2008

A Defense of Frank Jackson's Two-Dimensional Analysis of the Necessary A Posteriori from Scott Soames' Anti-Two-Dimensionalist Attacks

Brendan Scott Morris
Oberlin College

**A Defense of Frank Jackson's Two-Dimensional Analysis of the
Necessary A Posteriori from Scott Soames' Anti-Two-Dimensionalist
Attacks**

Brendan Morris
April 27, 2008
Honors Thesis

Introduction

Early modern philosophers of language held an initially attractive but overly simple conception of meaning and reference in language. They believed that the most important feature of language is its representational capacity. Some sentences represent the world as being one way, and other sentences represent the world as being other ways. For a speaker to assertively utter a particular sentence is to believe that the sentence accurately represents the world. The reason that sentences can represent the world is that their constituent parts – words – represent the things that we find in the world: objects, people, ideas, experiences, relations, etc. But if this picture of the meaning and reference of words is true, then it seems that the meaning of a word should just be the object to which it refers.

The problem with this view is that it gives rise to two puzzles. In *On Sense and Reference,*[1] Gottlebe Frege argues that the substitution of coreferential terms in a sentence sometimes changes the meaning of a sentence. For instance, if the meaning of a proper name was just the object to which it refers, then the meaning of a sentence would not change when we substitute one co-referential name for another. However, Frege demonstrates that the meaning does change. In *On Denoting,*[2] Bertrand Russell argues that we often believe that proper names are meaningful even if the sentences in which they appear, and that we take to be true, assert that the object to which a name refers does not exist. If the meaning of a proper name was just the object to which it refers, then the sentences in which those names appear would be meaningless, at least in part. However,

---

[1] Gottlob Frege, "On Sense and Reference," in Peter Geach and Max Black (eds.), *Translations from the Philosophical Writings of Gottlob Frege* (Oxford: Basil Blackwell, 1970).
[2] Bertrand Russell, "On Denoting," *Mind* 14 (1905): 479-93.

Russell demonstrates that these sentences remain meaningful. If the arguments of Frege and Russell are correct, then it is hard to see how the meaning of a proper name is the object to which it refers.

Fortunately, Frege and Russell provide a view that solves their respective puzzles: descriptivism. According to descriptivism, the meaning of a proper name is a description or set of descriptions, and the referent of a proper name is the object that is uniquely denoted by enough of the descriptions that speakers associate with a name. Thus, the substitution of co-referential names in a sentence sometimes changes the meaning of a sentence because two proper names can mean different descriptions even if they refer to the same object. Further, proper names remain meaningful even if the objects to which they refer do not exist because the meaning of a proper name is a description or set of descriptions, and not an object. Therefore, descriptivism provides a solution to Frege's Puzzle and Russell's Problem of Negative Existentials.

In addition to providing a solution to these puzzles, descriptivism is significant because it led to the adoption of a number of presuppositions in the philosophy of language and the practice of the discipline of philosophy. Those presuppositions are that **i)** understanding a name is a matter of grasping the descriptive content that speakers associate with it, **ii)** the meaning of a name is transparent to speakers who grasp the correct descriptive content**, iii)** the meaning of a name depends on factors that are internal to the speaker, **iv)** analyticity, a prioricity, and necessity essentially amount to the same thing, **v)** claims about objects having certain properties as a matter of necessity, depend entirely on how they are described, and **vi)** that the central task of philosophy is a priori conceptual analysis.

In his *Naming and Necessity,* Saul Kripke argues that the descriptivist picture of the meaning and reference of proper names and natural kind terms is false, and thus that the above philosophical suppositions are false.[3] Natural kind terms are words like *water, gold, electricity,* and *tiger* that refer to kinds found in nature. Although Kripke provides an alternative "picture" of the reference of proper names and natural kind terms in place of the descriptivist picture, he does not provide such an alternative for the meaning of proper names and natural kind terms. Still, if Kripke's arguments are correct, it is hard to see how the meaning of a proper name or natural kind term could be anything other than the object or kind to which it refers. The non-descriptive semantic framework within which Kripke operates also allows him to argue that some propositions are both necessarily true and only knowable a posteriori, while others are both contingently true and knowable a priori, contrary to what most philosophers believed at the time that *Naming and Necessity* was published.

But descriptivists have responded to Kripke's attacks. Motivated by the belief that the anti-descriptivists have not provided adequate solutions to Frege's Puzzle and the Problem of Negative Existentials, that they have attacked the wrong descriptions, that we should avoid having to explain the puzzles of the necessary a posteriori and contingent a priori, that the philosophical implications of *Naming and Necessity* conflict with prior descriptivist philosophical commitments, and by their desire to retain the major presuppositions that reigned in philosophy before *Naming and Necessity,* descriptivists seize on problematic passages in Kripke's work that suggest that a descriptivist explanation of linguistic phenomena such as the necessary a posteriori can be given and

---

[3] Saul Kripke, *Naming and Necessity,* (Cambridge, MA: Harvard, 1980).

mount their revival on them. In particular, descriptivists deploy two-dimensionalism, the view that sentences involving proper names and natural kind terms are semantically associated with two propositions. Descriptivists use two-dimensionalism to explain away instances of the necessary a posteriori and contingent a priori as linguistic illusions with no real significance for our understanding of necessity and aprioricity.

Frank Jackson is one philosopher who applies a two-dimensional analysis to the necessary a posteriori in his *From Metaphysics to Ethics*.[4] A physicalist in regards to the relationship between physical brain-states and nonphysical mental states, Jackson wants to maintain that the physical character of the world necessary entails the psychological character of the world, and that we can deduce the psychological character of the world from the physical character of the world a priori. For Jackson, the necessary a posteriori poses a problem because it suggests that the propositions expressed by sentences like *Water is H20* and *Gold is the atomic number 79* are metaphysically necessary, meaning that the necessary entailment of the physical character of the world to the psychological character of the world could be a metaphysical or conceptual entailment. This possibility is one issue that Jackson must sort out. The necessary a posteriori also contradicts Jackson's prior philosophical commitments that the only necessary proposition is knowable a priori and that all possibility is metaphysical possibility, since the Kripkean explanation of the necessary a posteriori involves positing an epistemically conceivable but metaphysical impossible set of possible worlds.[5]

Thus, Jackson reframes the puzzle of the necessary a posteriori as a puzzle about how *sentences* can be both necessarily true and knowable only a posteriori, and provides

---

[4] Frank Jackson, *From Metaphysics to Ethics,* (Oxford: Oxford University Press, 1998).
[5] Kripke and Soames both rely on this category of possible worlds in order to explain the puzzle of the necessary a posteriori and contingent a priori.

a two-dimensional analysis of such sentences. According to that analysis, instances of the necessary a posteriori are semantically associated with two propositions, one of which is necessarily true and knowable a priori, and the other which is contingently true and only knowable a posteriori. For Jackson, propositions are identified with the set of possible worlds in which a sentence is true. Instances of the necessary a posteriori arise when we accidentally attribute the necessary status of the first proposition and the a posteriori status of the second proposition to one proposition. Thus, no one proposition is both necessarily true and knowable only a posteriori. Further, instances of the necessary a posteriori are not metaphysically necessary, but conceptually necessary, and their conceptually necessary entailments are a priori deducible. This conclusion allows Jackson to maintain his physicalist view of the relationship between physical brain-states and nonphysical mental states.

Does Frank Jackson's two-dimensional analysis of the necessary a posteriori succeed? In his *Reference and Description: The Case Against Two-Dimensionalism,*[6] Scott Soames argues that no form of two-dimensionalism, including Jackson's, can revive descriptivism. In his work, Soames provides a comprehensive account of the debate between descriptivist and anti-descriptivists, as well as a thorough explication and evaluation of two-dimensionalism. Included within Soames' overall work is a critique of Jackson's statement of the problem posed by the necessary a posteriori and the logical of Jackson's proposed solution to the necessary a posteriori. Chapter Ten of *Reference and Description* is meant to deal the knock out blow to two-dimensionalism, including that of Frank Jackson.

---

[6] Scott Soames, *Reference and Description: The Case Against Two-Dimensionalism,* (Princeton: Princeton University Press, 2005).

In this paper, I explain and evaluate Scott Soames' attack on Frank Jackson's two-dimensional analysis of the necessary a posteriori. My overarching thesis will be that Jackson's two-dimensionalism survives the attack from Soames' anti-two-dimensionalism. To confirm my thesis, I will start by setting the stage for Soames' attack on Jackson's two-dimensionalism with a brief overview of traditional descriptivism, anti-descriptivism, and Jackson's two-dimensional response to the necessary a posteriori. Then I explain and evaluate Soames' critique of Jackson's statement of the problem posed by the necessary a posteriori and the logic of Jackson's proposed solution to the necessary a posteriori. Lastly I explain and evaluate Soames' most direct challenge to two-dimensionalism found in Chapter Ten of *Reference and Description*.

Traditional Descriptivism

As previously stated, early modern philosophers of language held a simple conception of meaning and reference: the meaning of a name is its referent, and the meaning of a sentence depends on the words of the sentence. Although this view was initially attractive, Gottlob Frege and Bertrand Russell realized that it gives rise to two distinct puzzles that suggest an alternative conception of meaning and reference.

Frege argued that this initial view gives rise to a puzzle according to which the substitution of coreferential terms in a sentence sometimes changes the meaning of a sentence. Consider the following sentences: 1) *Ruth Marcus is Ruth Barcan*, and 2) *Ruth Marcus is Ruth Marcus*. Although the proper names *Ruth Marcus* and *Ruth Barcan* are co-referential, there are a number of reasons to believe that these sentences have different meanings. First, the proposition expressed by the first sentence could turn out to be false

and is only knowable a posteriori, and the proposition expressed by the second sentence is knowable a priori, and necessarily true in virtue of the meanings of the proper names involved. The second sentence, unlike the first, might be termed 'analytic' or 'analytically true' for this reason. Second, a person can understand both sentences and believe that they have different meanings, and that one conveys more information than the other. For these reasons, it seems that these two sentences express different propositions, and therefore that they have different meanings. But this should not be the case if the meaning of a name is simply the object to which it refers.

In addition, Russell argued that the initial view gives rise to the puzzle of negative existentials, according to which we take some proper names to be meaningful, even though the sentences of which they are a part, and that we take to be true, assert that the objects to which they refer do not exist. Consider the following sentences: 1) *Santa Claus does not exist,* and 2) *Carnivorous cows do not exist.* Ordinarily, we take these sentences to be true. However, if they are true, then there are no such objects as Santa Claus or carnivorous cows, and *Santa Claus* and *carnivorous cows* do not refer to anything. If this is the case, then it would seem that either the subjects of these sentences should be meaningless, or that these sentences as a whole should be meaningless given that they lack a meaningful subject. But neither of these conclusions seems to be the case in light of the fact that we ordinarily take these sentences to be meaningful. So, the terms of these sentences must be meaningful for some other reason than that they refer to a particular object.

Frege and Russell proposed solutions to their respective puzzles that led to the traditional descriptivist picture of meaning and reference. Frege argued that the meaning

of a genuinely referring name is not the object to which it refers, but a 'sense' that is identical to a description of the well-known characteristics of an object that speakers associate with a name. Further, whatever object uniquely satisfies the descriptive sense that is associated with a name is its referent. Expressions with the same referent can have different descriptive senses. This fact explains why the substitution of coreferential terms in a sentence sometimes changes the meaning of a sentence. Frege's solution to his puzzle of the subsitution of coreferential terms in a sentence suggests a descriptive picture because it posits a description as the meaning of a name, and as the thing that determines a name's referent.

Russell argued that the ordinary proper names and singular definite descriptions of sentences that express negative existentials are not genuinely referring, and that they can be analyzed in their more complex, logical forms that are quantificational, and that consist of genuinely referring terms. For instance, *carnivorous cows do not exist* can be analyzed as the following: **~∃x (x is a cow & x is carnivorous)**. This claim states that there is no such thing that is a cow and that is carnivorous, and unlike the claim in its original form, is constructed entirely of genuinely referring terms. Russell's analysis of negative existentials suggests the traditional descriptivist picture because it claims that the meanings of some expressions are not the objects to which they refer, but a complex, logical claim consisting of other terms. Negative existentials that include ordinary proper names like *Santa Claus* can also be analyzed in the above way by breaking them down into the descriptions that speakers associate with them. Although Frege and Russell ultimately rejected different aspects of the initial view of the meaning and reference of

names to which they were responding, they agreed that the meaning of a proper name is not the object to which it refers.

