‘water’ is not an indexical, and that the homophonic expression ‘water’ on Twin Earth is simply a different expression with a different meaning. And he notes that the indexical view cannot simply be assumed.

If primary intensions were understood in terms of context-dependence, Soames’ observations would be to the point.³ In fact, in Chalmers (2002a, 2002b, and 2004) a context-based understanding of primary intensions is rejected, in part for just this reason. It is plausible that the referent of a name or a natural-kind term is essential to any use of that term in a given language, so that such expressions cannot be used in different contexts with different referents. It follows that if primary intensions were defined in terms of character (where character is understood in terms of context-dependence), then a name such as ‘Hesperus’ and a natural-kind term such as ‘water’ would have constant primary intensions, picking out the same entity in every context.

This point does not affect the epistemic understanding, however. On this understanding, claims about what expressions such as ‘water’ would refer to when used in certain contexts are irrelevant to primary intensions. What matters is the claim that a certain description of the Twin Earth world epistemically necessitates ‘water is not H₂O’. This epistemic claim is entirely consistent with the claim that ‘water’ is not context-dependent and is not an indexical. For a simple illustration of this, one can note that it is quite consistent to hold that ‘heat’ is not context-dependent, that any use of the term ‘heat’ refers to the motion of molecules, and that ‘heat is the cause of heat sensations’ is a priori. It follows from this that ‘X is the cause of heat sensations’ epistemically necessitates ‘X is heat’, even though there may be no possible contexts in which ‘heat’ is used to pick out X. (Of course there will be scenarios relative to which the primary intension of ‘heat’ picks out X, but that is an entirely different claim.) So Soames’ argument does nothing to undermine the framework, properly understood.

Soames makes occasional remarks that bear on the epistemic understanding of the framework, especially on pp. 216-218, where he expresses skepticism about what I call the *scrutability thesis* (Chalmers 2004, pp. 195-200): that speakers are in a position to identify the

³ A version of Soames’ point is discussed in Chalmers 2002a (pp. 166-67), as well as in Chalmers 2002b and 2004, in passages that Soames does not discuss.

extension of their expressions given hypothetical descriptions of a scenario in a relatively limited vocabulary. But he gives no argument against the thesis. He cites Chalmers and Jackson (2001), who argue for a version of the scrutability thesis at length, but he makes no attempt to respond to these arguments. So the epistemic characterization of primary intensions is largely untouched by Soames' discussion. This is a pity, as I think that the deepest questions about two-dimensionalism lie in this epistemic arena.

(It should be noted that epistemic two-dimensionalism does not require Chalmers' and Jackson's strong scrutability thesis that all macroscopic truths are epistemically necessitated by a conjunction of microphysical, phenomenal, and indexical truths, along with a "that's-all" clause. It requires only the weaker thesis that there is some relatively limited vocabulary (a semantically neutral vocabulary, if scenarios are to be understood as centered worlds) such that all truths are epistemically necessitated by some conjunction of truths in this vocabulary. On my view, it is theses like this that should be the central locus of the debate over two-dimensionalism.)

5 Two-Dimensionalism and Descriptivism

For reasons of space, I will not discuss Soames' theses T2, T3, and T6, which concern knowledge of primary intensions, the necessary a posteriori and the contingent a priori. (I am unsure about T2, but I would endorse slightly modified versions of T3 and T6.) Soames' T4 is the following:

T4a. All proper names and natural kind terms have their reference semantically fixed by descriptions not containing any (uneliminable) proper names or natural kind terms.

T4b. These names and natural kind terms are synonymous with context-sensitive, rigidified descriptions (using 'dthat' or 'actually').

Here Soames takes the two-dimensionalist to be committed to a strong form of descriptivism. I think this gets things backwards. If one were a descriptivist of this strong sort, then some sort of two-dimensionalism would naturally follow. The unrigidified reference-fixing description would yield a primary intension, and its rigidification would yield a secondary intension. But nothing in two-dimensionalism requires that these descriptivist theses be true.

In fact, I think that both theses are false, for at least the following reasons. First, while the primary intension of a name or a natural-kind term might sometimes be approximated with a descriptive gloss (as when one glosses the primary intension of 'water' by saying "the

clear drinkable liquid in the oceans and lakes), these are usually just approximations, and it may be that the primary intension of the original expression is not identical to the primary intension of any such description. Second, even when the primary intension of one token of a name is equivalent to that of a description, the primary intensions of other tokens may not be equivalent to that of the same description (even if the description is context-dependent), because of the variability of primary intensions among tokens of a type. Third, the referent of a name is plausibly part of the linguistic meaning of a name (in that any use of the name will have that referent), while the denotation of associated descriptions are usually not plausibly part of the linguistic meaning of those descriptions, so the two are not plausibly synonymous.

