

Contextual two-dimensionalism

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There are two main varieties of two-dimensionalism, which (following Chalmers) I’ll call *contextual* and *epistemic* two-dimensionalism.

1 Two two-dimensionalist system of *The Conscious Mind*

A good representative of contextual two-dimensionalism is the theory presented by Chalmers in *The Conscious Mind*.

On p. 56 of *The Conscious Mind*, Chalmers turns to consideration of a popular objection to conceivability arguments for dualism: the objection that the relationship between mental and physical properties might be necessary, though only discoverable a posteriori. His main response to this objection is to outline a semantic theory which explains apparent examples of the necessary a posteriori in a way which does not call into question Chalmers’ arguments.

1.1 Primary and secondary intensions

The key idea is that there are two distinct dimensions of meaning, which Chalmers calls ‘primary intension’ and ‘secondary intension.’ This is what he says:

“there are in fact *two* intensions associated with a given concept. ...First, there is the dependence by which reference is fixed in the *actual* world, depending on how the world turns out ...Second, there is the dependence by which reference in *counterfactual* worlds is determined, given that reference in the actual world is already fixed. Corresponding to each of these is an intension, which I will call the *primary* and *secondary* intensions, respectively.”

Later (p. 60), Chalmers explains the difference between these two intensions in terms of a difference between two ways of thinking about a possible world. If we ‘consider the world as actual’, we imagine that we are inhabiting that world, and ask what the relevant term would refer to out of our mouths, as inhabitants of that world. To think this way is to think about the term’s primary intension. If we ‘consider the world as counterfactual’, we imagine using the expression as an inhabitant of the actual world and then asking, given that use, what things it applies to in a given possible world. This way of thinking about a term corresponds to its secondary intension.

On the same page, Chalmers usefully compares this distinction between two dimensions of meaning to Kaplan’s distinction between character and content. To think of a world as actual is to think of it as the context of utterance; so the primary intension of an expression is (with some qualifications) a function from contexts of utterance to extensions in that context of utterance. This makes it closely related to Kaplan’s *character*. (A difference is that Kaplan thought of characters as functions from contexts to contents, which then could be evaluated with respect to different circumstances of evaluation.) To think of a world as counterfactual is to think of it as a circumstance of evaluation, while letting the context of utterance be the actual world. So secondary intensions are like Kaplan’s *contents*.

In general:

A sentence has a necessary primary intension \equiv it is true at all worlds considered as actual \equiv it has a character which is true in all contexts.

A sentence has a necessary secondary intension (in a context C) \equiv relative to C , it is true at all worlds considered as counterfactual \equiv relative to C , it has a content which is true in all worlds

How this connects to talk about ‘horizontal’ and ‘diagonal’ propositions.

1.2 The necessary *a posteriori*, the contingent *a priori*, and indexicality

As noted above, Chalmers introduces his semantics as a way of blocking the claim that certain propositions about the relationship between the physical and the mental could be

necessary but a posteriori truths. And, in general, consideration of Kripke's examples of the necessary a posteriori and the contingent a priori have played an important role in shaping the development of two-dimensionalist semantics.

The core idea is that our two dimensions of meaning — primary and secondary intensions — correspond, respectively, to the epistemic and metaphysical profiles of a sentence. In particular, the idea is that a prioricity and metaphysical necessity are just two species of necessity, so that:

S is a priori iff S has a necessary primary intension

S is a posteriori iff S has a necessary secondary intension

Given what we know about the contextual two-dimensionalist's view of primary and secondary intensions, what would it take for the primary and secondary intension of a sentence to differ in their truth conditions? It would have to be the case that the character of at least one expression in the sentence is variable: that it delivers a different content with respect to different contexts of utterance. That is, every sentence for which primary and secondary intension have to come apart must contain some indexical expression.

The simplest examples of sentences in which primary intension and secondary intension come apart are examples of the necessary a posteriori and contingent a priori. Hence it seems that the contextual two-dimensionalist is committed to the following claim:

Every example of the necessary a posteriori or contingent a priori contains at least one indexical.