Given the above solution to Frege's Puzzle and the Problem of Negative Existentials, the traditional descriptivist picture is as follows. The meaning of a name is a description. Names refer to the object or objects that are uniquely denoted by their descriptive content. For this reason, proper names that lack referents remain meaningful. In general, the meaning of a sentence containing an ordinary proper name is the same as the meaning of a sentence containing a description that speakers associate with the name, and that arises when we substitute a description that speakers associate with a name for the name in a sentence. Philosophers later modified the traditional descriptivist picture so that the meaning of an ordinary proper name is a description or *set of descriptions* that speakers associate with a name, and that determine the referent of the name by picking out an object or objects that uniquely satisfy enough of the descriptions that speakers associate with aname.[7]

The traditional descriptivist picture is significant because it gave rise to a number of presuppositions that have been central in the philosophy of language and the practice of the discipline of philosophy for decades, including the following: **i)** understanding a name is a matter of grasping a description or set of descriptions that speakers associate with it, **ii)** the meaning of a name is transparent to speakers who grasp the descriptive content that speakers associate with an expression, **iii)** the meaning of a name is determined by factors entirely internal to the speaker, **iv)** analyticity, aprioricity, and

---

[7] John Searle developed this idea in his *Mind 67* (1958): 166-73. It is advantageous for two reasons: first, it allows for the Wittgensteinian idea that the meaning of a sentence including a name is to some degree vague and indeterminate. It also accounts for the idea that even if **the D** is a description that speakers strongly associate with a proper name, the sentence **If n exists, then n is D** will not always be true, and will not always be necessarily true when it is true.

necessity essentially amount to the same thing, **v)** claims about objects having certain properties necessarily depend entirely on how they are described, and most importantly, **vi)** that the central task of philosophy is a priori conceptual analysis.

Anti-Descriptivism

In his *Naming and Necessity,* Saul Kripke argues that the traditional descriptivist picture of the meaning and reference of proper names is false. Kripke argues against the strong descriptivist thesis that a description or set of descriptions is the meaning of a name and determine its referent, and against the weak descriptivist thesis that a description or set of descriptions determine the referent of an expression, but are not the meaning of a name. To make his case, Kripke relies on an intuitive framework that is fundamentally different from that of traditional descriptivism. This framework consists of a particular conception of possible worlds, trans-world identification, and rigid designation.

Possible Worlds

Possible worlds are not distant planets, but ways that the world could have been had things turned out differently. Speakers do not need to provide all of the qualitative characteristics of other possible worlds in order to talk about them. Instead, they can simply talk about how the world might have been had things turned out differently. Kripke's conception of possible worlds is tied to the other components of his philosophical framework, trans-world identification and rigid designation.

Trans-world Identification

Trans-world identification is the task of identifying an object across different possible worlds. For traditional descriptivists, trans-world identification was a matter of picking out the object that satisfied the necessary and sufficient conditions for being that object as stipulated by a description or set of descriptions that speakers associate with a name. For Kripke, trans-world identification is a bit of a pseudo-issue. Because names are rigid designators, we do not need criteria for picking out an object across possible worlds. Instead we can just use a name to refer to the same object in different worlds because names are rigid designators. Thus, if we wanted to talk about how things might have turned out for Al Gore had he been elected president, all we need to do is ask how things might have turned our for Al Gore, the person from the actual world, in a counterfactual world, had a counterfactual world been the actual world, and we pick him out successfully.

Rigid Designation

Ordinary proper names are rigid designators, meaning that they refer to the same object in every possible world in which that object exists. Because names are rigid designators, we can talk about objects across possible worlds without describing them. The notion that ordinary proper names are rigid designators is supported by the way that we talk about possibility in ordinary conversation. For instance, when we talk about how things might have been for Al Gore had he been elected president, we seem to be asking how things might have turned out for *that person,* the person from the actual world, had another possible world obtained. Kripke extends his conception of rigid designation to

cover natural kind terms – terms like as *water, gold, lightening, tiger* –each of which refers to the same natural kind in every possible world in which that natural kind exists.

Arguments Against Descriptivism

Kripke makes two main arguments, the Modal Argument and the Epistemological Argument, against the strong traditional descriptivist thesis that a description or set of descriptions is the meaning of a name, and that a description or set of descriptions determine the referent of a name. Kripke also makes the Semantic Argument against the weak descriptivist thesis that a description or set of descriptions determine the referent of a name, but do not provide the meaning of a name. Because the traditional descriptivist picture of reference follows from that of meaning, all of Kripke's arguments against the former are also arguments against the latter, but not vice versa. Kripke does not provide an alternative picture of the meaning of ordinary proper names and natural kind terms in place of traditional descriptivism, although he does provide such a picture for explaining their reference. Below, I provide the corollaries of the traditional descriptivist picture, followed by Kripke's arguments against them. Let *n* be a proper name, and *the D* be a description or set of descriptions that speakers associate with a proper name.

Corollary #1) The proposition expressed by a sentence containing ordinary proper name *n* is the proposition expressed by the same sentence containing *the D* in the place of *n.* The proposition expressed by the first sentence is true at a possible world iff the proposition expressed by the second sentence is true with respect to that world. Since *If D exists, then D is D* is a necessary truth, then *If n exists, then n is D* is also a necessary truth.

Corollary #2) The proposition expressed by a sentence containing ordinary proper name *n* is the proposition expressed by the same sentence containing ***the D*** in the place of ***n.*** Anyone who knows or believes the proposition expressed by the first sentence knows or believes the proposition expressed by the second sentence. Further, attitude ascriptions including the first sentence and attitude ascriptions including the second sentence agree in truth-value. Since the proposition expressed by ***If n exists, then n is D*** is the same as the proposition expressed by ***If D exists, then D is D,*** this proposition is knowable a priori, and the claim ***It is knowable a priori that if n exists, then n is D*** is true.

The Modal Argument

If ***the D*** is a description or set of descriptions that speakers associate with an ordinary proper name ***n,*** then propositions expressed by sentences of the form ***If n exists, then n is D*** are not necessarily true, and a description or set of descriptions that speakers associate with an ordinary proper name are not the meaning of the name. Consider the following example. *George Bush* is an ordinary proper name that speakers associate with *the 43rd President of the United States, the former Governor of Texas,* and *the husband of Laura Bush.* It is not a necessary truth that George Bush is the President of the United States, the former Governor of Texas, or the husband of Laura Bush. We know this fact because we can imagine a possible world in which George Bush stayed single, and never ran for office.[8] However, this possible world in which George Bush neither married nor ran for office is not a world in which George Bush did not exist, but one in which he did not do the things commonly associated with his name. Therefore, the description or set of descriptions that speakers commonly associate with *George Bush* are not the meaning of the name, and corollary #1 of the traditional descriptivist picture is false.

---

[8] In fact, this is the world that many of us wish was the actual world.

The Epistemological Argument

The propositions expressed by the sentences *n is F* and **the D is F** are not the same, and therefore the meaning of an ordinary proper name is not a description or set of descriptions of the characteristics or well-known achievements that speakers commonly associate with *n*. We know this fact because a speaker can bear an attitude relation to one of these sentences without bearing it to the other. Take *George Bush is the 43rd President of the United States* and *The 43rd President of the United States is the 43rd President of the United States*. Next, Imagine that our belief that George Bush is the 43rd President of the United States is demonstrated to be false when we learn that a massive conspiracy has concealed that Dick Cheney has really been the president since 2001. This thought experiment demonstrates that our belief that George Bush is the President of the United States is not a priori true; on the contrary, it could turn out to be false, and in order to know that this is not false, we would have to investigate. In contrast, our belief that the President of the United States is the President of the United States is true a priori. We cannot imagine a possible world in which the claim expressed by this belief ascription is false, and we know that it is true simply in virtue of the meanings of the words of the sentence. Thus, a person who knows or believes the proposition expressed by *The 43rd President of the United States is the 43rd President of the United States* may not know or believe the proposition expressed by the sentence *George Bush is the 43rd President of the United States*.

Therefore, attitude ascriptions of the form **Ralph knows/believes that the D is F** and **Ralph knows/believes that n is F** may not agree in truth-value. The proposition

expressed by *If n exists, the n is D* is not knowable a priori, and *It is knowable a priori that if n exists, then n is D* is false. The propositions expressed by *n is F* and *D is F* are not the same, and therefore the meaning of an ordinary proper name is not a description or set of descriptions of the characteristics or well known achievements that speakers associate with *n,* and corollary #2 is false.

The Semantic Argument

The semantic argument is meant to falsify the weak descriptivist thesis that a description or set of descriptions fixes the referent of a name at the actual world, and that a name is stipulated to retain its referent in all possible worlds once its referent is determined at the actual world. The weak descriptivist thesis does not hold that a description or set of descriptions is the meaning of a name. There are a number of corollaries to this view: i) the speaker has a description or set of descriptions that he or she associates with a name, and that he or she takes to be uniquely satisfied by some object, ii) an object is the referent of a name if and only if that object is uniquely satisfied by a description or set of descriptions that the speaker associates with a name, iii) the speaker knows that *If n exists, then n is the D* expresses a truth on the basis of his or her semantic knowledge that a description or set of descriptions *D* uniquely determines the referent of an object *o* denoted by a particular name *n.*

Consider the following counterexamples against the corollaries of the weak descriptivist thesis. As against the first and second corollaries, consider a speaker who uses the name *Richard Feynman* to refer to Richard Feynman. Although the speaker associates *a leading physicist* with the name, the speaker does not believe that Richard

Feynman is the only person who fits this description. Nonetheless, the speaker seems to use *Richard Feynman* successfully to refer to Richard Feynman. So, the first and second corollaries are false. As against the third corollary, again imagine that a speaker uses *Richard Feynman* to refer to Richard Feynman, and associates *a leading physicist* with the name. However, in this case, it turns out that Richard Feynman is not a physicist, but a chemist. Here, the speaker still seems to use *Richard Feynman* to refer to Richard Feynman even though the description that the speaker associates with the name is not true of the person to which he or she intends to refer. For this reason, the speaker does not know on the basis of his or her semantic knowledge that *If n exists, then n is D* is true. Given that the corollaries to the weak descriptivist thesis are false, the weak descriptivist thesis is itself false.

The Causal-Historical View of Reference Transmission

As stated, Kripke does not provide an alternative picture for the meaning of names. However, he does provide such a picture for how names acquire their referents: the Causal-Historical View of Reference Transmission. According to Kripke, a name first acquires a referent in an ostensive baptism in which an object is stipulated to be the bearer of a particular name. A name then retains its referent through a sort of causal-historical chain of reference transmission in which a speaker uses a name to refer to the object to which another speaker used the name to refer. As the name gets passed from one speaker to the next, the causal-historical chain grows, and several speakers down the chain use the name to refer to the object to which the speaker from the head of the chain used the name to refer. Although speakers begin to associate different descriptions with

the name of the object to which they are referring, those descriptions do not factor into the chain of reference transmission. Therefore, speakers along the causal-historical chain can successfully refer to an object even if the descriptions they associate with the name of an object do not denote that object uniquely.

A similar reference-fixing story can be told for natural kind terms. According to Kripke, a natural kind term first acquires its referent in an ostensive baptism in which a speaker or group of speakers stipulate that the natural kind, of which at least most of the exemplars with which they are acquainted are instances, is to be the bearer of a particular natural kind term. As the natural kind term gets passed from one speaker to the next, the causal-historical chain grows, and several speakers down the chain use the natural kind term to refer to the kind to which the speakers of the initial baptism referred.

