EPISTEMIC TWO-DIMENSIONALISM AND ARGUMENTS FROM EPISTEMIC MISCLASSIFICATION[1]

Edward Elliott, Kelvin McQueen, Clas Weber

Epistemic Two-Dimensional Semantics (E2D) claims that expressions have a counterfactual intension and an epistemic intension. Epistemic intensions reflect cognitive significance such that sentences with necessary epistemic intensions are a priori. We defend E2D against an influential line of criticism: arguments from epistemic misclassification. We focus in particular on the arguments of Speaks [2010] and Schroeter [2005]. Such arguments conclude that E2D is mistaken from (i) the claim that E2D is committed to classifying certain sentences as a priori and (ii) the claim that such sentences are a posteriori. We aim to show that these arguments are unsuccessful as (i) and (ii) undercut each other. One must distinguish the general framework of E2D from a specific implementation of it. The framework is flexible enough to avoid commitment to the apriority of any particular sentence; only specific implementations are so committed. Arguments from epistemic misclassification are therefore better understood as arguments for favouring one implementation of E2D over another, rather than as refutations of E2D.

1. Introduction

Epistemic Two-Dimensionalism (E2D) states that in addition to ordinary counterfactual intensions expressions are associated with epistemic intensions. While the counterfactual intension of an expression captures its modal profile, its epistemic intension reflects the expression's cognitive significance. Epistemic intensions are functions from scenarios, or ways the world might be for all we know a priori, to extensions. For instance, the fact that Hesperus is Phosphorus is metaphysically necessary suggests that the counterfactual intensions of Hesperus and Phosphorus are identical, while the fact that the sentence is cognitively significant and a posteriori suggests that their epistemic intensions are different. According to the Core Thesis of E2D, a sentence is a priori if and only if it is epistemically necessary, or true in all scenarios.

Fully competent speakers (that is, those who associate expressions with the right epistemic intensions) are such that given sufficient information about what obtains at a scenario, they can infer a priori what their expressions refer to in the scenario (if anything). For example, given sufficient information about the distribution and behaviour of H_2O molecules in one's environment, competent speakers are in a position to a priori infer that 'water' refers to H_2O.

And given sufficient information about a scenario in which XYZ molecules play this role, one is in a position to a priori infer that 'water' refers to XYZ.[2]

E2D therefore seems committed to the apriority of sentences which make these inferences explicit, such as conditionals with scenario descriptions in their antecedents, and identity claims in their consequents, identifying the extension of the relevant expression with something explicitly mentioned in the scenario description. Furthermore, it might be that an expression's extension at every scenario is determined by the instantiation of a finite set of specific properties, which we may call reference-fixing properties. In that case, E2D seems committed to the apriority of sentences that attribute such reference-fixing properties to the expression's referent. An influential line of criticism to this consequence takes the following form:

> **Premise 1:** E2D entails that sentence S is a priori.
> **Premise 2:** S is not a priori.
> **Conclusion:** E2D is mistaken.

We call arguments of this form arguments from epistemic misclassification. Examples can be found in Speaks [2010] and Schroeter [2005]. We respond to Speaks and Schroeter and show that arguments from epistemic misclassification cannot work because they are self-undermining. The two premises undercut each other: inasmuch as the first premise is plausible, the second becomes implausible and vice versa. Hence, there is no instance of an argument from epistemic misclassification where both premises are plausible.

Why do the two premises undercut each other? The general framework of E2D does not associate any specific intension with a given expression. An implementation of E2D takes a stand on this issue, thereby giving a semantics for that expression. But the question of which implementation of E2D correctly applies to an expression depends in part on the epistemic status of sentences using the expression. An adequate implementation of E2D will respect our considered judgements about apriority. Hence, if the relevant sentence S is not a priori (i.e., if Premise 2 is plausible), an implementation of E2D which predicts that it is a priori is inadequate. We therefore have no reason to accept Premise 1: E2D is flexible enough that there are a range of implementations available that can account for S's aposteriority. And conversely: if an implementation is adequate and is committed to the apriority of S, then we have reason to reject Premise 2, since an adequate implementation of E2D must be consistent with what sentences are a priori.

To illustrate, let S be 'Gödel is the inventor of the incompleteness theorem'. In his epistemic argument Kripke [1972] convincingly argued that S is not a priori. But it would be wrong to take this as an argument against E2D. Rather, it is better seen as an argument for implementations of E2D that associate 'Gödel' with an epistemic intension that does not pick out the inventor of the incompleteness theorem in every scenario. In this case, the plausibility of premise 2 undercuts the plausibility of premise 1.