Of course there are some elements in common between descriptivism and two-dimensionalism, and one might see two-dimensionalism as a highly attenuated form of descriptivism on which the relevant “descriptive” element need not be linguistically expressible, is tied to tokens rather than types, does not exhaust the meaning of a name, and so on. But I think that it is probably better to see two-dimensionalism as a way of achieving many of the benefits of descriptivism without many of the costs. For example, two-dimensionalism is designed to be entirely compatible with the data of Kripke’s modal and epistemic arguments against descriptivism.

The latter point is worth stressing, as it bears on a crucial point in Soames’ discussion. At three separate points in his book, Soames quotes the following passage from Jackson:

Our ability to answer questions about what various words refer to in various possible worlds, it should be emphasized, is common ground with critics of the description theory. [...] Indeed, their impact has derived precisely from the intuitive plausibility of many of their claims about what refers, or fails to refer, to what in various possible worlds. But if speakers can say what refers to what when various possible worlds are described to them, description theorists can identify the property associated in their mind with, for example, the term ‘water’: it is the disjunction of the properties that guide the speakers in each possible world when they say which stuff, if any, in each world counts as water.

Soames responds somewhat incredulously:

This is a remarkable defense. If correct, it might seem to suggest that descriptive theories are virtually guaranteed, a priori, to be irrefutable, since any refutation would require a clear, uncontroversial sketch of a possible scenario in which *n* referred to something *o* not satisfying the description putatively associated with *n* by ordinary speakers like us (or failed to refer to the thing that was denoted by this description) — whereas the very judgment that *n* does refer to *o* in this scenario (or does not refer to what the description denotes there) would

be taken by Jackson to demonstrate the existence of a different, implicit description in our mind, whether or not we can articulate it.

One might respond that a priori irrefutability is not such a bad thing in a philosophical position. But in any case, I think that Soames misunderstands the force of Jackson's argument. The argument does not suggest that an appropriately attenuated description theory is irrefutable by any argument whatsoever. But it does suggest that such a theory is not refutable by a certain style of argument. This style of argument is what we might call the method of cases: arguing that names are inequivalent to descriptions by exhibiting possible cases where names and descriptions give different results.

This point is especially clear when the description theory is attenuated in such a way that it requires only associated intensions rather than associated linguistic descriptions. (This seems consistent with Jackson's understanding above, although I think his appeal to disjunctive properties is inessential.) Even if the method of cases establishes that the modal and epistemic profiles of names are not equivalent to those of linguistic descriptions, this method cannot establish that these profiles are not equivalent to intensions.⁴

To see the point, imagine that someone uses the method of cases to argue against descriptivism about knowledge: the claim that 'knows that P' is modally equivalent to some predicate involving only 'knowledge'-free terms.⁵ One might argue (perhaps by induction from existing attempts in the post-Gettier literature) that for any such predicate, there are possible cases in which someone satisfies the predicate without satisfying 'knows that P', or vice versa. The latter thesis entails that 'knows that P' is not modally equivalent to any 'knowledge'-free predicate. But the thesis certainly does not entail that the modal profile of 'knows that P' is not equivalent to any (secondary) intension. In fact, the data of the argument, which involve judgments about the extension of 'knows that P' in certain possible worlds, can be straightforwardly accommodated by stipulating that the secondary intension of 'knowledge' picks out precisely that extension in the relevant possible world.

One could apply this analogy to both Kripke's modal and epistemic arguments, but since the two-dimensionalist treatment of the modal argument is so straightforward (one accommodates intuitive data about the rigidity of modal profiles by postulating rigid secondary intensions), I will apply it to the epistemic argument here. Suppose that Kripke is right that for any description of the appropriate sort, there are epistemically possible scenarios with respect to which we judge that the referent of 'Gödel' differs from the denotation of the description.

⁴ I make a version of this argument in Chalmers 2002a, pp. 169-70.

⁵ Williamson (2000) makes arguments not far from this.

This thesis entails that the name is not epistemically equivalent to any description of the appropriate sort. But the thesis does not entail that the epistemic profile of ‘Gödel’ is not equivalent to any intension. In fact, the data of the argument, which involve judgments about the extension of ‘Gödel’ under the hypothesis that certain scenarios are actual, can be straightforwardly accommodated by stipulating that the primary intension of ‘Gödel’ picks out precisely that extension in the relevant scenario. That is, where the argument suggests that the epistemic profile of ‘Gödel’ in a given case behaves in a certain way, we should simply say that the primary intension of ‘Gödel’ in a scenario corresponding to that case behaves in the same way.⁶

Of course this argument on its own does not establish that two-dimensionalism is correct. Perhaps there is some other problem with the thesis that the epistemic profile of names can be captured in a primary intension. But it does strongly suggest that as they stand, the leading arguments against descriptivism — Kripke’s modal and epistemic arguments — have no force against two-dimensionalism.