Philosophical Implications of Kripke's Framework

One important implication of Kripke's philosophical framework in *Naming and Necessity* is that if identity statements that consist entirely of either ordinary proper names or natural kind terms are true, then they are necessarily true. Consider the identity statement *Hesperus is Phosphorus*. We know this identity statement is true in light of the empirical discovery that *Hesperus* and *Phosphorus* refer to the same object, the planet Venus. We also know this identity statement is *necessarily* true because we cannot imagine a world in which Hesperus is not Phosphorus, or, in other words, a world in which the object denoted by *Hesperus* and *Phosphorus,* the Planet Venus, is not identical to itself. This latter claim is true in virtue of the fact that *Hesperus* and *Phosphorus* are rigid designators. Although one might claim that they can imagine a world in which

Hesperus is not Phosphorus, what they are really imagining is a world in which *Hesperus* and *Phosphorus* have been stipulated to refer to different objects, and not a world in which the object denoted by *Hesperus* and *Phosphorus* in the actual world is not identical to itself.

Another important implication of Kripke's framework is that identity statements involving natural kind terms are necessarily true, if they are true at all, and only knowable a posteriori. Consider the identity statement *Water is H20.* According to Kripke, we cannot rule out the possibility that water could turn out to be essentially comprised of something other than H20, prior to investigating. For instance, for all we know, water could turn out to be essentially comprised of H30, H40, or XYZ. Therefore, we must investigate the world in order to rule out such epistemically conceivable, but metaphysically impossible worlds in which the identity of water and H20 is false. But once we determine that water is essentially comprised of H20, we know that the identity of water and H20 is necessarily true in virtue of rigid designation, for if *water* refers to H20 in the actual world, it will refer to H20 in counterfactual worlds as well. Therefore, the proposition expressed by *Water is H20* is an instance of the necessary a posteriori. Other identity statements involving natural kind terms are also instances of the necessary a posteriori.

A third important philosophical implication of Kripke's framework is that there are propositions that are contingently true, and knowable a priori. Imagine that a speaker stipulates that the length of *one meter* is to be the length of a particular stick by claiming, "One meter is the length of stick S." According to Kripke, this claim is a priori true at the actual world simply in virtue of the fact that the speaker has stipulated that *one-meter*

is to be the length picked out by stick S. In other words, the length of stick S will always be one meter at the actual world, regardless of how long it turns out to be, simply in virtue of the act of stipulating that it is one meter long. However, according to Kripke, this claim is also a contingent truth because stick s might not have been the length rigidly denoted by *one-meter* in a counterfactual world. For instance, if heat had been applied to the stick, it might have been elongated so that it was longer than one meter. Therefore, the sentence *One meter is the length of stick S* expresses a proposition that is both contingently true, and knowable a priori. Although philosophers had taken a prioricity and necessity to amount to essentially the same thing for many years, Kripke's cases of the necessary a posteriori and contingent a prior have sharply divorced these metaphysical and epistemological concepts.

In summary, the most important philosophical conclusions of Kripke's work are that: **i)** the meaning of a name is not a description, **ii)** in most cases, descriptions do not fix the referent of a name, **iii)** understanding the descriptive content that speakers associate with a name does not amount to understanding it, **iv)** the meaning of a name is not entirely transparent to speakers who use it, **v)** the meaning of a name depends on factors external to the speaker, **vi)** metaphysical possibility is a distinct notion of possibility from that of epistemic possibility, and most importantly **vii)** the central task of philosophy is more than just a priori conceptual analysis, and may involve some empirical investigation.

Motivations for Descriptivist Revival

Over the last twenty-five years, descriptivists have attempted to revive their descriptivist theory of the meaning and reference of proper names and natural kind terms for four main reasons. First, descriptivists believe that anti-descriptivists have not provided adequate solutions to either Frege's Puzzle or Russell's Problem of Negative Existentials. The anti-descriptivists have largely focused on attacking descriptivism, and are just beginning to develop positive theories of the meaning and reference of proper names and natural kind terms that might solve these puzzles.[9] Further, if the anti-descriptivist arguments are sound, then it is hard to see how the meaning of a proper name or natural kind term could be something other than the referent of the term, and this fact does not help in solving either of these puzzles. Thus, descriptivists believes that the power of the anti-descriptivist arguments has been exaggerated.

Second, descriptivists also believe that Kripke and his allies have attacked the wrong descriptions. Kripke's arguments establish that the meaning of a proper name is neither a non-rigid description nor a set of non-rigid descriptions that speakers associate with a proper name. But this fact itself does not refute the notion that a rigidified description could provide part of the meaning of a proper name (or natural kind term). Thus, descriptivists hold that rigidified descriptions provide part of the meaning of proper names and natural kind terms.[10] In addition, some descriptivists believe that we must be able to describe the manner in which the reference of a proper name is fixed. A few even

---

[9] Soames comments on the status of these positive theories in the last chapter of his *Reference and Description*.

[10] What I mean when I say that a rigidified description provides 'part' of the meaning of a proper name or natural kind term will become clearer in my discussion of two-dimensionalism.

claim that Kripke's causal-historical picture of reference transmission can be incorporated into a descriptivist view of reference fixing for proper names and natural kind terms. Thus, descriptivists do not believe that the anti-descriptivists have succeeded at refuting their theory.

Third, descriptivists want to avoid appealing to a distinct set of epistemically conceivable but metaphysically impossible worlds in order to explain why the puzzles of the necessary a posteriori and contingent a priori arise. Recall the puzzles of the necessary a posteriori and contingent a priori. In regards to the necessary a posteriori, it is puzzling that in order to determine the truth of a proposition, we have to investigate in order to rule out possible worlds in which the proposition is false even though the proposition is always true. In regards to the contingent a priori, it is puzzling that in order to determine the truth of a proposition, we do not have to investigate in order to rule our possible worlds in which the proposition is false even though the proposition is false at some possible worlds. Although anti-descriptivists have appealed to the notion that there is a distinct set of epistemically conceivable but metaphysically impossible worlds in order to explain why these puzzles arise, descriptivists refuse to acknowledge such a set of possible worlds because they are previously committed to the contradictory claim that all possibility is metaphysical possibility.

Fourth, descriptivists want to defend the major philosophical presuppositions that reigned in the philosophy of language and the practice of the discipline of philosophy prior to *Naming and Necessity* because much of their work depends on such presuppositions. Those presuppositions involve the meaning and reference of proper names and natural kind terms, the notion that the meaning of a proper name or natural

kind term is determined by factors that are internal to the speaker, the notion that the meaning of a proper name or natural kind term is transparent to a speaker who grasps the correct descriptive content that we associate with a term, the notion that a prioricity, necessity, and analyticity essentially amount to the same thing, and the notion that the main task of philosophy is conceptual analysis.

Jackson's Two-Dimensional Response to the Necessary A Posteriori

Frank Jackson is one descriptivist who responds to the attacks of the anti-descriptivists. Specifically, Jackson provides a two-dimensional analysis of the necessary a posteriori because the necessary a posteriori causes him the most trouble. As a physicalist about the relationship between physical brain-states and nonphysical mental states, Jackson wants to maintain that the physical character of the world necessarily entails the psychological character of the world, and that we can deduce the psychological character of the world from the physical character of the world, a priori. Instances of the necessary a posteriori pose a problem for physicalism because they suggest that some propositions are metaphysically necessary, and thus that there are two ways in which the physical character of the world could necessarily determine the psychological character of the world, either metaphysically or conceptually. Jackson must address the necessary a posteriori in order to explain in which way the physical entails the psychological, metaphysically or conceptually.

Instances of the necessary a posteriori are also a problem for physicalism because they suggest that some necessary entailments are not a priori deducible, suggesting that the necessary entailment of the physical to the psychological may not be a priori

deducible either, contrary to Jackson's theory. The notion that there are necessary

propositions that are only knowable a posteriori also contradicts Jackson's prior

philosophical commitment to the notion that the only necessary proposition is knowable a

priori. Finally, Jackson would like to avoid the notion that there is a distinct set of

epistemically conceivable but metaphysically impossible worlds to which some

philosophers have appealed in order to explain why the puzzle of the necessarily a

posteriori arises, because he is previously committed to the claim that all possibility is

metaphysical possibility.

Jackson begins his two-dimensional analysis of the necessary a posteriori by

reframing the puzzle of this linguistic phenomenon. Recall that for Kripke, the puzzle of

the necessary a posteriori is that *propositions* can be both necessarily true and only

knowable a posteriori. For Jackson, the puzzle of the necessary a posteriori is that we fail

to grasp the necessity of necessary a posteriori *sentences* upon understanding. This fact

is supposed to be puzzling in light of Jackson's folk theory that we grasp the conditions

in which a sentence is true upon understanding. Because we fail to grasp that sentences

like *Water is H20* are necessarily true upon understanding, such sentences fall outside of

the standards of Jackson's folk theory, and hence are puzzling. Given that the puzzle of

the necessary a posteriori is not about propositions but about *sentences,* Jackson goes on

to provide two "superficially different but essentially identical accounts" of why the

puzzle of the necessary a posteriori (as he conceives of it) arises.[11]

Jackson's first account allows that we understand some sentences without

grasping the conditions in which they are true in one sense of *the conditions in which they*

---

[11] Frank Jackson, *From Metaphysics to Ethics,* (Oxford: Oxford University Press, 1998), p. 77.

are true, although we must grasp the conditions in which they are true in another sense of *the conditions in which they are true.* Jackson illustrates what it means to understand a sentence without knowing its truth-conditions in one sense of the term by asking us to consider the sentence *He has a beard.* According to Jackson, we fail to grasp the proposition expressed by this sentence if we lack the appropriate contextual information about the reference of *he.* For this reason, understanding the sentence does not allow us to grasp its truth-conditions because we do not know what conditions would have to hold in the world (who would have to have a beard) in order for the sentence to be true. Nonetheless, we understand the sentence because we know how to move from the appropriate contextual information regarding the person who is being spoken of, to the proposition expressed by the sentence. We know that if Jones is the person who is being spoken of, the proposition expressed by the sentence is that Jones has a beard, and that the sentence is true if Jones has a beard. We also know that if Jackson is the person who is being spoken of, the proposition expressed by the sentence is that Jackson has a beard, and that the sentence is true if Jackson has a beard. Thus, although we fail to grasp the conditions in which the sentence is true in one sense of the truth-conditions of the sentence, we do grasp the conditions in which it is true in another sense of the truth-conditions of the sentence.

Jackson claims that a 'similar point' applies to sentences containing natural kind terms. Consider the sentence *Water covers most of the Earth.* According to Jackson, we fail to grasp the proposition expressed by this sentence if we lack the appropriate

contextual information about the reference of *water*.[12] In this sense, understanding the

sentence does not allow us to grasp the conditions in which the sentence is true in one

sense of *the conditions in which it is true* because we do not know what chemical

substance must cover most of the Earth in order for the sentence to be true. Nonetheless,

we understand the sentence because we know how to move from the appropriate

contextual information about which world is the actual world (or, in other words, about

the essential properties of the watery stuff of our acquaintance), to the proposition

expressed by the sentence. We know that if H20 is the watery stuff of our acquaintance,

then the sentence expresses the proposition that H20 covers most of the Earth, and is true

if H20 covers most of the Earth. If XYZ is the watery stuff of our acquaintance, then the

sentence expresses the proposition that XYZ covers most of the Earth, and is true if XYZ

covers most of the Earth. Thus, although we fail to grasp the conditions in which the

sentence is true in one sense of the truth-conditions of the sentence, we do grasp the

conditions in which the sentence is true in another sense of the truth-conditions of the

sentence.

Jackson's second account, two-dimensionalism, allows that there are two

propositions semantically associated with sentences that involve proper names and

natural kind terms: an A-proposition and a C-proposition. The A-proposition is the set of

possible worlds in which a sentence S is true when we evaluate the truth of S at each

possible world w under the supposition that w is the actual world. The C-proposition is

the set of possible worlds in which a sentence S is true when we evaluate the truth of S at

a possible world w given which world is, in fact, the actual world. In general, we know

---

[12] In other words, if we lack knowledge of the essential properties of the watery stuff of our acquaintance, whatever those essential properties are, then we do not know that *Water covers most of the Earth* expresses a proposition about H20, H30, XYZ, etc.

the A-proposition of a sentence upon understanding, and the A-proposition is often best for capturing what someone believes when they utter a sentence. On the other hand, the C-proposition of a sentence requires that we grasp the appropriate contextual information about which world is, in fact, the actual world. The C-proposition is relevant to modal claims involving sentences that contain proper names or natural kind terms.[13]

Consider a two-dimensional analysis of *Water covers most of the Earth* to get a better sense of the view. According to Jackson, there are two-propositions associated with this sentence: an A-proposition and a C-proposition. The A-proposition of *Water covers most of the Earth* is that the watery stuff of our acquaintance covers most of the Earth.[14] We know that this proposition is the A-proposition of the sentence because it provides the conditions that must hold at a possible world w for the sentence to be true when we assume that w is the actual world. In general, we understand that the watery stuff of our acquaintance covers most of the Earth when we hear a speaker utter *Water covers most of the Earth*. That the watery stuff of our acquaintance covers most of the Earth is also often what a person believes when they believe *Water covers most of the Earth*. *Water covers most of the Earth* is also semantically associated with the C-proposition that H20 covers most of the Earth, because this is the condition in which the sentence is true given which world is, in fact, the actual world (or given that *water* refers to H20).