Our defence of E2D is in the spirit of Frank Jackson's [1998] response to Kripke. Jackson interprets Kripke not as refuting the claim that names have a descriptive sense, but rather as elucidating the descriptive sense they in fact have. In the same way, we can understand Schroeter's and Speaks's arguments not as refutations of E2D, but as suggestions for favouring certain implementations of E2D over others.

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[2] For a detailed exposition of E2D, see [Chalmers 2004].

We first examine Speaks's argument, which concludes that E2D is committed to treating a particular set of sentences as a priori (§2). In response, we define several implementations of E2D that avoid the kind of classification that Speaks argues is problematic (§3). Then we present an implementation that entails the apriority of Speaks's sentences (§4.1). This implementation may nonetheless be plausible, as Speaks's case for the aposteriority of the sentences is unsuccessful (§4.2). With these resources in place, we respond to Schroeter's argument in a similar manner (§5).

2. Speaks's Argument from Epistemic Misclassification

Speaks uses the name 'Mick Jagger' as an example to launch an argument from epistemic misclassification against E2D. He supposes that the epistemic intension associated with 'Mick Jagger' is such that its reference at each scenario is determined by the instantiation of a set of specific properties. We will refer to this set of reference-fixing properties as Γ. It includes such things as being the lead singer on Sympathy for the Devil and being a member of the greatest band of the 1960s, and so on. Speaks [2010: 67] notes that we can divide this set into two conjunctions of properties, F and G, such that '[e]very property I attribute to Mick Jagger is included in one of the two, and many are included in both'.

Speaks's argument requires that both F and G are individually rich enough to fix a referent for 'Mick Jagger'.[3] It is also important that 'there is a rough parity between the two as regards the number of properties in the two conjunctions and the centrality of those properties to my conception of Mick Jagger' [loc. cit.: 67]. That is, F and G each hold equal weight regarding our deliberations on what to call 'Mick Jagger'.

Speaks's idea is that E2D must classify certain sentences involving the name 'Mick Jagger' and the properties F and G as a priori—we will call these sentences the Mick Jagger sentences. An example is 'If Mick Jagger exists and he is the F but not G, then nothing is the G'. Speaks claims that the Mick Jagger sentences are not plausibly a priori:

> **Premise 1**: E2D entails that the Mick Jagger sentences are a priori.
> **Premise 2**: The Mick Jagger sentences are not a priori.
> **Conclusion**: E2D is mistaken.

We will outline Speaks's argument for Premise 1 in a moment. Premise 2 makes appeal to a limitation principle on a priori knowledge and inferences, principle **[A]**:

[A] On the basis of the knowledge that some particular thing n is F, you can't know a priori whether some other thing exists which instantiates some other property G, if the two properties are independent.[4]

[A] crucially depends on the notion of independence, which Speaks characterises as follows:

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[3] A property's being 'rich enough for reference-determination' can be clarified as follows: where Γ is set of reference-fixing properties for 'n' and property P is one of its decompositions, P is rich enough for reference-determination, if, upon learning that P is instantiated but the rest of Γ is uninstantiated, we would still judge that n exists.

[4] Speaks mentions three other limitation principles which we have not discussed. Each of the relevant issues can be framed in terms of **[A]**.

[. . .] two properties, F and G, are independent if and only if (1) F's being instantiated is compossible both with G's being instantiated and its being uninstantiated [and vice versa], and (2) F's being instantiated does not a priori entail either G's being instantiated, or G's being uninstantiated [and vice versa].[5]

[Speaks 2010: 60]

Given the prima facie plausibility of **[A]**, E2D would seem to be in trouble if it conflicts with this principle.

Let us call a scenario in which a name fails to refer an empty scenario for that name. As E2D holds that competent speakers can a priori determine the reference of a name at a scenario, they will be in a position to a priori recognize empty scenarios. Speaks's argument for Premise 1, which we'll call the Empty Scenario Argument, uses this supposed ability to derive the Mick Jagger sentences.

The first step of Speaks's Empty Scenario Argument takes the independence of F and G to imply that there is at least one scenario where the following is true:

[1] Something is the F, and something else is the G.