When he quotes this passage from Jackson for the third time, in his Chapter 10 (pp. 297-302), Soames mounts an argument against it, pointing out “several crippling problems” (p. 298).

The first problem is that there are cases where we can identify a referent even though there is no associated reference-fixing description. Soames invokes a case where identical twins Castor and Pollox each refer to themselves using ‘I’, even though there is no description that picks out one but not the other. This is a case that is handled straightforwardly by distinguishing intensions from descriptions, and by distinguishing scenarios from possible worlds. If we treat scenarios as centered worlds, for example, then both twins’ uses of ‘I’ will have a primary intension mapping any centered world to the individual at its center. The scenario of Castor’s utterance is a world centered on Castor, so the primary intension of his utterance picks out Castor. The same goes, *mutatis mutandis*, for Pollux. So there is no problem here for two-dimensionalism understood in terms of intensions rather than descriptions.

⁶ An opponent might suggest that the epistemic profile of ‘Gödel’ simply yields a rigid intension that picks out Gödel in all worlds. But this misses the structure of the Gödel/Schmidt case and related epistemically possible cases, where our reactions to the cases vary with the fine structure of the case. E.g. if we discovered that Wittgenstein led a double life, going under the name ‘Gödel’, publishing various proofs, we would then say that our term ‘Gödel’ picks out Wittgenstein. But if we vary the details of the case a bit, then we would not. Likewise, if we vary the details of the Gödel/Schmidt case, our intuitions change. So the epistemic profile of ‘Gödel’ is much more complex than the above proposal suggests.

Soames' second problem is that Kripke's methodology does not presuppose that speakers can identify the reference of a name in *all* contexts. It presupposes only that for each candidate description, speakers can identify the referent of a name in at least one context where the referent differs from the denotation of the description. This seems correct, but it has no impact on the point that Kripke's argument strategy cannot refute two-dimensionalism. At best, it shows that Kripke's argument strategy does not presuppose the truth of two-dimensionalism.

Soames' third problem turns on once again misunderstanding the two-dimensionalist proposal as a proposal about context-dependence, so I will pass over it here. His fourth problem is that our ability to categorize cases might be explained in a way that does not invoke tacit descriptive knowledge. However, the association between expressions and intensions does not presuppose that there be such tacit knowledge. All that is needed is that there is a relevant inferential connection between certain hypotheses about cases and certain judgments. Tacit descriptive knowledge might be one way to ground such a connection, but it is not obviously required.

Finally, Soames notes that there is "enormous variability in the descriptive information associated with the same name by different competent speakers", and that "many speakers would not be able to articulate any uniquely identifying description". Of course these points are correct and are acknowledged by most two-dimensionalists (see Chalmers 2002a, pp. 173-78 for discussion), but they do nothing to refute two-dimensionalism as articulated above.

6 Two-Dimensionalism, Propositions, and Attitude Ascriptions

Theses T7 and T8 of Soames' "strong two-dimensionalism" say, in effect, that there are no necessary a posteriori propositions. Although some two-dimensionalists (notably Jackson) say this, I do not think that it is a core commitment of the view. Claims (E1)-(E9) above (in which necessity and apriority are ascribed to sentences in the first instance) are compatible with a variety of views about propositions. If one identifies propositions with sets of possible worlds, versions of these theses will follow. But it is open to a two-dimensionalist to identify propositions with much-more fine-grained entities, such as a logical structure involving both the primary and secondary intensions of a sentence's parts. (For such an account, see my "Propositions and Attitude Ascriptions: A Fregean Account".) If one does this, a two-dimensionalist can certainly allow that there are necessary a posteriori propositions.

By far the greatest number of Soames' arguments against ambitious two-dimensionalism concern propositional attitude ascriptions. Around 50 of the 60 pages in Chapter 10 on

“Critique of Ambitious Two-Dimensionalism” are concerned with this issue, as are around 25 of the 76 pages in Chapter 9 on my approach. This is somewhat surprising, as attitude ascriptions play only a minor role in the literature on two-dimensionalism to date. As far as I know, the only extended treatment of the issue is given in Chalmers (2002b), and even this is just one section in a paper.