Jackson's two-dimensional analysis of the necessary a posteriori should now be straightforward. There are two propositions semantically associated with sentences like

---

[13] Frank Jackson, *From Metaphysics to Ethics,* (Oxford: Oxford University Press, 1998).p. 76.
[14] Jackson uses *the watery stuff of our acquaintance* as a substitute for the description or set of descriptions that are the content of one of two-dimensions of meaning of *water*. Thus, it is the A-proposition that contains the disputed descriptive content that provides part of the meaning of natural kind terms.

Water is H20: an A-proposition and a C-proposition. The A-proposition of the sentence is the contingent a posteriori proposition that the watery stuff of our acquaintance is H20. The A-proposition is relevant to epistemic attitude ascriptions such as *Mary believes that water is H20,* and is typically what we understand when we hear a speaker utter *Water is H20.* The C-proposition of the sentence is the a priori, conceptually necessary proposition that H20 is H20, and is relevant to modal ascriptions involving the sentence such as *It is a necessary truth that water is H20.* Thus, Jackson's analysis of the necessary a posteriori allows him to maintain that no one proposition is both necessarily true and only knowable a posteriori, and that instances of the necessary a posteriori are necessary in the very same sense that sentences like *Water is Water* and *H20 is H20* are necessary, allowing him to maintain his physicalist view of the relationship between physical brain-states and non-physical mental states. Jackson's two-dimensional analysis of the necessary a posteriori also allows him to provide an alternative explanation of the necessary a posteriori that does not involve positing a distinct set of epistemically conceivable but metaphysically impossible worlds.

Jackson's reasons for adopting a two-dimensional analysis of the necessary a posteriori are two-fold. Jackson's first reason is "Occamist." Simply put, Jackson does not want to "multiply senses of necessity beyond necessity."[15] If an explanation of the necessary a posteriori can be given in terms of one unitary notion of a set of possible worlds, it should be given in those terms. Jackson's second reason for adopting a two-dimensional analysis of the necessary a posteriori has to do with his intuitive response to Hillary Putnam's Twin Earth thought experiment. According to the thought experiment,

---

[15] Frank Jackson, *From Metaphysics to Ethics,* (Oxford: Oxford University Press, 1998), p. 70.

Twin Earth is a possible world in which the substance that fills the watery role is essentially comprised of XYZ. Kripke's intuitive response to the Twin Earth thought experiment is that it reveals something about water, in particular that water is essentially comprised of H20. But Jackson's intuitive response to the Twin Earth thought experiment is that Twin Earth is a possible world that does not warrant the description 'world where water is XYZ.' Thus, Kripke's intuitive response to the Twin Earth thought experiment is that it reveals something about essentialism, whereas Jackson's intuitive response is that it reveals something about semantics, in particular about the proper use of *water*. And this is the intuition that guides Jackson's two-dimensional analysis of the necessary a posteriori according to which we fail to grasp the necessity of necessary a posteriori sentences upon understanding because we lack the relevant contextual information about the referents of natural kind terms.

Soames' Critique of Jackson's Two-Dimensional Framework

In Chapter Eight of his *Reference and Description,* Scott Soames critiques two of Frank Jackson's arguments that are related to Jackson's two-dimensional analysis of the necessary a posteriori. First, he critiques Jackson's statement of the problem posed by the necessary a posteriori (as Jackson conceives of it). Second, he critiques the logic of Jackson's proposed solution to the problem of the necessary a posteriori. Although these two critiques do not constitute an attack on Jackson's two-dimensional analysis of the necessary a posteriori, they are meant to demonstrate that there are problems with the framework within which Jackson situates his analysis of the necessary a posteriori. In

this section, I explain and evaluate both of these two critiques in the order in which they were presented.

Soames' Critique of Jackson's Statement of the Problem Posed by the Necessary A Posteriori

In his critique of Jackson's statement of the problem posed by the necessary a posteriori, Soames makes two arguments that there is no puzzle of the necessary a posteriori (as Jackson conceives of it), and one argument that Jackson's alleged folk theory of what it means to understand a sentence is false. First, Soames argues that it is not puzzling that we fail to grasp the necessity of instances of the necessary a posteriori upon understanding because there are a lot of arithmetic sentences the necessity of which we fail to grasp upon understanding. Second, Soames argues that Jackson's folk platitude that we grasp the conditions in which a sentence is true upon understanding does not generate a puzzle about the necessary a posteriori when it is properly constructed. Third, Soames argues that Jackson's alleged folk theory is false because it entails that there is only one necessary proposition, contrary to what we ordinarily think. I explain and evaluate each of these arguments below in the order in which I have presented them.

Soames' First Critique

Soames argues that it is not puzzling that we fail to grasp the necessity of instances of the necessary a posteriori upon understanding. According to Jackson, it is puzzling that we fail to grasp the necessity of instances of the necessary a posteriori upon understanding in light of his folk platitude that we grasp the conditions in which a

sentence is true, and further the modal status of a sentence, on the basis of reflection alone. Contrary to Jackson, Soames argues that it is not puzzling that we fail to grasp the necessity of instances of the necessary a posteriori upon understanding in light of the fact that there are a lot of arithmetic sentences the necessity of which we fail to grasp upon understanding. Although Soames does not explain why the existence of such sentences causes the puzzle of the necessary a posteriori to go away, I assume in this paper that his point is that the existence of such sentences demonstrates that it is normal to understand necessary sentences while failing to grasp their necessity. Thus, there is no puzzle of the necessary a posteriori as Jackson conceives of it.

Soames' Second Critique

Soames' second critique is that Jackson's folk platitude does not lead us to believe that we should grasp the necessity of a sentence upon understanding, when it is accurately constructed. According to Jackson, it is puzzling that we fail to grasp the necessity of instances of the necessary a posteriori upon understanding in light of his folk platitude according to which anyone who understands a sentence is able to know the conditions in which a sentence is true, and hence the modal status of a sentence, on the basis of reflection alone. However, Soames claims that nothing about "principles" one and two (below) that he uses to flesh out Jackson's folk platitude leads us to believe that anyone who understands a necessary sentence should be able to grasp its necessity on the basis of reflection alone[16]:

---

[16] Soames does not explain why it is that he needs more than one principle to represent Jackson's folk platitude, I assume in this paper that principles 1 and 2 are merely different interpretations of this platitude.

1) Anyone who understands the sentence 'There are no numbers x, y, z, and n, where n is greater than 2, which are such that $x^n + y^n = z^n$' knows (or could come to know solely on the basis of reflection) that it is true iff there are no numbers x, y, z, and n, where n is greater than 2, which are such that $x^n + y^n = z^n$.

2) Anyone who understands the sentence 'There are no numbers x, y, z, and n, where n is greater than 2, which are such that $x^n + y^n = z^n$' knows (or could come to know solely on the basis of reflection) that for all possible ways w that the world might be, this sentence is true, when taken as a description of how things would be if w obtained, iff it would be the case, if w obtained, that there are no numbers x, y, z, and n, where n is greater than 2, which are such that $x^n + y^n = z^n$.[17]

Here, the fact that just about anyone fails to grasp the necessity of the sentence *There are*

no numbers x, y, z, and n, where n is greater than 2, which are such that $x^n + y^n = z^n$

is supposed to demonstrate that when Jackson's folk platitude is accurately constructed, it

does not lead us to believe that anyone should be able to grasp the necessity of a sentence

upon understanding, for that is not the case for this normal, fact-stating arithmetic

sentence that stands in for other normal, fact-stating sentences. Thus, there is no folk

theory within the context of which the necessary a posteriori is puzzling because it is, in

fact, normal for us to fail to grasp the necessity of a sentence upon understanding. Given

this fact, Soames reinterprets Jackson's folk platitude in a way that might generate a

puzzle about the necessary a posteriori (perhaps in order to exhaust possible responses?),

and then proceeds to demonstrate that such an interpretation is neither widely accepted

nor defensible. Thus, Soames concludes that Jackson's folk platitude does not generate a

puzzle about the necessary a posteriori when it is accurately constructed.

---

[17] Scott Soames, *Reference and Description: The Case Against Two-Dimensionalism,* (Princeton: Princeton University Press, 2005), 154.

Soames' Third Critique

Soames' third critique of Jackson's statement of the problem posed by the necessary a posteriori is that if Jackson's alleged folk theory is true, then there is only one necessary proposition, the set of all possible worlds. This fact is contrary to what we ordinarily think, suggesting that Jackson's alleged folk theory is false. According to Jackson's alleged folk theory, the proposition expressed by a sentence is the set of conditions in which a sentence is true (or, put another way, the set of possible worlds in which a sentence is true). A sentence that is true in all possible worlds expresses the necessary proposition that is the set of all possible worlds. But if this is true, then all necessary sentences express the same necessary proposition, and there is only one necessary proposition, the set of all possible worlds. However, Soames argues that this claim conflicts with our ordinary belief that there are sentences that are true in all possible worlds and that express different propositions. In order to better see this point, consider these basic arithmetic sentences that are necessarily true:

1) 2 + 2 = 4

2) 3 x 3 = 9

Regarding these two sentences, we can confidently claim that it is not the case that **1)** anyone who knows or believes the proposition expressed by the first sentence knows or believes the proposition expressed by the second sentence, that **2)** ascriptions such as **Ralph knows/believes that 2 + 2 = 4** and **Ralph knows/believes that 3 x 3 = 9** invariably agree in truth value, and that it is the case that **3)** ascriptions containing the first sentence are meant to express a different fact than ascriptions containing the second sentence. Thus, we have reason to believe that sentences #1 and #2 express different

propositions despite the fact that they are both necessarily true. However, this analysis is breathtakingly at odds with the notion that there is only one necessary proposition, for if that was the case, then sentences #1 and #2 would express the same proposition. Thus, Soames argues that Jackson's folk theory is false because it entails a claim that is in conflict with what we ordinarily think.

Response to Soames' Critique of Jackson's Statement of the Problem Posed by the Necessary A Posteriori

In the following section, I respond to Soames' critique of Jackson's statement of the problem posed by the necessary a posteriori. First, I argue that the existence of arithmetic sentences the necessity of which we fail to grasp upon understanding does not demonstrate that it is normal to fail to grasp the necessity of a sentence upon understanding, and therefore that the puzzle of the necessary a posteriori (as Jackson conceives of it) still stands. Second, I argue that Soames fails to demonstrate that Jackson's folk platitude does not generate a puzzle about the necessary a posteriori when it is accurately constructed because the example of a normal, fact-stating sentence that he uses in his reconstruction of Jackson's folk platitude is an abnormal, arithmetic sentence with its own unique status in language, and that contributes nothing to our understanding of what it means to understand a normal, fact-stating sentence. Third, I argue that we can apply a two-proposition approach similar to that of Jackson's two-dimensional analysis of the necessary a posteriori to the puzzle that there is only one necessary proposition that arises from Jackson's folk theory, in order to maintain that theory.