The second step of the argument uses parity reasoning to argue that E2D must count scenarios where **[1]** holds as empty [loc. cit.: 68]. Since F and G have equal weight as potential reference-determiners for 'Mick Jagger', in scenarios where **[1]** holds there are (at least) two equally good candidates for the name. But in such scenarios, 'Mick Jagger' must deliver no reference, since there is no reason to attach that name to one candidate over the other.[6] (We will assume that a name can only have a single referent at a scenario.) Hence it seems that according to E2D, a competent user of 'Mick Jagger' is in a position to know a priori that if **[1]** is true, then Mick Jagger does not exist. This suggests that the following is a priori:

[2] If something is the F, and something else is the G, then it is not the case that Mick Jagger exists.

And given the apriority of **[2]**, its contraposition **[3]** will be a priori:

[3] If Mick Jagger exists, then it is not the case that something is the F, and something else is the G.

Furthermore, from **[3]**, we can derive **[4]**:

[4] If Mick Jagger exists and he is the F but not G, then nothing is the G.

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[5] We have added 'and vice versa' clauses to make independence a symmetrical relationship. For some properties F and G (for instance, where F is being a turtle and G is being a red turtle), the instantiation of F may fail to metaphysically and epistemically necessitate the instantiation of G, whereas the instantiation of G will both necessitate and a priori entail the instantiation of F.

[6] Strictly speaking, given **[1]** we only know that nothing is F and G, so nothing satisfies all of Γ at such scenarios. But we have not yet been given enough information to rule out the instantiation of other ways of dividing up Γ which could provide us with better candidates for the name than either the F or the G. It is possible to avoid this issue, however, if we require that the only kind of thing which could be a better candidate than the F or the G would be something which is both F and G. Then, the existence of any better candidates than either the F or the G will be impossible where **[1]** is true.

This is because the existence of Mick Jagger entails that either (i) the F is the G, or (ii) nothing is the F, or (iii) nothing is the G. But the fact that Mick Jagger is the F and is not G rules out both (i) and (ii). We are therefore left to conclude that (iii) must be true: nothing can be the G.

Sentences **[2]** to **[4]** are the Mick Jagger sentences, and the above suggests that E2D has to count them as a priori. But for Speaks, this is in conflict with plausible limits on a priori knowability. About **[3]**, Speaks [2010: 68] writes: 'given knowledge that Mick Jagger exists, one cannot deduce a priori that it is not the case that one thing is F, and something else is G'.[7]

Moreover, saying that **[4]** is a priori brings E2D into direct conflict with principle **[A]**. We can make the conflict explicit by letting property H equal being the F and not G, and property I equal being the G. Then H and I are independent (at least insofar as F and G are independent). But if **[4]** is a priori then from knowledge that some particular thing (Mick Jagger) is H, we can infer a priori that nothing is I—which is exactly what **[A]** tells us we cannot do.

In the following section, we discuss Premise 1 and whether E2D is committed to the apriority of sentences like **[2]** to **[4]**, where the instances of F and G in those sentences are reference-fixing properties that are independent (in the appropriate sense). We argue that E2D is not so committed. Then, in §4, we turn to Premise 2 and to whether the Mick Jagger sentences ought to be counted as a posteriori. We argue that Speaks's case for treating them in this way is unsuccessful.

3. Discussion of Premise 1

3.1 Independence and Uniqueness

Speaks's case for Premise 1 is the Empty Scenario Argument. An initial problem with this argument is that its very first step is invalid. From the fact that F and G are independent, it does not follow that there is a scenario where something is the F and something else is the G.

Amongst the set of properties Γ that Speaks includes as being associated with the name 'Mick Jagger' are such things as being **the** lead singer on Sympathy for the Devil and being **the** star of Freejack. The definite article implies uniqueness. Now suppose the following:

F = being the tallest person in the world and rich
G = being the tallest person in the world and tidy

So defined, F and G are independent: the fact that Charlie is the tallest person in the world and rich neither necessitates nor a priori entails whether or not there exists something which is the tallest person in the world and tidy. However, if we know that something is the tallest person in the world and rich, we can infer a priori that nothing else can be the tallest person in the world and tidy—for at most one thing can be the tallest person in the world. The mere independence of F and G is insufficient to establish that there is a scenario in which **[1]** is true.

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[7] More precisely, **[3]** implies that we can deduce that it's not the case that something is the F, and something else is the G.

Worse still, the same sort of reasoning allows us to generate counterexamples to principle **[A]** using uniqueness properties. For instance, just by knowing that Charlie is the tallest person in the world and rich (F), we can infer a priori that no one else can be the tallest person in the world and tidy (G), despite the independence of F and G. **[A]** states that this is impossible.