There are, I think, two kinds of motivations for this view, one strategic and one based in a kind of puzzle about the necessary a posteriori and contingent a priori.

1.2.1 *Puzzles about the necessary a posteriori and contingent a priori*

Here are some of the examples of each category which have been defended by various authors:

Necessary a posteriori

True identities: 'Hesperus is Phosphorus.'

True non-identities: 'Hesperus is not Mars.'

Attributions of essential properties: 'Bambi is a deer.'

Theoretical identities: 'Heat is molecular motion.'

Contingent a priori

Truths of the logic of demonstratives: 'I am here now.'

'actually' biconditionals: 'Actually grass is green iff grass is green.'

Uses of reference fixing descriptions: 'Stick S is one meter long.'

On one interpretation of this claim, this would mean that there are propositions which are both necessary and a posteriori, and some which are both contingent and a priori. This seems to lead to the following puzzles:

Let p be a proposition which is both necessary and a posteriori. Then we need empirical evidence to be justified in believing p (since it is a posteriori), even though there is no way that the world could be which would make p false. So what function could empirical evidence possibly have? It seems that it must be the case that there are some ways the world could conceivably be — which are such that we cannot rule them out a priori — which are such that the world could not genuinely be that way. I.e., there must be some epistemically possible ways the world can be which are not metaphysically possible. I.e., there must be some epistemically possible worlds which are metaphysically impossible.

Let p be a proposition which is both contingent and a priori. Then there are some ways that the world could be that would make p false. Despite this, it is possible for us to know that the world is not that way without any observation of the world. But how could this be possible?

Two-dimensionalism seems to offer an explanation: there are no necessary a posteriori propositions; there are just sentences which have a contingent primary intension and necessary secondary intension; puzzlement about the necessary a posteriori just rests on confusion of these two kinds of propositions.

1.2.2 *The necessary a posteriori and conceivability arguments*

A second motivation for the two-dimensionalist view of these sentences is more strategic.

Suppose that we give the following Cartesian argument for the distinctness of mind and body:

1. Conceivable (mind \neq body)
 2. Conceivable($x \neq y$) \rightarrow Possible($x \neq y$)
 3. Possible(mind \neq body) (1,2)
 4. Possible($x \neq y$) $\rightarrow x \neq y$
-
- C. mind \neq body (3,4)

The necessary a posteriori in effect shows that an unrestricted version of P2 is false. It can be conceivable that such and such be the case without it's being genuinely possible that it is. Chalmers wants to block this kind of objection to Cartesian arguments for dualism.

But, if the two-dimensionalist claims about are correct, if we can be sure that we are using only terms whose primary and secondary intensions do *not* diverge, then we can be sure that instances of premise 2 will be unproblematic.

1.3 Explanatory ambitions of contextual two-dimensionalism

I do not think that there is any serious objection (at least from someone who accepts the Kaplan semantics) to the idea that primary intensions are well-defined. We should grant the two-dimensionalist that expressions are associated with primary intensions as well as secondary intensions; the interesting question is whether these primary intensions have any theoretical utility. Here are some of the roles which primary intensions have been asked to play:

1. Explaining the distinction between a prioricity and a posteriority (and hence also the existence of the contingent a priori and necessary a posteriori, and, pending this, the preservation of certain links between conceivability and possibility)
2. The traditional roles of Fregean senses: explaining differences in cognitive significance, and apparent substitution failures of names in attitude ascriptions.
3. Solving the problem of the essential indexical.
4. Supplying a notion of narrow content.

Here I will focus on the first of these — we will talk more about the others when we get to epistemic two-dimensionalism.

1.4 The semantics of names and natural kind terms

The central examples of the contingent a priori and necessary a posteriori all involve names or natural kind terms. Given the foregoing, it is clear that the contextual two-dimensionalist is then committed to thinking of names and natural kind terms as indexical expressions with variable characters.

So a natural question is: what, according to this view, is the character of a name or natural kind term?

The primary intension of a natural kind term like ‘water’ will be, roughly, some description which determines which substance the term ‘water’ actually applies to — something like ‘the dominant clear drinkable liquid in the environment.’