Response to Soames' First Critique

Soames fails to demonstrate that it is unpuzzling to fail to grasp the necessity of a sentence upon understanding in his first critique of Jackson's statement of the problem posed by the necessary a posteriori. As stated, Soames seems to claim that the existence of arithmetic sentences the necessity of which we fail to grasp upon understanding demonstrates that it is unpuzzling to fail to grasp the necessity of a sentence upon understanding. Contrary to Soames, I argue that the existence of such sentences does not confirm that it is straightforward to fail to grasp the necessity of a sentence upon understanding. In fact, it seems just as likely, if not more likely, that the existence of such sentences indicates their own unique status in language in light of all of the other sentences for which understanding entails grasping their modal status. Of course, even if this fact is false, Soames provides no evidence that such sentences do not have their own unique status, but just assumes that they are normal, fact-stating sentences.[18] Further, the existence of such arithmetic sentences does not negate the fact that instances of the necessary a posteriori are still puzzling in light of all of the instances of non-arithmetic sentences the necessity of which we do grasp upon understanding. Surely, some explanation must be given for why instances of the necessary a posteriori differ from these sentences. Thus, Soames fails to show that it is unpuzzling to fail to grasp the necessity of a sentence upon understanding, and the puzzle of the necessary a posteriori (as Jackson conceives of it) still stands.

---

[18] In fact, I will argue that the arithmetic sentence that Soames uses in his reconstruction of Jackson's folk theory is one example of a sentence with such a unique status.

Response to Soames' Second Critique

Soames fails to demonstrate that Jackson's folk platitude does not generate a puzzle about the necessary a posteriori when it is accurately constructed because the example of a normal, fact-stating sentence that he uses in his reconstruction of Jackson's folk platitude is not, in fact, a normal, fact-stating sentence, but instead an abnormal, arithmetic sentence with its own unique status in language. This fact explains why we should fail to grasp the conditions in which it is true upon understanding. To better see this point, consider the example that Soames uses in his representation of Jackson's folk platitude, which I will here on out refer to as sentence #1:

1) There are no numbers x, y, z, and n, where n is greater than 2, which are such that x^n + y^n = z^n

To be specific, this is a sentence of English that includes the arithmetic sentence **x^n + y^n = z^n,** and that dictates the conditions in which the arithmetic sentence is true, namely when **n** is less than 2, although the sentence also states that the arithmetic sentence will not always be true under this condition.

Here, I argue that sentence #1 has a unique status in language according to which understanding the sentence does not entail being able to know the conditions in which it is true and the conditions in which it is false upon reflection alone, but instead grasping the rules of the functions contained within the sentence that tell us how to move from the sentence itself to the truth-value of the sentence (or proposition expressed). First, we grasp the rules of the '+' sign, the '^' sign, and the '=' sign. Regarding the '^' sign, we grasp that we should multiply the base number by the amount of times dictated by the exponent in order to determine the values represented by that function. Regarding the '+'

sign, we grasp that we must add the quantities on each side of the symbol in order to determine the values represented by that function. Regarding the '=' sign, we grasp that for the sentence to be true, the quantity on each side of this symbol must be the same. Second, we grasp the rules that dictate the possible assignments of values to the variables **x, y, z,** and **n.** If **n** refers to a number that is greater than 2, then the arithmetic sentence should always turn out to be false regardless of the values we plug in for the variables **x, y,** and **z**. Thus, we grasp how to move from the sentence itself to its truth-value of the sentence (or proposition expressed) between grasping these two sets of rules: for the variable **n,** we plug in numbers that are greater than 2, and for the variables **x, y,** and **z,** we plug in any and all other combinations of numbers, and follow the rules of the arithmetic functions. If the arithmetic sentence included within sentence #1 turns out to be true under any of the conditions we test, then we know that the entire sentence is false. If the arithmetic sentence is always false under the conditions we test (and we test all of the possible conditions), then we know that sentence #1 is true, and that it expresses the necessarily true proposition that is the set of all possible worlds.[19]

In contrast, I contend that this sort of analysis would not apply to normal, non-arithmetic sentences. Although the scope of this paper does not permit me to explore this point in much detail, it seems straightforward that if a person understands a sentence, then they should grasp the conditions in which it is true, and hence its modal status. Of course, Soames contests this point. For him, knowing the conditions in which a sentence is true is a modest deflationary achievement: understanding a sentence 'S' simply

---

[19] The reason I refer to 'testing' the truth of the sentence by plugging in numbers, and not by mathematical proof, is that what seems to be a stake in Soames' discussion of sentence 1 is an ordinary person's ability to determine the truth of the sentence. I take it that an ordinary person does not have the background in mathematics to provide a formal proof of the truth of sentence 1.

involves grasping that 'S' is true if and only if S is true. Thus, "There is a land-mine two meters away" is true if and only if there is a land-mine two meters away. But grasping that the sentence is true if and only if there is a land-mind two meters away is equivalent to grasping the conditions in which the sentence is true, for those conditions are that there is a landmine two meters away. Thus, it seems that Jackson's folk platitude does give rise to a puzzle about the necessary a posteriori when it really is properly constructed.

But perhaps one could object to this point and claim that what it means to grasp a sentence of English is to know how to move from various grammatical rules at work in a sentence to the proposition expressed by a sentence, and therefore that we do not grasp the conditions in which a sentence of English is true upon understanding. Or perhaps one could object that it just *seems* like most people grasp the conditions in which a normal, fact-stating sentence of English is true and the conditions in which it is false upon understanding because they are more proficient in their use of grammatical rules than in their use of the arithmetic rules at play in sentence #1, and thus have the ability to determine the truth conditions of the sentence much more quickly, making it seem like they grasp the conditions in which a normal sentence of English is true upon understanding. The point of either of these objections would be that sentence #1 does not have a unique status in language, but, in fact, that normal sentences of English (or any other language) have a similar status to that of sentence #1, but that we fail to recognize that they have such a status for various reasons. Thus, the objection leads us to the conclusion that we should expect to fail to grasp the modal status of a sentence upon understanding, and that there is no puzzle of the necessary a posteriori (as Jackson conceives of it).

However, the rules that we grasp upon understanding sentence #1 are different than the rules we grasp when we understand normal, fact-stating sentences of English. When we understand sentence #1, what we grasp are functions that must be worked through in order to determine the truth-value of the sentence. When we understand a normal, fact-stating sentence we understand the grammatical rules according to which a sentence is constructed, and we *also* grasp the conditions in which a sentence is true and the conditions in which a sentence is false. The rules that we grasp upon understanding a normal, fact-stating sentence contribute to the meaning of the sentence, but do not constitute a function from inputs to output as do the rules of arithmetic sentences. Instead, they simply help to convey the meaning of the sentence. In other words, the grammatical rules included in normal, fact-stating sentences serve a different purpose than the rules included in sentence #1. Thus, we still have reason to believe that sentence #1 has its own unique status in language.

Therefore, the example of a sentence that Soames uses in his reconstruction of Jackson's folk platitude is not a normal, fact-stating sentence, but an abnormal arithmetic sentence with its own unique status in language. For this reason, Soames fails to confirm that it is unpuzzling to fail to grasp the necessity of a sentence upon understanding, and the puzzle of the necessary a posteriori (as Jackson conceives of it) still stands in light of Jackson's folk platitude. Further, I do not need to address Soames' attempt to reinterpret Jackson's folk platitude in a way that generates a puzzle about the necessary a posteriori because that reinterpretation is unnecessary: Jackson's folk platitude does, in fact, generate a puzzle about the necessary a posteriori. Although Soames might be able to remake his argument with the use of a different arithmetic sentence that does not have

such a unique status in language, the scope of this paper does not permit me to explore

such possibilities here

Response to Soames' Third Critique

My response to Soames' third critique should be fairly straightforward given the

above analysis of sentence #1. In this section, I suggest that we may be able to solve the

puzzle that arises from Jackson's folk theory by applying a two-proposition approach

similar to that of Jackson's analysis of the necessary a posteriori to different necessary

sentences. According to Soames, Jackson's folk theory leads to a puzzle according to

which necessary sentences that we ordinarily take to express different propositions

express the same necessary proposition, the set of all possible worlds. One example of

two necessary sentences for which this is the case are *2 + 2 = 4* and *3 x 3 = 9*. The fact

that Jackson's folk theory leads us to a belief that conflicts with our ordinary belief about

necessary sentences like *2 + 2 = 4* and *3 x 3 = 9* is supposed to convince us that

Jackson's folk theory is false. However, I suggest that we may be able to solve this

puzzle by applying a two-proposition approach similar to that of Jackson's analysis of the

necessary a posteriori to sentences such as *2 + 2 = 4* and *3 x 3 = 9*.

Recall that according to Jackson's two-dimensional analysis of the necessary a

posteriori, there are two propositions associated with instances of the necessary a

posteriori, an A-proposition and a C-proposition. The A-proposition consists in part of

what we grasp upon understanding an instance of the necessary a posteriori, namely how

to move from the sentence uttered to the proposition expressed. The C-proposition is the

proposition "expressed" by a sentence, and that we grasp after investigating. Perhaps, in

a similar vain, there are two-propositions associated with sentences like *2 + 2 = 4* and *3 x 3 = 9*. Following the two-dimensional approach, the first of two propositions associated with arithmetic sentences might consist of grasping how to move from the sentence uttered to the proposition expressed. Thus, the first proposition associated with *2 + 2 = 4* might be that we should add 2 and 2, and that the value that we arrive at when we complete this arithmetic task must be equal to 4 for the sentence to be true. But this knowledge is captured by the arithmetic sentence itself, so the first of the two propositions associated with the arithmetic sentence is just represented by the sentence itself. Also following the two-dimensional approach, the second proposition associated with such sentences would be the claim we arrive at after investigation (which in the case of arithmetic sentences, simply refers to arithmetic investigation). Thus, the second proposition associated with 2 + 2 = 4 would be 4 = 4, and the second proposition associated with 3 x 3 = 9 would be 9 = 9.

Of course, there's something strange about drawing this comparison. First, the first of two propositions associated with either of the arithmetic sentences is identical to the sentence itself, whereas the A-proposition associated with an instance of the necessary a posteriori is not identical to the sentence itself, but includes a rigidified description in the place of a natural kind term. For instance, the first proposition (or A-proposition) associated with the sentence *Water is H20* is that the watery stuff of our acquaintance is H20. This seems to contradict my analysis of the first proposition associated with arithmetic sentences. Second, we do not need to investigate (empirically, that is) in order to determine the second proposition associated with the sentence, as we

would for sentences such as *Water is H20.* Thus, its unclear if a comparison really can be made between instances of the necessary a posteriori and arithmetic sentences.

However, I argue that we should expect that the propositions associated with arithmetic sentences are different from those associated with instances of the necessary a posteriori because we must investigate the world in order to determine the truth of the latter, but not the former. Thus, regarding the first concern, we can confidently claim that we have no reason to believe that the first proposition associated with an arithmetic sentence like *2 + 2 = 4* and *3 x 3 = 9* should involve any rigidified descriptions, for the speaker of sentences like these does not intend to refer to one object or natural kind across worlds, but instead abstract concepts and rules that do not change between worlds. Further, regarding the second concern, it makes sense that we would not need to investigate the world in order to determine the proposition expressed by the sentence because the truth of arithmetic sentences like *2 + 2 = 4* and *3 x 3 = 9* does not depend on the state of the world.

Of course, this might lead one to wonder, once again, why it is that we even believe that there are two propositions associated with arithmetic sentences like *2 + 2 = 4* and *3 x 3 = 9* if we do not need to investigate the world to determine the propositions expressed by such sentences. Here, I would respond that although this is true, we grasp one proposition upon understanding sentences like these, and we must engage in mathematical investigation in order to determine the truth of sentences like these as well, suggesting that there are, in fact, two propositions associated with such sentences as *2 + 2 = 4* and *3 x 3 = 9.* The point, of course, is not to draw a direct comparison of arithmetic sentences like *2 + 2 = 4* and *3 x 3 = 9* to instances of the necessary a

posteriori, but to demonstrate that such arithmetic sentences have a similar status as instances of the necessary a posteriori, according to which understanding such sentences does not entail grasping their truth conditions or modal status. Therefore we can solve the puzzle that necessary sentences that we ordinarily take to express different propositions express the same necessary proposition by applying a two-proposition approach to arithmetic sentences like *2 + 2 = 4* and *3 x 3 = 9* and demonstrating that although these sentences express the same proposition, namely the set of all possible worlds, each is also associated with another proposition which accounts for our belief that these sentences express different propositions.