The definition of independence must be updated to rule out these clear counterexamples to **[A]**. We can do this by adding to the definition of independence mentioned in §2 the further clause that F and G can be instantiated by different things (at the same time and at the same world). Let us refer to this updated notion as independence*. Our question now is: will we be able to divide the set of reference-fixing properties for 'Mick Jagger' into conjunctive properties F and G, such that F and G are both rich enough for reference-determination and independent*?

In the following, we discuss two types of implementation of E2D under which such divisions are impossible, and a third that allows this kind of division but in a way that nonetheless blocks Speaks's argument.[8]

3.2 The Common Element Theory

Speaks's argument does not apply to any implementation of E2D which implies the following: any decompositions F and G of Γ that are each rich enough for reference-determination will include a common reference-fixing property of the form being the unique P. This is because F and G would then fail to be independent*, as we have just demonstrated.

It is not implausible to think that an adequate semantics for proper names would have this consequence. Two important factors in the determination of a name's reference are how the relevant community uses that term, and the causal chains that link the usage of that name to the world. So for example, we might have an implementation of E2D which implies that for a given name n, when determining reference we always include as a reference-fixing element some meta-linguistic property, such as being the most natural object at the causal origin of a representational practice with tokens of 'n'. Another possibility might be being the referent of my community's usage of the term 'n'. That we had better include some such common element among the reference-fixing properties is a lesson many have drawn from [Putnam 1975] and [Burge 1979].[9]

We can call this kind of implementation a Common Element theory. Common Element theories block Speaks's argument in its early stages. Such implementations imply that **[1]** is epistemically impossible, because the F and the G are not independent*. Sentences **[2]** to **[4]** then come out a priori. But this is not problematic. Speaks argues that the Mick Jagger sentences are not plausibly a priori because he supposes that the reference-fixing properties F and G that figure in those sentences are independent. For the appropriate notion of 'independence', this assumption fails: the sentences that a Common Element theory is committed to classifying as a priori are not the problematic sentences that Speaks requires for his argument.

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[8] For the most part, we follow Speaks in working with an intuitive notion of property.
[9] As we discuss in §5, Schroeter [2005] argues that E2D is committed to something like these suggestions, before arguing that E2D therefore misclassifies a posteriori sentences as a priori.

3.3 The Simple Property Theory

A second type of implementation which is immune to the Empty Scenario Argument appeals to what we might call a Simple Property theory. Speaks's argument presupposes that the property which determines the reference of 'Mick Jagger' is highly complex (or that it is a set containing numerous properties). According to Simple Property theory, however, the associated reference-fixing property is relatively simple. Even though we can allow for a minimal degree of complexity, the relevant property will be such that no part of it is by itself rich enough for reference-determination.[10] If such an implementation were correct, then we cannot divide this property into an F and a G where each can individually pick out Mick Jagger, and we will not be able to construct the corresponding empty scenarios. It is worth noting here that many of the actual proposals put forward by proponents of two-dimensional semantics have used simple properties: Chalmers [2006: §3.4] and Jackson [2010] suggest deferential properties; while many related semantic theories have similar structures—for example, Kroon [1987] and Lewis [1997] place emphasis on the role of causal meta-linguistic properties.[11]

For both Common Element and Simple Property theories, there can be no divisions of Γ into two different properties, which are independent* and rich enough to fix the reference of 'Mick Jagger'. For this reason, they are not committed to the apriority of any sentences like **[2]** to **[4]** containing independent* Fs and Gs. On the other hand, Common Element and certain Simple Property theories have to confront Kripke's epistemic argument. However, this argument is best understood as an attack on so-called 'famous deeds' versions of descriptivism [Lewis 1997], or certain naive theories about what properties determine reference. It is far from clear that Kripke has shown that the sentences which the mentioned Common Element and Simple Property implementations treat as a priori are in fact a posteriori—in fact, Kripke's own armchair methodology suggests that they are not [Jackson 1998]. However, E2D is not committed to the apriority of any such sentence, as we now show.

3.4 The Non-Descriptivist Theory

Speaks [2010: 60] stresses that he is arguing against non-descriptivism. A non-descriptivist E2Dist allows that the properties which determine the reference of a name can differ from scenario to scenario: 'It is worth emphasizing that the relevant [reference determining] description will typically vary between different scenarios' [loc. cit.: 67].