Two of the views of attitude ascriptions discussed by Soames — the views associated with his “strong” and “weak” two-dimensionalism — are to the best of my knowledge views that no two-dimensionalist has advocated in print. (Soames attributes these views to Chalmers (1996) and Jackson (1998), but the interpretive support is extremely tenuous.) The third view discussed by Soames — his “hybrid two-dimensionalism” — is a version of the view that I advocated in my (2002b).

For reasons of space, I cannot discuss Soames’ arguments on this topic here. (They are discussed at length in P&AA.) Here, I will simply note that it is not obvious that two-dimensionalism requires any specific commitment on the semantics of attitude ascriptions. For example, it would seem consistent (if not especially attractive) for a two-dimensionalist to allow that the truth-conditions of attitude ascriptions are given by a Russellian account of the sort Soames favors, with primary intensions and the like entering only into the pragmatic acceptability conditions of such ascriptions. So to argue against two-dimensionalist treatments of attitude ascriptions is not to argue against two-dimensionalism. That being said, I think that a coherent and powerful two-dimensionalist treatment of attitude ascriptions is available (see P&AA), and that it can be used to rebut Soames’ arguments in a straightforward manner.

7 Soames’ Two-Dimensionalism

Given his extended arguments against many different forms of two-dimensionalism, it is somewhat surprising to see that at various places in his book (pp. 82-83, pp.206-08, pp. 331-33), Soames advocates a sort of two-dimensional system himself. He uses this system to analyze cases of the necessary a posteriori, which according to Soames include sentences such as ‘water is H₂O’ and ‘This paperweight is made of wood’, although not sentences such as ‘Hesperus is Phosphorus’. On Soames’ view the latter is a priori because it expresses a trivial singular proposition which is knowable a priori, whereas the first two sentences express nontrivial propositions (‘H₂O’ is taken to be a description) which are not knowable a priori.

According to Soames, when it is necessary a posteriori that this paperweight is made of wood, it is *epistemically possible* that the paperweight is made of wood even though it is not metaphysically possible. And corresponding to this epistemic possibility are a host of

maximally complete epistemically possible (although metaphysically impossible) world-states. There are also complete epistemically possible (although metaphysically impossible) world-states in which the paperweight is made of wood, in which the paperweight is made of plastic, and so on. And for each of these epistemically possible world-states, there is a system of related world-states that would be metaphysically possible if the world-state in question were instantiated.

So we have a set of epistemically possible world-states, each of which can be conceived as being instantiated. Along with each such state w_1 , we have a set of (epistemically possible) world-states w_2 , which we recognize to be metaphysically possible, if the initial, designated “actual” state w_1 is instantiated — i.e. if we recognize that if w_1 were instantiated, then w_2 would be a property that the universe could have had. Moreover, for each such state w_2 , there is a set of (epistemically possible) world-states w_3 which we recognize to be metaphysically possible, if w_2 is instantiated. This reflects the fact that we recognize that if w_1 were instantiated, then w_3 would be (metaphysically) possibly possible. Repeating this process indefinitely, we end up with a conceivable — epistemically possible — system of metaphysical possibility. Collecting all such systems together, we have a set of epistemically possible systems of metaphysical possibility. Roughly speaking, for a world-state to be genuinely metaphysically possible is for it to be a metaphysically possible member of some epistemically possible system of metaphysical possibility, the designated world-state of which is the state that the world really is in. [pp. 207-8]

These remarks have a strikingly two-dimensional flavor. On the first dimension, we have a class of maximally complete epistemically possible world-states, each of which we can at least conceive to be instantiated. On the second dimension, for each epistemically possible world-state W , we have a class of maximally complete world-states that would be metaphysically possible relative to W .⁷ Broadly speaking, we have epistemic possibilities arrayed along the first dimension, and (relative) metaphysical possibilities arrayed along the second dimension. This is highly reminiscent of existing two-dimensional frameworks (e.g. Chalmers 2002a, 2002b, 2004) in which the two dimensions are characterized in terms of epistemic and metaphysical possibility respectively. Of course there are significant differences, but I will first concentrate on what is in common.

⁷ Soames also posits further classes of world-states that would be metaphysically possible relative to each V that would be metaphysically possible relative to W , and so on. But these iterations of the metaphysical modality do not add novel structure to the familiar picture of modal space in the way that the addition of epistemically possible but metaphysically impossible world-states does.

Soames' epistemically possible-world states are reminiscent in certain respects of the scenarios I discussed earlier. Both sorts of entities are intended to correspond to maximally complete hypotheses that cannot be ruled out a priori. Of course there are differences in just which hypotheses are taken to be a priori, and there are differences in just what sort of entities scenarios are taken to be. But the formal similarity is evident. Furthermore, although Soames does not do this explicitly, it is straightforward to define intensions over these entities. A given sentence, such as 'This paperweight is made of ice' will be true with respect to some epistemically-possible world-states, and false with respect to others. We might define the *Soames 1-intension* of a sentence as a function from epistemically possible world-states to truth-values, mapping a world-state to the truth-value of the sentence with respect to the world-state.