However, this cannot also serve as the secondary intension of ‘water’ — if it did, then ‘Water is H₂O’ would be contingent, not necessary, since it is possible that some substance other than H₂O could have been the clear liquid in our environment.

Chalmers says,

“the secondary intension is determined by first evaluating the primary intension at the actual world, and then *rigidifying* this evaluation so that the same sort of thing is picked out in all possible worlds.” (59)

There are two main ways to turn a description like ‘the dominant clear drinkable liquid in the environment’ into a rigid designator.

The first (which Chalmers endorses) is to use Kaplan’s ‘dthat’ operator, which he discusses in §XII of ‘Demonstratives.’ ‘dthat’ is an expression which combines with a definite description to yield a singular term which directly refers to whatever is denoted by the description. So, for example, if I am a Millian about names, I will think that the following two expressions have the same content:

George Bush
dthat[the president of the United States in 2007]

However, the two expressions will not have the same character, if ‘George Bush’ has a constant character. The referent, and therefore the content, of the latter would be different if used in a context in which the president of the US in 2007 \neq Bush.

Chalmers suggests (with the qualification that the relevant description will be more complex) that ‘water’ can be thought of as ‘conceptually equivalent’ to the rigidified description ‘dthat[the dominant clear drinkable liquid in our environment]’. Given this interpretation, we can see that

Water is H_2O .

Will have a necessary secondary intension, but a contingent primary intension — which is exactly what we want.

A second, somewhat different way of achieving this result would be to rigidify the description using the actuality operator. Consider the description ‘the actual president of the United States in 2007.’ This, like that dthat-rigidified description above, will rigidly designate Bush. But it will do so not by fiat — by turning the description into a directly referring Millian term — but by making the relevant descriptive condition such that, necessarily, Bush satisfies it if anything does. So if we consider the three terms:

George Bush
dthat[the president of the United States in 2007]
the actual president of the United States in 2007

we can say that (if names have constant characters and are Millian), all three have the same secondary intension, since all rigidly designate the same object, but only the second two agree in their primary intensions.

2 Objections to contextual two-dimensionalism

2.1 Problems with the rigidification of names and kind terms

2.1.1 Problems with ‘actually’-rigidified descriptions

The main problem with rigidification using the actuality operator is that it runs counter to the apparent platitude that it is possible for someone to have beliefs about actually existing individuals without having any beliefs about the actual world (Soames (2002, 2005)). Consider, for example, the name ‘Aristotle’, and suppose that it is to be equivalent to some rigidified description ‘the actual F .’ Let ‘@’ be a name for the actual world. Then take some counterfactual that we are inclined to count as true of the form

[1] If it had been the case that p , then someone would have believed that Aristotle was G .

[2] is true iff in the nearest world w in which p , someone believes that Aristotle is G . So, if ‘Aristotle’ is short for ‘the actual F ’, [2] is true iff [3] is:

[2] In w , someone believes that the actual F is G .

But what this says is that the relevant possible believer in w has beliefs about the actual world, i.e.

[3] In w , someone believes that the F in @ is G .

where we are presuming that @ $\neq w$. But this seems wrong; it is not true that in every possible world in which someone has a belief about Aristotle, that they all have a belief about @.

You might object that the theory would fare better if we let ‘actual’ name not the world of the context — our world, since we are the ones talking — but the world of the circumstance — in this case, w . (If we understand ‘actual’ on par with ‘I’ and ‘here’, that is of course not how the word usually works, but that needn’t worry us here.) But to make this move is to forget the motivation for adding ‘actually’ to the description in the first case. The point was to turn the description into a rigid designator, in order to answer the modal argument. But if we let ‘actual’ designate the world of the circumstance, then ‘the actual F ’ will be a rigid designator iff ‘the F ’ is.

If it works at all, this argument also counts against non-two-dimensionalist uses of the ‘actuality’ operator, such as the analysis of names in terms of individual essences constructed from world-indexed properties in Plantinga (1978).