For some scenarios, for example, we may have to decide if something is F or G (or both) to settle the name's reference. But for other scenarios, perhaps only F is considered, or G, or even some completely different property P (and so on). There may be no finite set of properties that we use to determine reference—each individual scenario might in principle be coupled with its own unique method for reference-determination.

Once descriptivism is off the table, it is no longer clear how to derive the contested claims a priori. Is the non-descriptivist E2Dist committed to the apriority of **[2]**? It does not appear so. Given that we might sometimes use property P, say, to fix the reference of 'Mick Jagger',

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[10] That is, there are no ways in which we could decompose a simple property S into parts, which will be rich enough for reference determination, since we would judge that Mick Jagger does not exist if we were to learn that only a part of S is instantiated.

[11] Chalmers's considered view appears to be a non-descriptivist implementation of E2D, discussed in the next section.

it is rather easy for **[2]** to come out a posteriori. All we need for **[2]**'s apriority to fail is for there to be some scenario in which **[1]** is true, and in which Mick Jagger is identified as the P instead. The fact that in this scenario something is the F and something else is the G then does not entail Mick Jagger's non-existence, as he is the P there. Given non-descriptivism, we see no reason why there should not be such a scenario. As **[2]** is false in this scenario, it does not hold in every scenario. Thus, the non-descriptivist E2Dist is not committed to its apriority, nor to the apriority of **[3]** and **[4]**.

A non-descriptivist implementation of E2D is not committed to the apriority of any such sentence using ordinary natural language predicates. It will treat as a priori an infinitely long claim of the form: 'Mick Jagger, if he exists, is the P and such that scenario 1 obtains, or is the Q and such that scenario 2 obtains, or is the R and such that scenario 3 obtains, or . . .'. The labels scenario 1, scenario 2, and so on stand for (potentially infinite) descriptions of entire scenarios. One might then construct corresponding predicates F and G from this sentence, e.g. let F equal being the P and such that scenario 1 obtains and G equal being the Q and such that scenario 2 obtains. However, the corresponding predicates cannot be used to mount an argument from epistemic misclassification. Since F and G are now relativised to specific scenarios the corresponding Mick Jagger sentences will uncontroversially come out a priori. For instance, for the above F and G, it will be a priori that **[1]** is false: we can a priori exclude the joint existence of the F and the G, as one requires scenario 1 to obtain, while the other requires scenario 2 to obtain. We can then also infer **[2]** to **[4]** a priori.

To sum up: arguments from epistemic misclassification against E2D are better seen as arguments for favouring certain implementations of E2D over others. Any adequate implementation of E2D will have to account for our considered judgments about apriority. The relevant judgments need not be our quick everyday judgments, but may involve the assessments of an ideally rational subject. And if we judge a sentence S as not being a priori, then we consider its negation to be an epistemic possibility, i.e. there will be a scenario which falsifies S. If these judgements are accurate, we cannot accept as adequate any implementation of E2D that assigns S a semantic value under which S is true in every scenario. So if a certain implementation of E2D is in conflict with our considered judgments about a sentence's epistemic status, all this tells us is that we have a strong reason to think that the implementation in question is inadequate.

So it seems that E2D is not committed to the apriority of any sentences like **[2]** to **[4]**, where those include independent* Fs and Gs which are rich enough for reference-fixing. In the next section, we will present an implementation of E2D which entails the apriority of the sentences, even when F and G are independent* properties rich enough to fix reference. We then defend this implementation against Speaks's argument. We conclude that, assuming the adequacy of this implementation, Premise 2 is implausible.

4. Discussion of Premise 2

4.1 The Unique Best Deserver Theory

What must an implementation of E2D look like to validate the Empty Scenario Argument? The argument appears to suppose the following:

1. It is possible to split Γ into two sets of independent* properties, F and G, which are each rich enough to fix the reference of 'Mick Jagger'.

2. Candidate referents are weighted as better or worse by some function, and reference goes to the best candidate.

3. At all scenarios where **[1]** is true, the F and the G will be considered the two best candidates for being the referent of 'Mick Jagger'.

4. At all scenarios where **[1]** is true, 'Mick Jagger' cannot refer to both the F and the G.[12]

The first assumption is denied by Common Element and Simple Property implementations; while non-descriptivist implementations are in a position to deny the third assumption.