The Logic of Jackson's Proposed Solution

Soames also explains and critiques the logic of Jackson's proposed solution to the problem of the necessary a posteriori (as Jackson conceives of it). Soames begins by explaining Jackson's two-dimensionalist analysis of the necessary a posteriori, followed by an explanation and critique of Jackson's supposed claim that natural kind terms are indexicals. Finally, Soames concludes this second section by arguing that Jackson promotes a *strong* two-dimensionalist analysis of the necessary a posteriori and contingent a priori. In response, I find most of the content of this section to be agreeable, except for Soames' explanation and evaluation of Jackson's supposed claim that natural kind terms are indexicals. Thus, I focus on Soames' explanation and evaluation of this particular claim in this section, and accept Soames' claim that Jackson promotes a form of strong two-dimensionalism according to which the necessary a posteriori and contingent a priori are linguistic illusions that arise because we fail to understand the

roles played by the A and C-propositions associated with different instances of these two kinds of sentences.

Jackson's Supposed Claim that Natural Kind Terms Are Indexicals

In his explanation and critique of Jackson's supposed claim that natural kind terms are indexicals, Soames makes four claims: 1) Jackson claims that natural kind terms are indexicals, 2) Jackson claims that if we do not know that 'water' designates H20, then we do not know the propositions expressed by 'water' sentences,[20] 3) the analogy between natural kind terms and indexicals does not hold, and 4) its implausible that we do not know the propositions expressed by 'water' sentences just because we do not know that 'water' refers to H20. In the following section, I will argue that claim '1' is false and an overstatement of the comparison that Jackson makes between natural kind terms and indexicals. It follows from this that '3' is true, but moot. I will also accept that '2' is true, and that '4' is based on two confusions that, once clarified, defeat that objection. I begin by explaining claims '1'-'4'.

As stated, Soames claims that Jackson claims that natural kind terms are indexicals. Recall that Jackson makes a comparison between natural kind terms and indexicals in *From Metaphysics to Ethics* when he compares the sentences *He has a beard* and *Water covers most of the Earth*. That Soames interprets the meaning of this comparison to be that natural kind terms simply *are* indexicals is evident based on the title of the relevant section of Chapter Eight, *Problems with Jackson's Thesis that Natural Kind Terms Are Indexicals*. Soames also claims that Jackson claims that we do

---

[20] Here, Soames does not seem to be using *proposition* as Jackson might (to refer to one of two propositions associated with the necessary a posteriori), but instead to refer to the *single* proposition expressed by a sentence in a context.

not know the propositions expressed by 'water' sentences if we do not know that 'water' designates H20, which I accept.

Soames also argues that the analogy of natural kind terms to indexicals does not hold. As stated, Soames interprets the meaning of the comparison of the natural kind term 'water' to the indexical 'he' to be that natural kind terms simply *are* indexicals. Suffice it to say that Soames does, in fact, show that natural kind terms are not indexicals by setting up a number of assumptions that hold either true or false of sentences that include natural kind terms, and demonstrating that the truth values of two of these assumptions change when we substitute a sentence that includes an indexical for a sentence that includes a natural kind term.

Finally, Soames argues that it is implausible that we do not know the proposition expressed by 'water' sentences if we do not know that 'water' designates H20, as Jackson claims. Soames makes this point by asking us to consider a parallel case in which he makes a claim about an object with which we are not acquainted, and that is out of our line of vision. Specifically, he claims that the object is "fine and red." According to Soames, there is a clear sense in which we do not know the proposition expressed by the sentence, although we do know that Soames has said of something that it is fine and red. Soames claims that we would not be in the same position if he were to say that *The water in the bathtub is cold,* even if we do not know the chemical composition of water. Here, we would grasp that the stuff in the bathtub is cold. Thus, we grasp the propositions expressed by 'water' sentences even if we do not know that 'water' designates H20. As Soames later puts it, we do not need to know all of the essential properties of an object or

natural kind to which a person refers in order to know the proposition expressed by a sentence including such reference.

Response to Soames' explanation and critique of Jackson's claim that natural kind terms are indexical

In response to Soames' first claim, I argue that Jackson does not claim that natural kind terms are indexicals. As stated, Soames interprets the meaning of the comparison of the natural kind term 'water' to the indexical 'he' to mean that natural kind terms are indexicals. However, Jackson never makes such a strong claim. In fact, the strongest claim that he does make of the two terms is that a "similar point" can be made of 'water' sentences as can be made of sentences that contain the indexical 'he'. The point he means to make is simply that we can understand 'water' sentences without knowing the propositions they express, by which he means without knowing that such sentences convey facts about a particular chemical substance whether it be H20, H30, XYZ, etc. It follows from this analysis that Soames' claim that the analogy (by which I take him to mean strict analogy) between natural kind terms and indexicals does not hold is true, but irrelevant, because Jackson never intends to make such a strong claim.

As for the fourth claim that Soames makes in this section, I argue that it is based on two confusions that, once clarified, nullify this objection. The first confusion has to do with the meaning of the term *proposition*. For Jackson, the term *proposition* can have two meanings. It can refer to the A-proposition associated with a sentence, or the C-proposition associated with a sentence. For Soames, the term *proposition* has one

meaning. It is simply what is expressed by a sentence at a context.[21] I contend that Jackson is making a point about the C-propositions that are associated with 'water' sentences when he claims that we do not know the propositions expressed by 'water' sentences, if we do not know that 'water' designates H20. He is simply saying that unless we know that 'water' designates H20, then we will not know that H20 covers most of the Earth when we hear a person utter the claim "water covers most of the Earth," and take it to be true. I base this claim on footnote 28 on page 73 of *From Metaphysics to Ethics* that states that, "The point here is, of course, essentially the same as the point made about C-extensions…" I also based this claim on the statement that Jackson makes several pages later that, "It is, I take it, the C-proposition that is normally meant by unadorned uses of the phrase 'proposition expressed by a sentence' when 'proposition' is meant in its set-of-truth-conditions sense"

Soames, on the other hand, is claiming that when we hear a person utter that "the water in the bathtub is cold," and accept this sentence as true, we grasp that the stuff in the bathtub is cold.[22] He seems to be claiming that this point contradicts Jackson's prior claim, although I believe it does not. The confusion, I believe, is that Soames takes Jackson to be making a point about the *single* propositions expressed by 'water' sentences at a context, specifically that we fail to grasp that the stuff in the bathtub is cold when we hear a person utter that "the water in the bathtub is cold" and accept this sentence as true. However, Jackson is really claiming that we fail to grasp that the H20

---

[21] I want to note that Jackson can use the term *proposition* to have this meaning in certain contexts, such as his discussion of the sentence "He has a beard," which I will argue is the root of this confusion.

[22] Or at least I assume that this is his point since he does not specify that we grasp that the bathtub is full of the substance that is essentially comprised of H20.

in the bathtub is cold. But these two points do not conflict. Thus, Soames' objection does not apply to the point that Jackson is making.

Of course, one could remake Soames' objection and claim that Jackson's approach to the necessary a posteriori still does not allow that we grasp that the stuff in the bathtub is cold when we hear someone utter the sentence "the water in the bathtub is cold," and take it to be true. However, Jackson's two-dimensional approach to the necessary a posteriori does, in fact, allow that we grasp that the stuff in the bathtub is cold when we hear someone utter the sentence "the water in the bathtub is cold," and take it to be true. Knowledge that the stuff in the bathtub is cold is knowledge of the A-proposition that is associated with the sentence "the water in the bathtub is cold." Specifically, the A-proposition associated with this sentence is that the watery stuff of our acquaintance in the bathtub is cold. The knowledge contained within this proposition is, for all practical purposes, the same as the knowledge that the stuff in the bathtub is cold.

In response, one could argue that by utilizing Jackson's two-proposition approach to the necessary a posteriori in order to respond to Soames' objection here, that I have somehow cheated. Specifically, one might argue that Jackson makes the comparison of natural kind terms to indexicals irrespective of his two-proposition approach to the necessary a posteriori, and that that comparison is supposed to be one of two comparable but distinct methods of explaining away the significance of the necessary a posteriori as a linguistic illusion. Thus, the objector might argue, it is incorrect to use one of Jackson's methods, in particular his two-proposition approach to the necessary a posteriori, to respond to an objection posed to his other approach to the necessary a posteriori, which we might refer to as Jackson's comparison of natural kind terms to indexicals.

However, I contend that the objector is once again confused. Instead, I argue that Jackson provides just one approach for addressing the problem of the necessary a posteriori, and that that approach is his formal, two-dimensional approach based his possible world semantics and A-propositions and C-propositions. Jackson's comparison of natural kind terms to indexicals is not meant as a solution to the puzzle of the necessary a posteriori, but simply as an illustration that we understand certain sentences without grasping the propositions expressed by those sentences. Although it is unclear why Jackson provides us with this illustration, perhaps it is because his two-proposition approach is so technical and difficult to understand. Nonetheless, a close examination of the paragraph within which Jackson makes the claim that if we do not know that 'water' designates H20, that we do not know the propositions expressed by 'water' sentences, reveals that Jackson is analyzing 'water' sentences along the lines of his formal, two-proposition approach, although he is not being clear about it. Therefore, it is, in fact, a fair move to bring the rest of his formal, two-proposition approach into this discussion to respond to the objection made by Soames.

I also want to explain that the comparison of natural kind terms to indexicals is probably where Jackson confuses his readers, because he uses the term *proposition* in different ways between his analysis of sentences that contain indexicals and sentences that contain natural kind terms, and does not provide his readers with good enough warning of that shift in meaning. To be specific, Jackson uses the term *proposition* to mean the same thing in the context of sentences that contain indexicals as it does in the context of Soames' objection to Jackson, whereas he uses it to refer to the C-propositions expressed by 'water' sentences when he analyzes such sentences. Ultimately, Jackson's

comparison of natural kind terms to indexicals probably should not have been included in the logic of Jackson's proposed solution to the necessary a posteriori because it causes more confusion than clarity. Thus, I urge those readers who do not accept my defense of Jackson in this section to simply disregard the comparison between natural kind terms and indexicals, for Jackson's formal two-proposition approach to the necessary a posteriori stands on its own as a solution to the necessary a posteriori.

Soames' Direct Attack on Two-Dimensionalism, and a Response

In Chapter Ten of *Reference and Description,* Scott Soames attempts to refute strong two-dimensionalism. According to *strong* two-dimensionalism, instances of the necessary a posteriori and contingent a priori are linguistic illusions that arise because we fail to notice the different roles played by A-propositions and C-propositions in modal and epistemic sentences. Frank Jackson promotes a form of strong two-dimensionalism.[23] Soames attempts to refute the conjunction of the central tenets of strong two-dimensionalism through seven highly technical arguments as a means of refuting strong two-dimensionalism. Due to the limitations of this project, I intend to respond to only the most powerful arguments against strong two-dimensionalism in this chapter, which I take to be the first five of the highly technical arguments. My thesis will be that arguments 1-5 fail to refute the conjunction of the central tenets of strong two-dimensionalism. In order to confirm my thesis, I will begin by attempting to capture the general spirit of arguments 1-5 since they are so technical. Next, I provide Argument 1 in its original

---

[23] Due to the limitations of this project, I cannot provide a justification for this claim. However, suffice it to say that Soames argues that Jackson is a strong two-dimensionalist in his *Reference and Description,* and that I find this argument compelling, although incomplete. The argument can be found on pages 170-175.

form as a paradigm of arguments 1-5, and argue that it fails to refute the conjunction of

two central tenets of strong two-dimensionalism. Finally, I will argue that the reasons for

which Argument 1 does not succeed are the same reasons for which arguments 2-5 do not

succeed.

Arguments 1-5

In arguments 1-5, Soames argues that the conjunction of central tenets (1a) and

(1b), and the conjunction of central tenets (2a) and (2b), of strong two-dimensionalism

are false. Here are central tenets (1a), (1b), (2a), and (2b):

> 1a) **It is a necessary truth that S** is true with respect to a context C and world-state w iff the C-proposition of S in C is true with respect to all (metaphysically possible) world-states w* that are possible relative to w.
>
> 1b) **It is knowable a priori that S** is true with respect to C and w iff the A-proposition of S in C is knowable a priori in w; **x knows/believes that S** is true of an individual i with respect to C and w iff in w, i knows/believes the A-proposition of S with respect to C. Similarly for other epistemic operators.
>
> 2a) All proper names and natural kind terms have their referents semantically fixed by descriptions not containing any (uneliminable) proper names or natural kind terms.
>
> 2b) These names and natural kind terms are synonymous with context-sensitive, rigidified descriptions (involving *dthat* or *actually*).