2.1.2 Problems with ‘dthat’-rigidified descriptions

In *TCM*, Chalmers uses ‘dthat’ rather than ‘actual’ in his examples of rigidified descriptions. Recall that the difference between the two was that the former, unlike the latter, turns the description into a Millian term of direct reference for the thing denoted by the description. In effect, then it erases the descriptive content of the description — the only thing that distinguishes ‘dthat’-rigidified descriptions from names as understood by Millians is that the former have variable characters (i.e., their primary and secondary intensions diverge). For this reason, believing that dthat[the *F*] is *G* does not, unlike believing that the actual *F* is *G*, involve believing something about the actual world. This is, for the above reasons, to the good.

But this sort of use of ‘dthat’ raises some puzzles.

1. It leads to a radical expansion of the class of de re propositions which are knowable a priori. In particular, it seems that for any description ‘the *F*’ which is uniquely satisfied, I can introduce a name ‘*n*’ with the primary intension ‘dthat[the *F*]’ so that the following sentence will be a priori:

n is the *F*.

This means that every object which uniquely satisfies some condition is such that I can know a priori of that object that it satisfies that condition. So I can, for example, know of the part of Saturn’s rings which is closest to me right now that that is the part which is closest to me right now.

2. Suppose that the following are the primary intensions of ‘Kaplan’ and ‘Kripke’:

Kaplan = dthat[the author of *Demonstratives*]
Kripke = dthat[the author of *Naming and Necessity*]

Now consider the sentence

[4] Kaplan is not Kripke.

[4] is intuitively an example of the necessary a posteriori. So far, it does not seem to pose any problem for the two-dimensionalist: given the above primary intensions, [4] will have a contingent primary intension and a necessary secondary intension, which is what we want.

But now suppose that I decide to introduce a new pair of names for Kaplan and Kripke with which I associate rigid definite descriptions, so that their primary intensions are then given by the following:

Kaplan2 = dthat[the author of *Demonstratives* in α]
Kripke2 = dthat[the author of *Naming and Necessity* in α]

Now consider

[5] Kaplan2 is not Kripke2.

Intuitively (insofar as there are intuitions about such things) this also seems to be necessary a posteriori. But the problem is that [5] has a necessary primary intension: given the primary intensions of ‘Kaplan2’ and ‘Kripke2’, it is true in every context.

2.1.3 Problems finding descriptions to rigidify

Kripke gave three arguments against descriptivism: the modal, epistemic, and semantic arguments. If two-dimensionalism is to succeed as a way of reviving aspects of descriptivism, it will have to find a way around all three. Rigidifying names only addresses the modal argument. So, what has to be done is, for each name ‘ n ’ to be analyzed as a rigidified description, find some description ‘the F ’ such that:

- ‘If the F exists, then n is the F ’ is knowable a priori.
- ‘the F ’ is uniquely satisfied by the referent of ‘ n .’

This is not trivial. One possibility is to appeal to meta-linguistic descriptions, like ‘the referent of my friend’s use of ‘ n ’’. But there are three problems here:

1. In many cases, like ‘the referent of ‘ n ’ as used by the person from whom I acquired the name’ it is possible to find counterexamples to the suggested analysis.
2. In other cases, as in ‘the referent of my use of ‘ n ’ or ‘the referent of ‘ n ’ in my language’ the analysis can’t determine reference because of circularity.
3. The view is intrinsically implausible. We do not typically use names to talk partly about language.

Further, even if we do find a non-circular description of this sort, it is not obvious that claims like

If the referent of ‘ n ’ as used by the person from whom I acquired the name exists, then n is the referent of ‘ n ’ as used by the person from whom I acquired the name.

are a priori.

2.2 Problems with the semantics of attitude ascriptions

A central part of the argument of Soames (2005) is that the two-dimensionalist cannot give an adequate account of the semantics of propositional attitude ascriptions.