Soames also acknowledges a class of metaphysically possible-world states, and we can define the *Soames 2-intension* of a sentence as a function from metaphysically possible world-states to the truth-value of sentences with respect to those world-states. As for a two-dimensional intension: we can at least define a function from pairs (V, W) to truth-values, where V is an epistemically possible world-state and W is metaphysically possible relative to V, returning the truth-value of the sentence in W (on the assumption that V is actual). Here the two-dimensional intension will either be a partial function over ordered pairs of world-states or it will have a restricted domain, as it does for some existing two-dimensional systems.

Remarkably, once these intensions are defined, it is not hard to see that (given Soames' views) they satisfy versions of the core two-dimensionalist theses (E1)-(E9). In (E1), scenarios can be understood as Soames' epistemically possible world-states, and primary and secondary intensions can be understood as Soames 1-intensions and Soames 2-intensions. Two-dimensional intensions are defined over (scenario, world-state) pairs, either as a partial function or with a restricted domain, as above. One restriction is that as things stand, these intensions are only defined for sentences and not for subsentential expressions. But one could plausibly elaborate the framework so that subsentential expressions can be evaluated relative to epistemically possible world-states, yielding objects, properties and the like (and/or perhaps in certain cases epistemically possible objects, or abstract entities of some related kind). The compositionality thesis (E2) would then presumably be correct. In (E3), we can understand both the scenario and the world of an utterance as the maximal world-state corresponding to the world in which the utterance occurs. (E4) is unproblematic.

Given Soames' view of apriority, even the central thesis (E5) appears to hold for the Soames 1-intensions of all the sentences that Soames discusses. A typical a priori sentence

(e.g. ‘water is water’) will be true relative to all epistemically possible world-states. A typical a posteriori sentence (e.g. ‘water is H₂O’) will be false relative to some epistemically possible world-state. As for thesis (E6), Soames explicitly endorses a version of this: “The propositions expressed by instances of the necessary a posteriori are true in all metaphysically possible world-states, but false in certain epistemically possible states” (p. 332).

Thesis (E7) is complicated by the fact that the only instances of the contingent a priori acknowledged in the book are sentences containing ‘actually’, such as ‘P iff actually P’. On Soames’ view, in our world @ this sentence expresses the proposition $\langle P \text{ iff in}@, P \rangle$ (p. 120-22), which I will abbreviate as $\langle P \text{ iff } @P \rangle$. It is not obvious that the latter proposition can be known a priori, but Soames gives an argument for this claim on p. 120-22. Soames does not discuss the behavior of propositions like this with respect to epistemically possible world-states, so his view has to be reconstructed from his other commitments.

On Soames view, are propositions of the form $\langle P \text{ iff } @P \rangle$ always true with respect to all non-actual epistemically possible world-states? One might say no, on the grounds that when P is contingent and a posteriori, @P will be true in all epistemically possible world-states even though P is false relative to some such states. If this were right, it would yield a counterexample to (E7) and (E5). However, this interpretation is incompatible with Soames’ assertion from p. 332, quoted above. This assertion entails that when P is contingent and a posteriori, the necessary a posteriori claim @P is false at some epistemically possible world-states, contrary to the interpretation above.

One can put the point by noting that the following four claims are inconsistent. Here P and Q range over propositions, W ranges over epistemically possible world-states, NAP(P) holds iff P is necessary a posteriori, and true(P,W) holds iff P is true relative to W.

- (i) $\exists P \text{ NAP}(@P)$
- (ii) $\forall P (\text{NAP}(@P) \supset \text{true}(P,@))$
- (iii) $\forall Q (\text{NAP}(Q) \supset \exists W \sim \text{true}(Q, W))$
- (iv) $\forall P \forall W (\text{true}(@P, W) \equiv \text{true}(P, @))$

I do not think there is any question of Soames denying (i) or (ii), and he is explicitly committed to (iii). So it appears that Soames is committed to denying thesis (iv), although he does not discuss it explicitly. On the standard understanding, a version of thesis (iv) in which W ranges over metaphysically possible worlds is certainly true. Perhaps Soames holds that as it is epistemically possible (although metaphysically impossible) that P is false at @, there are epistemically possible (although metaphysically impossible) worlds W where @P is false. Presumably Soames will say that @P is false at all epistemically possible worlds where P is

false, as $\langle P \text{ iff } @P \rangle$ is a priori. If so, then the behavior of ‘actually’-involving statements at epistemically possible worlds is highly reminiscent of the way those statements behave on the first dimension of existing two-dimensional frameworks, such as Davies and Humberstone’s (and also my own).

