The Eightfold Way: Why Analyticity, Apriority and Necessity are Independent

Douglas Ian Campbell
University of Canterbury

Abstract This paper concerns the three great modal dichotomies: (i) the necessary/contingent dichotomy; (ii) the *a priori*/empirical dichotomy; and (iii) the analytic/synthetic dichotomy. These can be combined to produce a tri-dichotomy of *eight* modal categories. The question as to which of the eight categories house statements and which do not is a pivotal battleground in the history of analytic philosophy, with key protagonists including Descartes, Hume, Kant, Kripke, Putnam and Kaplan. All parties to the debate have accepted that *some* categories are void. This paper defends the contrary view that all eight categories house statements—a position I dub 'octopropositionalism'. Examples of statements belonging to all eight categories are given.

1. Introduction

In this paper I defend what I frankly admit may appear on first inspection to be a preposterous position. I say it may appear 'preposterous' advisedly, because every philosopher I have discussed it with has earnestly assured me *it is* preposterous—until, that is, the argument has been explained, whereupon much chin rubbing and head scratching ensues. If the argument has a weakness then it is, I think, not obvious where it is.

The position concerns the three great modal dichotomies:

- *The metaphysical dichotomy.* A true statement is *necessary* iff it is impossible for it to be false. Otherwise it is *contingent*.[1]
- *The epistemic dichotomy.* A true statement is *a priori* iff it can be known independently of experience. Otherwise it is *empirical* (or *a posteriori*).
- *The semantic dichotomy.* A true statement is *analytic* iff it is true in virtue of meaning alone. Otherwise it is *synthetic*.[2]

These three dichotomies can be combined to produce the tri-dichotomy of Figure 1:

---

1. By a 'statement' I mean a sentence produced in a context. Here I focus only on *true* statements. If both true and false statements are considered, then we get not a dichotomy but a trichotomy—between *necessary truths*, *necessary falsehoods*, and *contingencies*. The same goes, *mutatis mutandis*, for the epistemic and semantic dichotomies.
2. It is presently something of a received view: (i) that the necessary/contingent and a priori/empirical dichotomies apply in the first instance *to propositions*; (ii) that these two dichotomies also apply derivatively to statements that express propositions, with a statement inheriting the metaphysical and epistemic statuses of the proposition it expresses; but (iii) that the analytic/synthetic dichotomy instead applies *only to statements*, not to the propositions they express. I won't challenge this received view in the present paper. Accordingly, I will work always at the level of statements, not that of propositions. However, I will argue elsewhere that the received view is poorly motivated and that there are strong reasons for thinking that *all three* modal dichotomies apply in the first instance *to propositions*. It is also sometimes suggested that the analytic/synthetic dichotomy applies to *sentences*. This is implausible, since statements have determinate meanings while sentences (often) don't (Hospers, 1967, 163). For example, an utterance of the sentence, 'Banks are monetary institutions', might be either an analytically true statement or a synthetic falsehood, depending on whether the context is indicative of Main Street or a river's edge. The sentence itself is thus neither analytic nor synthetic.
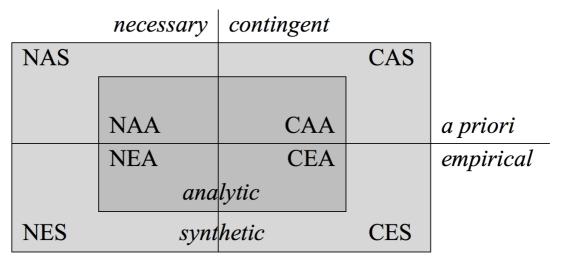
Figure 1. The modal tri-dichotomy.

Figure 1 depicts eight modal categories:

NAA: Necessary, *A priori* and Analytic
NAS: Necessary, *A priori* and Synthetic
NEA: Necessary, Empirical and Analytic
NES: Necessary, Empirical and Synthetic
CAA: Contingent, *A priori* and Analytic
CAS: Contingent, *A priori* and Synthetic
CEA: Contingent, Empirical and Analytic
CES: Contingent, Empirical and Synthetic

A modal category 'has members' if statements belonging in that category exist. It is 'empty' if there are no statements of that type. For example, NAA has members iff there is at least one statement that is necessary, *a priori* and analytic. On the plausible assumption that (1) is such a statement, NAA does indeed have members:

(1) All bachelors are unmarried.

The position I will defend is this:

Octopropositionalism: All eight modal categories have members. None is empty.