2.2.1 Option 1: attitude ascriptions report relations to primary intensions

The main theses of two-dimensionalism lead via some natural assumptions to the thesis that propositional attitude ascriptions report relations to the primary intensions of the complement sentences of the ascription. Consider the following argument:

1. $\ulcorner S \urcorner$ is knowable a priori iff $\ulcorner S \urcorner$ has a necessary primary intension.
 2. $\ulcorner S \urcorner$ is knowable a priori iff \ulcorner It is knowable a priori that $S \urcorner$ is true.
 3. \ulcorner It is knowable a priori that $S \urcorner$ is true iff $\ulcorner S \urcorner$ has a necessary primary intension. (1,2)
 4. \ulcorner It is knowable a priori that \urcorner is an operator on primary intensions; if $\ulcorner S \urcorner$ and $\ulcorner S^* \urcorner$ have the same primary intension, then \ulcorner It is knowable a priori that $S \urcorner$ is true iff \ulcorner It is knowable a priori that $S^* \urcorner$ is true. (3)
 5. \ulcorner It is knowable a priori that \urcorner and attitude ascription operators like $\ulcorner A$ knows that \urcorner and $\ulcorner A$ believes that \urcorner operate on the same thing.
-
- C. if $\ulcorner S \urcorner$ and $\ulcorner S^* \urcorner$ have the same primary intension, then $\ulcorner A$ v's that $S \urcorner$ is true iff $\ulcorner A$ v's that $S^* \urcorner$ is true. (4,5)

The problem is that the conclusion of the argument — that propositional attitude ascriptions report relations to primary intensions — is clearly false. So the worry is that this argument is a reductio of premise (1), which is what Chalmers (2006) calls the ‘core thesis’ of two-dimensionalism.

(C) can be shown to be false by considering examples of attitude ascriptions in which context-sensitive expressions figure in the complement. Consider first ordinary indexicals, like ‘I.’ Suppose that you say, ‘I am hungry.’ If ascriptions did report relations to primary intensions, then I could report what you said correctly with the ascription, ‘He said that I am hungry.’ This is clearly wrong.

Similar examples can be developed using names, since the two-dimensionalist system under consideration counts them as having variable character as well. See the discussion of strong two-dimensionalism in Soames (2007).

The moral is that the two-dimensionalist must reject a premise of the above argument other than (1). The most plausible candidate seems to be (2); but this runs contra to what two-dimensionalists tend to say about the a priori in their writings.

2.2.2 Option 2: attitude ascriptions report relations to secondary intensions

One natural retreat for the two-dimensionalist is to say that attitude ascriptions report relations to secondary, rather than primary, intensions. There are two problems with this.

First, it would involve giving up the idea that primary intensions can play the roles traditionally assigned to Fregean senses.

Second, the view that names and kind terms are ‘dthat’-rigidified descriptions leads to the view that the following sentences must have the same secondary intension: ‘Water is

water’ and ‘Water is H₂O.’ But then it would follow that they can be substituted *salva veritate* in attitude ascriptions, which is a mistake.

2.2.3 Option 3: hybrid views

The only other option is to give truth conditions for attitude ascriptions in terms of some combination of primary and secondary intensions, as suggested in §7 of Chalmers (2002). The suggested truth conditions are along the following lines:

- ‘ A believes that S ’ is true iff
- (i) A has a belief with the secondary intension which S has in the context of the ascription, and
 - (ii) A ’s belief has a primary intension which is appropriately related to the primary intension of S .

The key detail which needs filling in is clearly the nature of the appropriateness relation. Chalmers says that it is likely context-sensitive, and difficult to spell out. We will discuss the prospects of this sort of account more when we turn to epistemic two-dimensionalism.

2.3 Misclassification of sentences as *a priori*

A further problem with the present version of two-dimensionalism is discussed in Chalmers (2006), §2.4. This is that many sentences have the property of being true when uttered, and so have necessary primary intensions, but do not seem to be *a priori*. (See Pryor (2006) for a nice discussion of these cases.) Examples:

Language exists.
I exist.
This place exists.
I am uttering now.

The moral, Chalmers says plausibly, is that ‘*a priori*’ and being true whenever uttered are fundamentally different properties.’ But if that is right, then the present version of two-dimensionalism is a nonstarter.

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