There is an additional problem, though. In various places (e.g. in the second and third sentences of the lengthy quote from p. 207 above), Soames appears to strongly suggest that all metaphysically possible world-states are epistemically possible, and certainly suggests that some non-actual metaphysically possible world-states are epistemically possible. Let W be one such world-state, and let P be a contingent statement that is true at $@$ but false at W . By the reasoning above, $\langle P \text{ iff } @P \rangle$ is a priori, so true at all epistemically possible world-states, so true at W . It follows that $@P$ is false at W . But this is an unacceptable result, when W is metaphysically possible.

This is to say that the following four claims are inconsistent. Here P ranges over propositions, W ranges over world-states, $AP(P)$ holds when P is a priori, $\text{true}(P, W)$ holds when P is true relative to W , and $E(W)/M(W)$ hold when W is a (maximal) epistemically/metaphysically possible world-state.

- (v) $\forall P AP(\langle P \text{ iff } @P \rangle)$
- (vi) $\forall Q \forall W ((AP(Q) \ \& \ E(W)) \supset \text{true}(Q, W))$
- (vii) $\forall W (M(W) \supset E(W))$
- (viii) $\exists W \exists P (M(W) \ \& \ \sim \text{true}(\langle P \text{ iff } @P \rangle, W))$

I think that the best option for Soames is to deny (vii). In fact, he should deny that *any* non-actual metaphysically possible world-states are epistemically possible, on the grounds that all of them will be states with respect to which $\langle P \text{ iff } @P \rangle$ is false, for some P . Of course this requires Soames to retract the suggestion from p. 207 above. It also yields an even more strongly two-dimensional system, with almost entirely separate spaces of epistemically and metaphysically possible world-states, overlapping only at the actual world-state $@$.

Alternatively, Soames could retract (v) while retaining (vii), although this would require giving up a thesis for which he argues at length. Either of these moves makes it possible to preserve analogs of theses (E5)-(E7).⁸

⁸ A third view would be to deny (vi), thereby denying analogs of theses (C5) and (C7). A fourth view would be to hold that $@P$ is true in all epistemically possible world-states by denying (iii) along with either (v) or (vi). If one denies (iii) and (v), one will deny analogs of (C6) and the right-to-left half of (C5), while preserving analogs of (C7) and the left-to-right half of (C5). I think that these views are significantly less attractive than the first two, as weakening the links between epistemic possibility and apriority/aposteriority tends to undercut the motivation for positing epistemically possible world-states in the first place.

Thesis (E8) is straightforward. Setting aside cases involving ‘actually’, thesis (E9) will plausibly be true at least when A and B are sentences. If we allow that subsentential expressions can also be evaluated relative to epistemically possible world-states, then (E9) will also plausibly be true for such expressions. For example, the a posteriori necessity ‘water is H₂O’ will be false at some epistemically possible world-state, so that presumably ‘water’ and ‘H₂O’ will designate different kinds relative to that world-state. So ‘water’ and ‘H₂O’ will have distinct Soames 1-intensions.

Interpreted this way, Soames’ view also satisfies most of the subsidiary theses mentioned earlier. It satisfies the two formal theses mentioned in footnote 1, and it also plausibly satisfies the substantive thesis that it is a priori that S is necessary when the two-dimensional intension of S is true at all points where it is defined (except again, for worries about ‘actually’). The major exception is the subsidiary thesis mentioned after (E9) above, holding that sentences such as ‘Hesperus is Phosphorus’ are not a priori. Soames denies this thesis, which makes for a significant difference in the behavior of his framework. For example, ‘Hesperus is Hesperus’ and ‘Hesperus is Phosphorus’ will both be true at all epistemically possible world-states, according to Soames, and so ‘Hesperus’ and ‘Phosphorus’ will have identical Soames 1-intensions, insofar as such entities are defined. So the Soames 1-intensions of names behave quite differently from the intended behavior of primary intensions.

Soames clearly does not regard his view as a version of two-dimensionalism. We have seen here, however, that there is at least an affinity between elements of Soames’ systems and elements of the ambitious two-dimensionalist systems that he rejects. Moreover, there is an especially strong conceptual affinity between Soames’ system and the sort of epistemic two-dimensionalism that I have advocated, on which first-dimensional elements are regarded as epistemic possibilities and second-dimensional elements are regarded as metaphysical possibilities. Of course there are a number of differences, but I think that many of these differences (the first four I discuss in what follows) are relatively superficial, leaving one core difference as the residue.