 The non-technical translation of (1a) is that the proposition expressed by instances of the

necessary a posteriori in modal contexts is the C-proposition. The non-technical

translation of (1b) is that the proposition expressed by instances of the necessary a

posteriori in propositional attitude contexts is the A-proposition. Arguments 1, 3, 4, and

5 are meant to demonstrate the falsity of the conjunction of tenets (1a) and (1b), while

Argument 2 is meant to demonstrate the falsity of the conjunction of tenets (2a) and (2b).

Soames's overarching strategy is to demonstrate that if the conjunction of either (1a) and

(1b), or (2a) and (2b) is true, then a number of counterintuitive conclusions follow,

suggesting that the conjunction of (1a) and (1b), and of (2a) and (2b) are actually false.

Soames executes this strategy by demonstrating that the substitution of one necessarily

equivalent epistemic attitude ascription for another in a modal sentence does not preserve

the truth-value of that sentence as it would if the conjunction of central tenets (1a) and

(1b), and (2a) and (2b) of strong two-dimensionalism was true. Consider Argument 1 as

a paradigm of arguments 1-5.

Argument 1

Consider the following sentences:

S1. The actual husband of Stephanie Lewis was the actual author of *Counterfactuals*.

S2. The husband of Stephanie Lewis was the author of *Counterfactuals*.

Soames claims that the two rigidified descriptions in S1 rigidly designate David Lewis.

Therefore, the C-proposition of S1 is the necessary truth that David Lewis was David

Lewis. However, the A-proposition of S1 is the contingent a posteriori proposition that

the husband of Stephanie Lewis was the author of *Counterfactuals*. Soames also claims

that S2 expresses the same proposition that the husband of Stephanie Lewis was the

author of *Counterfactuals* in every context of utterance, meaning that the A-proposition

of S2 is also the C-proposition of S2.[24] The two-dimensional interpretation of these sentences is important later on.

Next, consider what happens when we plug these sentences into the following argument that attacks the conjunction of central tenets (1a) and (1b). The following is a direct quotation of Argument 1 from pages 272 and 273 of reference and description:

Step 1. According to strong two-dimensionalism, epistemic attitude ascriptions *A believes that S* report that the agent bears the belief relation to the A-proposition of S—i.e., a proposition that, in effect, says of the character of S that is expresses a truth.

Step 2. Since for every context C, the character of sentence S1 expresses a truth with respect to C iff the character of sentence S2 does too, the two A-propositions are identical, and the ascriptions

A believes that the actual husband of Stephanie Lewis was the actual author of <u>*Counterfactuals.*</u>

and

A believes that the husband of Stephanie Lewis was the author of <u>*Counterfactuals.*</u>

are necessarily equivalent. (In fact their secondary intensions, as well as their primary intensions, are identical).

Step 3. Hence, the truth-value of

a. It is a necessary truth that [if the actual husband of Stephanie Lewis was the actual author of *Counterfactuals* and Mary believes that the actual husband of Stephanie Lewis was the actual author of *Counterfactuals,* then Mary believes something true].

is the same as the truth-value of

b. It is a necessary truth that [if the actual husband of Stephanie Lewis was the actual author of *Counterfactuals* and Mary believes that the husband of Stephanie Lewis was the author of *Counterfactuals,* then Mary believes something true].

Since (b) is false, so is (a).

Step 4. Similarly, the truth-value of

a. It is a necessary truth that [if Mary believes that the actual husband of Stephanie Lewis was the actual author of *Counterfactuals,* and if that belief is true, then the actual husband of Stephanie Lewis was the actual author of *Counterfactuals*].

---

[24] Soames provides this two-dimensional analysis of S1 and S2 on page 270 of *Reference and Description.*

is the same as the truth-value of

    b.   It is a necessary truth that [if Mary believes that the husband of Stephanie Lewis was the author of *Counterfactuals,* and if that belief is true, then the actual husband of Stephanie Lewis was the actual author of *Counterfactuals*.

Since (b) is false, so is (a).

Step 5. Since, in fact, the a-sentences in steps 3 and 4 are true, the strong two-dimensionalist theses (1a) and (1b) are not jointly true. [25]

Before objecting to Argument 1, I want to make a few clarifying comments. First, Argument 1 contains two similar but different arguments. One of those arguments consists of Steps 1, 2, 3, and 5. The other consists of Steps 1, 2, 4, and 5. Each of these arguments fails for similar but distinct reasons, which is why I distinguish between them. I will refer to the first of these arguments as Argument 1, Step 3 (since that is the crucial step in that argument), and to the other as Argument 1, Step 4 (since that is the crucial step in that argument). Second, Arguments 2-5 are not identical to Argument 1, although they are similar enough that Argument 1 can stand in their place as a paradigm. Although Argument 2 differs from Argument 1 in that it is meant to falsify the conjunction of central tenets (2a) and (2b), it is similar enough that my argument against Argument 1, Step 3 brings it down as well. Argument 3 is essentially identical to Argument 1, Step 4, with the epistemic operator *know* substituted in for the epistemic operator *believe*. I also take arguments 4 and 5 to be essentially parallel to Argument 1, Step 3.

---

[25] *Reference and Description,* 272-273.

Response

In this section, I argue that arguments 1-5 fail to refute the conjunction of central tenets (1a), (1b), (2a), and (2b) of strong two-dimensionalism. In order to refute arguments 2-5, I provide an argument against Argument 1, Step 4 that also brings down Argument 3. Then, I provide an argument against Argument 1, Step 3 that also brings down arguments 2, 4, and 5. Regarding Argument 1, Step 4, I will argue that Soames misevaluates the truth of one of the relevant modal sentences of the argument. When we correctly evaluate the truth-value of that modal sentence, we see that it is the same as the truth-value of the other modal sentence, and that the conjunction of (1a) and (1b) is not falsified by Argument 1, Step 4. For this same reason, Argument 3 is unsound. Regarding Argument 1, Step 3, I will argue that Soames misevaluates the truth of one of the modal sentences, and that when we correctly evaluate the truth-value of that modal sentence, we see that it is the same as that of the other modal sentence, and therefore that the conjunction of (1a) and (1b) is not falsified by Argument 1, Step 3. Further, the only two-dimensional interpretation of the epistemic attitude ascriptions contained within the modal sentences of Argument 1, Step 3 that results in the modal sentences having different truth-values does not serve the purposes of this argument. Thus, Argument 1, Step 3 is false, and so are arguments 2, 4, and 5.

Response to Argument 1, Step 4

In response to Argument 1, Step 4, I object that Soames misevaluates the truth of one of the modal sentences of the argument, and that when we correctly evaluate the truth of that sentence, we see that it is the same as that of the other modal sentence, and

therefore that the conjunction of central tenets (1a) and (1b) is not falsified by Argument 1, Step 4. Recall that in order for Argument 1, Step 4 to succeed, the truth-values of (4a) and (4b) must not be the same, and thus imply a verdict at odds with our intuition of what the truth-value of (4a) should be.[26] However, the truth-values of (4a) and (4b) are always the same, even if we allow for different strong-two dimensional interpretations of an ambiguous sentence that appears in each of these claims. Here are claims (4a) and (4b):

> 4a. It is a necessary truth that [if Mary believes that the actual husband of Stephanie Lewis was the actual author of *Counterfactuals,* and if that belief is true, then the actual husband of Stephanie Lewis was the actual author of *Counterfactuals].*

> 4b. It is a necessary truth that [if Mary believes that the husband of Stephanie Lewis was the author of *Counterfactuals,* and if that belief is true, then the actual husband of Stephanie Lewis was the actual author of *Counterfactuals].*

Before evaluating the truth of claim (4b), (since that is the only of these two claims the truth-value of which I contest), I want to note that it is unclear if *the actual husband of Stephanie Lewis was the actual author of Counterfactuals*, from both (4a) and (4b), expresses it's A-proposition or it's C-proposition.[27] According to strong two-dimensionalsim, *the actual husband of Stephanie Lewis was the actual author of*

---

[26] I need to make a clarifying point here. According to Soames, the argument will succeed if the truth-value of (4a) is the truth-value other than that implied by the assumptions of two-dimensionalism. In other words, the truth-value of (4a) must be true, because the truth-value of (4b) is false. However, I have adapted the standards for the success of the argument based on the notion that there is a sentence contained within (4a) and (4b), the meaning of which is ambiguous (or at least I thought was ambiguous before Professor Ganson informed me that the sentence is, in fact, embedded under a modal operator, meaning that it expresses it's C-proposition, whereas before I was not sure if it expressed it's a-proposition or its C-proposition). Because I did not have time to alter the paper accordingly, I evaluate the success of Argument 1 according to the standard that the truth-values of (4a) and (4b) must not be the same. Therefore, this footnote also serves to inform the reader of a very important fact: the so-called "ambiguous sentence" expresses its C-proposition. Although I evaluate the truth-values of different claims through this section as if it is unclear, the ambiguous sentence, in fact, expresses its C-proposition. Therefore, the sections of this paper that assume that the ambiguous sentence expresses it's A-proposition can be disregarded.

[27] Once again, professor Ganson has explained that the ambiguous sentence really isn't so ambiguous: it expresses its C-proposition that David Lewis was David Lewis. However, when the so-called ambiguous sentence is embedded under an epistemic oprator, I always take the entire ascription to report that an agent bears the belief relation to the A-proposition of the ambiguous sentence since this is the meaning that such ascriptions are supposed to have according to Step 2 of Argument 1.

Counterfactuals is semantically associated with two propositions, an A-proposition and a C-proposition. Which of these two propositions is expressed depends on whether the sentence is embedded under a modal or epistemic operator. However, when the sentence is not embedded under either a modal or epistemic operator, we cannot know which of these two propositions is expressed in these claims. Therefore, I will evaluate the truth of (4b) under the assumption that the ambiguous sentence expresses it's A-proposition, and then evaluate the truth of (4b) under the assumption that the ambiguous sentence expresses its C-proposition. This way I can show that (4b) is always true, regardless of whether the ambiguous sentence expresses its A-proposition of its C-proposition.

The following matrix reports the truth of claim (4b). Row (1) reports the truth of claim (4b) under the assumption that the ambiguous sentence expresses its A-proposition. Row (2) reports the truth of (4b) under the assumption that the ambiguous sentence expresses its C-proposition.[28]

Truth-value of (4b)

1.	**T**
2.	**T**

Thus, claim (4b) is a necessary truth, and the truth-value of claim (4b) is always the same as the truth-value of claim (4a), since (4a) is also a necessary truth as Soames confirms. Thus, claims (4a) and (4b) do not differ in truth-value, and the conjunction of strong two-dimensionalist tenets (1a) and (1b) is not falsified by this argument.

---

[28] Given previous footnotes, row 2 is the important row in this matrix, and my analysis of row one can be passed over.

My justification for the truth-values I report in the matrix is as follows. Regarding the first row, we can see that if Mary believes that the husband of Stephanie Lewis was the author of *Counterfactuals,* and if that belief is true, and if *the actual husband of Stephanie Lewis was the actual author of* <u>*Counterfactuals*</u> expresses it's A-proposition that the husband of Stephanie Lewis was the author of *Counterfactuals,* then claim (4b) is true because there is no possible world in which the antecedent of the conditional is true and the consequent of the conditional is false. Regarding the second row of the matrix, we can see that if *the actual husband of Stephanie Lewis was the actual author of* <u>*Counterfactuals*</u> expresses it's C-proposition that David Lewis was David Lewis, then claim (4b) is true because there is no possible world in which the consequent of the conditional is false. Therefore, claim (4b) is always true regardless of the meaning of the ambiguous sentence, the truth-values of claims (4a) and (4b) are never different, and Argument 1, Step 4 fails to refute the conjunction of strong two-dimensional theses (1a) and (1b). Because Argument 3 is essentially the same as Argument 1, Step 4, my objection to Argument 1, Step 4 also applies to Argument 3, and Argument 3 fails.