Thus, it seems that Speaks is ascribing to the E2Dist something at least very similar to what we call a Unique Best Deserver theory. This theory states that for a given name n, the set Γ_n of reference-fixing properties associated with n can be divided into different potential candidates (like the F and the G), which can be weighted as better or worse reference determiners, by some function. Reference then goes to whatever uniquely satisfies both (a) being a sufficiently good deserver of the name, and (b) being such that there are no better deservers of the name. If nothing satisfies both (a) and (b) at a scenario, or more than one thing does, then the name has no reference at that scenario.[13]

Unique Best Deserver theory states that the following sentence can be known solely on the basis of fully understanding its meaning: 'If Mick Jagger exists, then Mick Jagger is the unique best deserver of Γ'. Suppose for simplicity that Γ contains just three properties, R, S and T, and that only property count matters when weighing potential candidates. Then, it would be a priori for competent speakers that 'Mick Jagger' refers (if at all) to either the 'perfect deserver', P (i.e., R, S, and T), or if no Ps exist, at most one of the F (R and S) or the G (S and T) or the H (R and T), where F, G and H are all equally good 'near-perfect' deservers. For larger sets of associated properties, there might also be 'near-near-perfect' deservers, and so on.

Consider an agent who knows that Γ is the relevant set of properties to consider when determining the reference of 'Mick Jagger'. What could she know a priori? Well, under a Unique Best Deserver theory, the Empty Scenario Argument drops out as a simple matter of logical consequence, because all of the information that we need to tease out **[2]** to **[4]** is contained in the proposition expressed by 'Mick Jagger exists'. A fully competent speaker could not have knowledge that 'Mick Jagger exists' without knowing that there is only a single thing which is a sufficiently good deserver of Γ, and for which nothing else is a better deserver of Γ. But even with this knowledge we can infer some interesting consequences: if the F and the G are equally good near-perfect deservers, then we can deem scenarios where **[1]** holds to be empty scenarios for 'Mick Jagger'—for in those scenarios there are two equally good candidates for the name, and no better candidates. Sentences **[2]** to **[4]** then follow straightforwardly. So there is an implementation using independent* properties which entails that the Mick Jagger sentences are a priori and so conflicts with Speaks's principle.

[12] Speaks [2010: 11] allows that this assumption can be weakened. In that case, he argues, E2D would need to treat as a priori a different set of sentences, which are equally problematic.

[13] We grant that the properties F and G are independent* for the following discussion. A Unique Best Deserver theory is not committed to this: it allows that all potential candidates for 'Mick Jagger' might not be independent*, in which case the apriority of **[2]** to **[4]** follows unproblematically for the reasons discussed in §3.2.

4.2 The Limitation Principle on A Priori Knowledge

The crucial question is whether commitment to the apriority of **[2]** to **[4]** is problematic. Speaks argues that it is, since it conflicts with his limitation principle **[A]**. However, not only are there counterexamples to the principle formulated with the notion of 'independence' (§3.1), there are also counterexamples to the principle formulated with the improved notion of 'independence*'. The updated principle reads

[A*] On the basis of the knowledge that some particular thing n is F, you can't know a priori whether some other thing exists which instantiates some other property G, if the two properties are independent*.

Consider the following case: 'We hereby dub Julius to be the man who invented the zip (if there is one)'. Consider the properties being the unique man and being the unique inventor. Even though these properties are not the stipulated reference-fixers for 'Julius' (being the unique inventor is not shorthand for being the unique inventor of the zip) they are nonetheless independent* of each other. Now suppose we are given the knowledge that the sentence 'Julius exists' is true. From this, we can deduce that it is not the case that there is only one man in the world that is not identical to the only inventor. So we know the following conditional: 'If Julius exists, then it is not the case that there's something that's the man, and something else which is the inventor'. But this sentence is formally identical to **[3]**, and is plausibly a priori.

And just as we can stipulate what 'Julius' refers to in order to generate an a priori truth analogous to **[3]**, so too can we make stipulations that generate a priori truths analogous to **[4]** yielding counterexamples to **[A*]**. Let 'Cobber' refer to whoever does my laundry, or whoever cooks my dinner; but if someone does my laundry while someone else cooks my dinner, then 'Cobber' will not refer. Now suppose I learn that Cobber cooked my dinner but did not do my laundry. I can infer from this knowledge that no one did my laundry. And I don't need to empirically check that my clothes are clean to justifiably infer this. I simply need to reason that since Cobber cooked my dinner and did not do my laundry, then no one could have done my laundry, since otherwise Cobber wouldn't have existed. As being the person who cooked my dinner and did not do my laundry and being the person who did my laundry are independent* properties, we have a counterexample to **[A*]**.