One difference between Soames’ two-dimensional system and the two-dimensional systems that he discusses in his book is that his first-dimensional entities are not metaphysically possible worlds, or constructions based on such worlds such as centered worlds or contexts. However, it is certainly not mandatory for an “ambitious two-dimensionalist” to make such an identification. In Chalmers (2002a, 2002b, 2004, forthcoming) I outline a version of the view on which scenarios are understood as maximal epistemic possibilities, with no presumption as to whether such entities are metaphysically possible. On this version of the view, the framework cannot be used to make straightforward

inferences from conceivability to possibility, but various other applications of the framework work very much as before.

Another potential difference is that Soames' second-dimensional entities are specified relative to his first-dimensional entities. For different epistemically possible world-states, different world-states may be metaphysically possible relative to these. So two-dimensional intensions are not defined over a straightforward "matrix" of all pairs of scenarios and worlds, but over a more complex structure. But again, this sort of structure is not unfamiliar in existing two-dimensional systems. In Chalmers (2004, pp. 213-14), I discuss the possibility that one may need different putative "worlds" on the second dimension relative to different scenarios on the first dimension. On my framework, whether this structure is needed depends on the truth or falsity of certain substantive theses, discussed there. But it is quite possible that the structure is needed, and if it is needed, many of the central applications of the framework are unaffected.

A substantive difference is that Soames' epistemically possible world-states are certain maximally complete *properties* that a world might have, constructed from objects and properties that exist in the actual world. By contrast, my maximal epistemic possibilities (if they are not regarded as centered worlds) are certain maximally complete *sentences*, or classes thereof. The difference arises because Soames associates epistemic properties with Russellian propositions, whereas I associate epistemic properties with linguistic items such as sentences in the first instance. I do so in part because in building the framework, I do not want to make any presuppositions about the nature of propositions. Nevertheless, it is consistent with my view to associate these epistemic properties with propositions expressed by these sentences, in which case one might then regard scenarios as certain maximally complete propositions (or equivalence classes thereof). Of course on my view, coextensive expressions can have distinct epistemic properties, so the relevant propositions would not be Russellian propositions composed of the objects and properties that are the extensions of our terms. But they might be propositions of some other sort.

Finally, Soames would presumably reject a characterization of his system as two-dimensionalist on the grounds that even though one can associate sentences with entities such as 1-intensions, two-dimensional intensions, and so on, these entities are not the semantic content of our sentences, they are not objects that are believed and asserted, and so on. However, two-dimensionalism is naturally associated with a semantic pluralism, on which linguistic items can be associated with numerous different entities for different purposes. On this picture, the claim that primary intensions and the like constitute "semantic content" and objects of belief and assertion are far from compulsory. From a pluralist perspective, what

matters is that these entities can be associated with linguistic items in such a way that they play certain explanatory roles. Soames' system is set up, in effect, so that analysis of 1-intensions and two-dimensional intensions can play a key role in explaining the connection between conceivability and possibility, the analysis of the necessary a posteriori, and so on. These are among the core explanatory roles that a two-dimensionalist's entities are supposed to play. To play this role, it does not matter a great deal whether these entities count as "semantic" contents.

The deepest differences between Soames' system and the sort of epistemic two-dimensionalism I favor all stem from his Russellian commitments: in particular, from the commitment that epistemic properties associated with sentences are derived from properties of the associated Russellian propositions. It is this that leads him to say that it is a priori that Hesperus is Phosphorus (if they exist), that epistemically possible states are constructed from objects (such as Venus) in such a way that there are not even epistemic possibilities relative to which 'Hesperus is Phosphorus' is false, and so on. Of course, this is precisely the aspect of Soames' view that is widely considered extremely implausible. Intuitively, it cannot be known a priori that Hesperus is Phosphorus, there is a difference between the epistemic properties associated with 'Clark Kent is Superman' and 'Superman is Superman', and so on.

One can therefore think of epistemic two-dimensionalism, of the sort I favor, as the result of combining the *acceptance* of something like Soames' well-motivated framework for analyzing the relationship between epistemic and metaphysical possibility with the *rejection* of Soames' implausible claims about epistemic possibility. That is, one accepts that 'Hesperus is not Phosphorus' is epistemically possible, that there are epistemic possibilities relative to which it is false, that there are systems of metaphysical possibilities relative to these epistemic possibilities, and so on. Of course this difference in starting points leads to significant differences in the results. Epistemic possibilities cannot be constructed from propositions involving objects such as Venus, but instead will be constructed from sentences, from non-object-involving propositions, or from other non-object-involving entities (perhaps including certain qualitative properties or qualitatively individuated possible worlds). But as a result, one obtains a framework that applies to a posteriori necessities such as 'Hesperus is Phosphorus', and which can be used to analyze the differences in epistemic properties between expressions such as 'Hesperus' and 'Phosphorus', ultimately grounding something akin to Fregean senses and narrow contents. All this simply requires applying Soames' two-dimensional way of thinking to a different starting point.