Response to Argument 1, Step 3

Argument 1, Step 3 fails to refute the conjunction of strong two-dimensional theses (1a) and (1b) because Soames misevaluates the truth of the modal sentences that appear under Step 3 of Argument 1. Recall that in order for Argument 1, Step 3 to succeed, the truth-values of the modal sentences of Step 3 must not be the same. However, the problem is that they are always the same, even if we allow for different

strong two-dimensional interpretations of the ambiguous sentence contained within

claims (3a) and (3b). Here are claims (3a) and (3b):

> 3a. It is a necessary truth that [if the actual husband of Stephanie Lewis was the actual author of *Counterfactuals* and Mary believes that the actual husband of Stephanie Lewis was the actual author of *Counterfactuals,* then Mary believes something true].

> 3b. It is a necessary truth that [if the actual husband of Stephanie Lewis was the actual author of *Counterfactuals* and Mary believes that the husband of Stephanie Lewis was the author of *Counterfactuals,* then Mary believes something true].

Before evaluating the truth of these claims, I want to note, once again, that *the actual husband of Stephanie Lewis was the actual author of Counterfactuals* is not embedded under either a modal or epistemic operator. Thus, we cannot know if it expresses its A-proposition or its C-proposition.[29] For this reason, I will evaluate the truth of (3a) and (3b) under the assumption that the ambiguous sentence expresses it's A-proposition, and then perform the same task under the assumption that the ambiguous sentence expresses it's C-proposition.[30] Thus, I will be able to show that the truth-values of claims (3a) and (3b) are never different, regardless of the meaning of the ambiguous sentence.

The following matrix reports the truth-values of claims (3a) and (3b). Row (1) reports the truth-values of claims (3a) and (3b) under the assumption that the ambiguous sentence expresses it's A-proposition. Row (2) reports the truth-values of (3a) and (3b) under the assumption that the ambiguous sentence expresses it's C-proposition.

Truth-value of (3a)   **Truth-value of (3b)**

---

[29] One again, Professor Ganson has explain that it expresses its C-proposition.

[30] Again, when the ambiguous sentence is embedded under an epistemic operator, I assume that the epistemic ascription reports that an agent bears the belief relation to the A-proposition of a sentence. Thus, the sentence *Mary believes that the actual husband of Stephanie Lewis was the actual author of Counterfactuals* reports that Mary believes that the husband of Stephanie Lewis was the author of *Counterfactuals.*

1.	**T**	**T**
2.	**F**	**F**

As the matrix indicates, the truth-value of (3a) is always the same as the truth-value of (3b) regardless of the strong two-dimensional interpretation of the ambiguous sentence. Therefore, the truth-values of (3a) and (3b) are always the same, and the conjunction of central tenets (1a) and (1b) are not falsified by Argument 1, Step 3.

My justification for the truth-values I report in the matrix are as follows. In regards to the first row of the matrix (for which I assume that the ambiguous sentence expresses it's A-proposition), suffice it to say that there is no possible world in which either (3a) or (3b) is false. Of course, I only need to provide a justification for the claim that (3b) is true, because Soames does not contest that (3a) is true. Regarding (3b), we should be able to see that there is simply no possible world in which the A-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals* is true, and Mary believes that the A-proposition of *the husband of Stephanie Lewis was the author of Counterfactuals* is true, and Mary's belief is false. Put another way, there is no possible world in which the husband of Stephanie Lewis was the author of *Counterfactuals,* and Mary believes that the husband of Stephanie Lewis was the author of *Counterfactuals,* and Mary's belief is false.

Of course, one might object to my interpretation of (3b), and claim that the A-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals* is that David Lewis was David Lewis, because *the actual husband of Stephanie Lewis* and *the actual author of Counterfactuals* rigidly designate David Lewis

in every possible world in light of the role played by the actuality operator.[31] However, I would respond that this is an inaccurate strong two-dimensional interpretation of the A-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals.* Recall that when we take the C-proposition of a sentence, we evaluate the truth of that sentence given which world is, in fact, the actual world. Thus, when we take the C-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals*, we consider which object is uniquely denoted by *the actual husband of Stephanie Lewis* and *the actual author of Counterfactuals* at the world that is, in fact, the actual world. Since the object denoted by each description at the actual world is David Lewis, we know that the sentence, the proposition of which is in question, expresses the C-proposition that David Lewis was David Lewis. Further, we know that if we evaluated the truth of this sentence at a counterfactual world, that it would still express the necessary truth that David Lewis was David Lewis because the descriptions included in the sentence would still refer to David Lewis, the person from the actual world, in virtue of the role played by the actuality operator.

Recall, also, that when we take the A-proposition of a sentence, we evaluate the truth of the sentence at each possible world under the supposition that that world is the actual world. When we take the A-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals*, we consider which objects from the world at which we are evaluating the truth of the sentence are picked out by *the actual husband of Stephanie Lewis* and *the actual author of Counterfactuals*. Thus, the actuality operator

---

[31] Although it might be strange for one to pose this objection given that Soames has specified that the A-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals* is equivalent to the proposition expressed by *the husband of Stephanie Lewis was the author of Counterfactuals*, the objection embodies an important confusion about the use of the actuality operator that I think is important to clear up.

helps to pick out objects from the world that we suppose is the actual world, regardless of which world is, in fact, the actual world. With this said, we can see that the A-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals* is simply the contingent, a posteriori claim that the husband of Stephanie Lewis was the author of *Counterfactuals*.[32] Thus, the objection that I have misinterpreted the truth-value of (3b) fails.

In regards to the second row of the matrix in which I report that both (3a) and (3b) are false, suffice it to say that a counterfactual world in which the husband of Stephanie Lewis was not the author of *Counterfactuals* is a world in which both claims are false, and that there is no possible world in which one of these claims is true and the other is false when we assume that the ambiguous sentence expresses its C-proposition. Simply put, the fact that David Lewis was David Lewis does not guarantee that the husband of Stephanie Lewis was the author of *Counterfactuals* in a counterfactual world. Of course, Soames claims that (4a) is true, so he might object to this claim, and provide the following justification for the claim that (3a) is true: If the husband of Stephanie Lewis was the author of *Counterfactuals,* and if Mary believes that David Lewis was David Lewis, then Mary's belief is never false because she believes a necessary truth. Soames could make essentially the same argument under the assumption that the ambiguous sentence expresses it's C-proposition, since the truth of (3a) would simply hinge on the fact that Mary believes a necessary truth, and thus that Mary's belief is never false, and that the consequent of the conditional within (3a) is never false, and thus that it is a necessary truth.

---

[32] Further, this proposition is equivalent to the proposition that the husband of Stephanie Lewis was the author of *Counterfactuals*.

However, this two-dimensional interpretation of *Mary believes that the actual husband of Stephanie Lewis was the actual author of Counterfactuals* does not serve the purpose of Argument1, Step 3. Recall that in order for Soames' argument to succeed, he must use the epistemic attitude ascriptions that he introduces in Step 2 of the first argument so that they have the same meaning when he uses them in later steps of the argument. For if he was to do otherwise, he could be charged with substituting one unequivalent epistemic attitude ascription for another in a claim and convincing us that that substitution should preserve the truth-value of the original claim according to two-dimensionalism, although really it should not, because the epistemic attitude ascription that he would be substituting for another such ascription in this hypothetical argument would not be equivalent to the ascription the place of which it takes in the new sentence. However, I contend that this is precisely what Soames would be doing, were he to interpret *Mary believes that the actual husband of Stephanie Lewis was the actual author of Counterfactuals* to report that Mary bears the belief relation to the C-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals,* because he uses *Mary believes that the actual husband of Stephanie Lewis was the actual author of Counterfactuals* to report that Mary bears the belief relation to the A-proposition of *the actual husband of Stephanie Lewis was the actual author of Counterfactuals* in Step 2.[33] The point is that making this move would not serve his argument, because using the epistemic attitude ascriptions to express different propositions than he stipulates that they do under Step 2 would defeat the expectation that the substitution of one of these

---

[33] And using the epistemic attitude ascriptions in these two ways causes them to having different meanings, even though the ascriptions themselves are nearly identical.

epistemic attitude ascriptions for another in a modal sentence should preserve the truth-value of that sentence.

Therefore it is evident that the truth-values of claims (3a) and (3b) never differ unless we interpret the modal sentences of (3a) and (3b) in a way that Jackson would not permit, regardless of the strong two-dimensional interpretation that we give to the ambiguous sentence. Further, the only strong two-dimensional interpretation of the epistemic attitude ascriptions included in claims (3a) and (3b) that could reasonably result in (3a) and (3b) having different truth-values requires that we substitute one unequivalent epistemic attitude ascription for another in claim (3a), in order to produce claim (3b), a move that we would not expect would preserve the truth of the claim, and which therefore does not serve the purpose of Argument 1, Step 3.

I have trouble seeing why it is that Soames believes that claims (3a) and (3b) differ in truth-values, although I suspect it has something to do with providing a two-dimensional interpretation of the epistemic attitude ascriptions in claims (3a) and (3b) according to which one reports that Mary bears the belief relation to the A-proposition of a sentence, while the other reports that Mary bears the belief relation to the C-proposition of a sentence. My reasons for believing this hypothesis are two-fold. First, this particular two-dimensional interpretation of the epistemic attitude ascriptions in claims (3a) and (3b) allows that (3a) is true and (3b) is false, providing Soames with the truth-values he needs to make his point. Second, this hypothesis also explains why Soames arrives at false conclusions about the truth-values of claims included in arguments 2, 4, and 5, for which the substitution of unequivalent epistemic attitude ascriptions is for Soames to make his point. As stated, however, for Soames to substitute unequivalent epistemic

attitude ascriptions does not serve the purpose of his argument. Thus, Arguments 1, Step 3, 2, 4, and 5 all fail on these grounds. And in general, Soames' highly technical arguments against strong two-dimensionalism fail.

Conclusion

Therefore, Frank Jackson's two-dimensional analysis of the necessary a posteriori survives the attack from Scott Soames. In order to confirm this thesis, I have argued the following: 1) Soames fails to demonstrate that Jackson's folk platitude that we grasp the conditions in which a sentence is true upon understanding fails to generate a puzzle about the necessary a posteriori because of his use of an abnormal, arithmetic sentence in his reconstruction of that platitude, 2) Jackson can use a two-proposition approach in order to solve the problem of his folk theory that there is only one necessary proposition, 3) Jackson does not claim that natural kind terms are indexicals, but instead simply compares the two kinds of terms, suggesting that Soames' attack on Jackson's supposed claim that natural kind terms are indexicals is irrelevant, and 4) Soames misevaluates the truth-values of the modal sentences in five highly technical arguments that are aimed at bringing down the conjunction of the central tenets of two-dimensionalism, causing those arguments to fail. Further, regarding this last claim, the only interpretation of the truth-values of the modal sentences of the highly technical arguments that would provide Soames with the truth-values that he needs to bring down two-dimensionalism would not be permitted by Jackson.

Given that Jackson's two-dimensionalism survives the attack, Jackson can maintain his physicalist view about the relationship between physical brain-states and

nonphysical mental states, as well as his prior philosophical commitments to the notion that the only necessary proposition is knowable a priori, and that all possibility is metaphysical possibility. Of course, Jackson's two-dimensionalism is just one form of two-dimensionalism among others, and the fact that it survives the attacks of Scott Soames is not enough to suggest that the presuppositions of philosophy that reigned before *Naming and Necessity* have been saved. Philosophers have more work to do in evaluating the success of other two-dimensional programs, and seeing if those programs, in addition to that of Jackson, can withstand further scrutiny. Still, it is promising for the descriptivists that Jackson's two-dimensional withstood these attacks.

Bibliography

1. Frank Jackson, *From Metaphysics to Ethics,* (Oxford: Oxford University Press, 1998).

2. Saul Kripke, *Naming and Necessity,* (Cambridge, MA: Harvard, 1980).

3. Scott Soames, *The Age of Meaning* (Princeton: Princeton University Press, 2003).

4. Scott Soames, *Reference and Description: The Case Against Two-Dimensionalism,* (Princeton: Princeton University Press, 2005).