So in spite of its prima facie plausibility, **[A*]** does not stand up to scrutiny. There are some key things to keep in mind when assessing this principle. Firstly, it concerns which propositions we are in a position to infer a priori from 'knowledge that some particular thing n is F'. The principle does not impose any restriction on which names can go in for n. As such, an opponent cannot reject the above discussion as irrelevant by arguing that ordinary proper names are not like stipulated names. 'Cobber' is a counterexample regardless of whether it is a stipulated name.

Secondly, there are two readings of the crucial phrase 'knowledge that some particular thing n is F': a de re and a de dicto reading. Even the E2Dist can accept the principle on a de re reading. For example, someone who has never heard the name 'Mick Jagger' may know of Mick Jagger that he is the F and not G (for example, by observing a stranger who happens to be Mick Jagger), without being in a position to know that nothing is the G. Speaks has given us no reason for thinking that any implementation of E2D is committed to saying that **[5]** is a priori:

[5] If something is the F and is not G, then nothing is the G.

In fact, **[5]** cannot be a priori insofar as **[1]** is epistemically possible, because **[1]** states that something could be the F and something else could be the G. So E2D only conflicts with **[A*]** under a de dicto reading.

The correctness of the principle then depends on which proposition is picked out by the phrase 'n is F'. This crucially depends in turn on the correct semantics for the name n. The principle may be plausible if one assumes a direct reference semantics for the name, on which the phrase expresses a singular proposition. However, if one invokes **[A*]** in an argument against certain implementations of E2D, one obviously cannot assume a reading of the principle which presupposes such a semantics without begging the question. Different implementations of E2D assign n different intensions, and if a Unique Best Deserver theory is true of n, then knowing that n is F may well allow us to infer that nothing else is G—even if F and G are independent*. Perhaps our considered intuitions strongly suggest that **[4]** in particular is not a priori, and the principle just helped to bring this out. But, as noted above, this only means that a Unique Best Deserver theory is not an adequate implementation, and the E2Dist would be wise to opt for an alternative.[14]

So it is not obvious that a conflict with **[A*]** should be considered problematic for any implementation of E2D. Premise 2 therefore requires further argument: a Unique Best Deserver theory—with the help of uniqueness clauses and simple logic—provides a perfectly good explanation of how knowledge of the proposition expressed by 'Mick Jagger exists' puts fully competent speakers in a position to derive the contested sentences a priori. Thus, there are a range of implementations that avoid Speaks's argument in various ways.

5. Schroeter's Argument from Epistemic Misclassification

Speaks [2010: 66] states that his argument is a generalisation of the argument of Schroeter [2005]. For the most part their arguments take the same form, except for two main differences. Firstly, Schroeter argues that E2D must accept a particular implementation, whereas Speaks simply assumes a specific implementation for his argument. Secondly, Schroeter does not appeal to a limitation principle to show that the implementation she considers misclassifies certain sentences as a priori. Instead, she appeals directly to the reader's intuitions about the relevant sentences to gather agreement that they are not a priori.

Schroeter argues that E2D must accept a particular implementation, according to which meta-linguistic properties are necessary for determinate reference in scenarios—such that without knowledge of their instantiation, one cannot know whether a name (or natural kind term) has reference at all. As she [2005: 337] notes, our commonsense interpretative intuitions suggest that we need to 'take into account how a token of a word like 'water' is causally related to a particular temporally-extended representational practice within the world to be considered as actual'. From this, Schroeter infers that at scenarios where there is no such his-

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[14] Speaks might concede that **[2]** to **[4]** hold in every scenario, and so are epistemically necessary, but deny that they are a priori on the basis of principle **[A*]**. In fact Speaks concludes with such a manoeuvre [loc. cit.: 76–77]. However, there is at least a very close connection between epistemic necessity and apriority traditionally conceived. For example, if **[2]** to **[4]** are epistemically necessary then they hold come what may (and so cannot be refuted by experience). Furthermore, it is possible to know them without appeal to experiences of the actual world: an ideal reasoner with the capacity to conceive all scenarios can just ignore the way the actual world is and evaluate **[2]** to **[4]** at every scenario in thought. This allows a UBD theorist to withhold her scepticism of **[A*]** and respond by distinguishing two notions of apriority: apriority$_1$ (epistemic necessity) and apriority$_2$ which obeys **[A*]** by definition. Both parties can then just agree that **[2]** to **[4]** are a priori$_1$ but not a priori$_2$.

tory of representational practice, it will be indeterminate whether terms like 'water' and 'language' have reference at all.