One need not make the claim too strong. Soames' version of the framework may itself have a useful role to play. As a pluralist, one can accept that there are such things as

Russellian propositions, and even that they can be associated with epistemic properties in much the way that Soames does. One can do this while rejecting the claim that these properties determine the familiar epistemic properties of the sentences that are associated with these Russellian propositions. (That is, a pluralist can consistently hold that there is a singular proposition that ‘Venus is Venus’, that it is knowable a priori, and that it can be associated with the sentence ‘Hesperus is Phosphorus’, while denying that the latter sentence is a priori.) These propositions and properties can then be used to construct a system of object-involving epistemic possibilities much like Soames’. One might think of these as *de re* (or objectual) epistemic possibilities, as opposed to the *de dicto* (or qualitative) epistemic possibilities that result from the framework I favor. These *de re* epistemic possibilities may well have a useful explanatory role to play, for example in understanding *de re* thought. It is just that one also needs to acknowledge a space of *de dicto* epistemic possibilities, for understanding many other aspects of thought and language.

A pluralist can even allow that there is an epistemic property of sentences that behaves the way that Soames thinks apriority behaves, so that ‘Hesperus is Hesperus’ and ‘Hesperus is Phosphorus’ both have this property. (One might define this property in terms of the epistemic properties of associated Russellian propositions.) Likewise, it seems to me that there is no serious obstacle to Soames’ accepting that there is an epistemic property of utterances that behaves the way that non-Russellians think apriority behaves, so that typical utterances of ‘Hesperus is Hesperus’ and ‘ $3+7=10$ ’ have the property, while typical utterances of ‘Hesperus is Phosphorus’ and ‘There are hands’ lack this property. (One might define this property in terms of the role of experience in the cognitive processes required for the speaker to rationally accept the utterance, or to justify the mental state associated with the utterance.) Not much of substance depends on the issue of which property is called “apriority”. Once epistemic properties of these sorts are acknowledged, one then has the raw materials required to construct systems of either sort.

In any case, it is clear that Soames has constructed a two-dimensional system to put alongside the systems of Kaplan, Stalnaker, Evans, Davies and Humberstone, and those of the “ambitious two-dimensionalists”. At least, his system seems to be as close to these systems as they are to each other. At root, the system differs from that of the epistemic two-dimensionalist mostly in virtue of Soames’s counterintuitive view of epistemic properties. Once this view is rejected, the path to a stronger form of two-dimensionalism is open. Whether or not Soames takes this path, a two-dimensionalist may say to him: welcome.

Bibliography

- Chalmers, D.J. 1996. *The Conscious Mind: In Search of a Fundamental Theory*. Oxford University Press.
- Chalmers, D.J. 2002a. On sense and intension. *Philosophical Perspectives* 16:135-82.
- Chalmers, D.J. 2002b. The components of content (revised version). In *Philosophy of Mind: Classical and Contemporary Readings*. [consc.net/papers/content.html]
- Chalmers, D.J. 2004. Epistemic two-dimensional semantics. *Philosophical Studies* 18:153-226.
- Chalmers, D.J. & Jackson, F. 2001. Conceptual analysis and reductive explanation. *Philosophical Review* 110:315-61.
- Davies, M. & Humberstone, I.L. 1981. Two notions of necessity. *Philosophical Studies* 58:1-30.
- Evans, G. 1977. Reference and contingency. *The Monist* 62:161-89.
- Garcia-Carpintero, M. & Macia, J. (eds.) 2006. *Two-Dimensional Semantics*. Oxford University Press.
- Jackson F. 1998. *From Metaphysics to Ethics: A Defense of Conceptual Analysis*. Oxford University Press.
- Kaplan, D. 1978. Dthat. In (P. Cole, ed.) *Syntax and Semantics*. New York: Academic Press.
- Kripke, S.A. 1980. *Naming and Necessity*. Cambridge, MA: Harvard University Press.
- Soames, S. 2004. *Reference and Description: The Case Against Two-Dimensionalism*. Princeton University Press.
- Stalnaker, R. 1978. Assertion. In (P. Cole, ed.) *Syntax and Semantics: Pragmatics, Vol. 9*. New York: Academic Press
- Williamson, T. 2000. *Knowledge and its Limits*. Oxford University Press.