Schroeter then argues that this implies that 'language exists' and 'if water exists then language exists' come out a priori according to E2D. If we must know what meta-linguistic properties (e.g. properties regarding our community's usage of 'language') are instantiated to determine the reference of 'language' at a scenario, then 'language' will have no determinate reference at scenarios where those properties are not instantiated. But then, the only scenarios where 'language exists' has a determinate truth value will be ones where there is language. So, 'language exists' will be true at all scenarios where it has a determinate truth-value, and so it must be a priori. Similarly, if 'water' only has a determinate extension in worlds where certain meta-linguistic properties are instantiated, then one will be able to infer the existence of language a priori from knowledge of the existence of water. But, intuitively, 'language exists' and 'if water exists then language exists' are not a priori. This is Schroeter's argument against E2D.[15]

However, insofar as the apriority of these sentences seem implausible, that merely suggests that the associated reference-fixing properties are more complex than what Schroeter argues. While it may be the case that we take such meta-linguistic considerations into account when considering worlds where there is a history of linguistic practice, it also seems plausible that there are other factors that might come into play—particularly when considering scenarios where there is no history of linguistic practice. For example, given a non-descriptivist implementation of E2D, the properties that determine reference in scenarios where there is a history of linguistic practice are likely to differ from those in scenarios without such practices. In such scenarios, perhaps we revert to intrinsic structural or functional properties to determine what the reference of 'water' is, for example. Similarly for a Unique Best Deserver implementation: perhaps meta-linguistic considerations carry a lot of weight when considering reference at a scenario, but there may be other properties that we might use even when there is no history of representational practice to appeal to.

To bring out the role of non-meta-linguistic properties in the determination of reference we consider two scenarios: one where the meta-linguistic facts obtain but are overridden by more important factors for reference determination, and another where there is no history of representational practice yet we have determinate reference. Consider a scenario in which our community uses the term 'water' to refer to all and only the fluffiest unicorns. Should we say that our usage of 'water' refers to the fluffiest unicorns at that scenario? Presumably not. Rather, if that scenario turned out to be actual, it would be intuitive to think that we simply mean something different by 'water' than the rest of our community. It seems, then, that our own rich conception of what water is plays at least some role in reference determination.[16]

Now consider a solipsistic scenario where nothing exists except one's own subjective experiences. Is there water at this scenario? The answer seems to be, determinately, no. We do

not need to appeal to a community within the scenario to tell us this. All we need is competence with 'water'. Indeed, if someone was unsure as to whether water obtained at this simple scenario, that would be a sure sign that they have either not fully grasped the meaning of 'water' or have not fully understood the scenario. On the other hand, if one confidently insisted that there can be no determinate reference for 'water' in this scenario in virtue of there being no communal usage of the term, then perhaps they use 'water' slightly differently from us— such that 'if water exists then language exists' really is a priori when it is interpreted in accordance with their deviant usage of 'water'. Either way, the two key premises of Schroeter's argument undercut each other:

> **Premise 1**: E2D entails that 'language exists' and 'if water exists then language exists' are a priori.
> **Premise 2**: These sentences are not a priori.
> **Conclusion**: E2D is mistaken.

Insofar as premise one is plausible, premise two is implausible. And insofar as premise two is plausible, premise one is implausible. Schroeter's argument, like Speaks's, is an argument against E2D from epistemic misclassification. Such arguments, we have argued, are self-undermining.

6. Conclusion

We have argued that Speaks's and Schroeter's attempts to show that E2D misclassifies certain sentences as a priori has failed. We can draw at least two philosophically significant morals. Firstly, it is important to distinguish the general framework of E2D from specific implementations. E2D is a flexible framework that is consistent with numerous different ways of implementing it in the context of providing a semantics for natural language. Thus, any argument against E2D that relies on a specific implementation should be treated with suspicion. Secondly, we have shown that objections to E2D that rely on specific implementations, particularly objections that try to bring those implementations into conflict with our considered intuitions about what sentences are a priori, are better reformulated as arguments for favouring one implementation over another. The correct implementation of E2D will be the one that captures all of our idealised judgements regarding apriority. While we have not here argued for a specific implementation, we nonetheless hope to have provided some resources to help discover the correct one.[17]

Australian National University

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