Octopropositionalism appears preposterous because it flies in the face of received opinion going right back to Hume. Hume famously held that there are just two types of statements, *relations of ideas* and *matters of fact*. The former are (in my terminology) NAA statements, being necessary, *a priori* and analytic. An example is (1). The latter are CES statements, being contingent, empirical and synthetic. An example is (2):

(2) The sun will rise tomorrow.

The doctrine that only these two types of statements exist is *Hume's fork*. Octopropositionalism lies at one extremity of a spectrum that has Hume's fork at the other extremity.[3] For Hume, the three modal dichotomies are co-extensive and collapse into a single dichotomy—that between relations of ideas and matters of fact. For the octopropositionalist, in contrast, the three modal dichotomies are maximally non-coextensive. They come apart *every which way*.

In arguing for his 'fork', Hume (the arch empiricist) was partly motivated by a wish to deny that Descartes (the arch rationalist) was correct in claiming that (3) is *a priori*:

---

3. The Quinean position that all three modal dichotomies are ill-posed lies at the extremity of a different spectrum. For recent rebuttals of Quine, and of related arguments by Harman (1973, 1996), see (Juhl & Looms, 2010), (G. Russell, 2008), and (D. Chalmers, 2012).

(3) A thinking thing exists.

If Descartes *were* right about (3) being *a priori* then, since (3) is contingent and synthetic, it would be a CAS statement.[4] This Hume took to be impossible.[5]

Kant argued, contra Hume, that statements of a third type exist: namely, NAS statements that are necessary and *a priori* on the one hand but synthetic on the other. (4) is an example.

(4) Causation exists.

In more recent times Kripke (1980) produced examples both of statements that are necessary but empirical—e.g., (5)—and of statements that are contingent but *a priori*—e.g., (6). The former are members of either NEA or NES, depending on whether they are classified as analytic or synthetic. The latter are members of either CAA or CAS.

(5) Water is H_2O.
(6) The Standard Meter Bar is one meter long, if anything is.[6]

Kaplan (1977, 509 & 540) has also argued that (7) is *a priori*, contingent and analytic, making it a CAA statement:

(7) I am here now.

Pulling these ideas together, we obtain the following candidate members of the different modal categories:

NAA: Hume's (1)
NAS: Kant's (4)
NEA: -----------   } Kripke's (5) goes in one
NES: -----------   } of these two places
CAA: Kaplan's (7), -----------   } Kripke's (6) goes in one
CAS: Descartes' (3), -----------   } of these two places
CEA:
CES: Hume's (2)

This list comes nowhere close to vindicating octopropositionalism. In the first place, neither Descartes, Kant, Kripke, nor Kaplan provides us with a putative example of a CEA statement. Second, if Kripke is right then (5) is a member *either* of NEA *or* of NES, but it can't be a member of both—which leaves one of these two sectors vacant. Third, it is not obvious the ideas of Descartes, Kant, Kripke and Kaplan can or should all be accepted conjointly—potentially leaving one or more of NAS, CAA or CAS empty.

In short, although these philosophers have produced reasons for thinking statements are more modally diverse than Hume's fork allows, none of them have challenged a weaker Humean doctrine to the effect *that some modal categories are empty*. The octopropositionalist must refute even this weaker doctrine, which, in view of how well it has stood the test of time down the centuries, would appear a very tall order indeed.

Setting aside the apparent unlikelihood of octopropositionalism's *being shown to be true*, why, if it *were* true, would its truth *matter*? Its truth would be important for the same reasons that Kripke's discoveries about statements like (5) and (6) have been important. In demonstrating that empirical necessities and *a priori* contingencies are possible, Kripke showed the danger in the common practice of treating apriority as a reliable guide to necessity and *vice versa*. If octopropositionalism were correct then the same lesson would apply with absolute generality: *no* modal attribute of a statement would be a reliable guide to *any other*. This wouldn't entirely debar us from appealing to heuristics such as 'if a statement is synthetic then it is empirical' or 'if a statement is necessary then it is analytic'. But it would

4.   See Hintikka (1962; 1963), Kitcher (1983, 30) and Burge (1988) for rational reconstructions of the *cogito* argument that shed light on how (3) might acquire a CAS status.
5.   For Hume, (3) is instead known empirically, *via* introspection, making it a CES statement.
6.   I add an 'if anything is' clause to cover reference-failure that Kripke doesn't include, although see (Kripke, 1980, 110). Evans' (1982, 31) 'Julius invented the zip' example would serve just as well as (6), as would similar examples due to Swinburne (1975, 234 & 243).

3

mean that such heuristics would need *always* to be treated with caution and a careful eye to known classes of counterexamples.

The truth of octopropositionalism would also have major implications with regards the proper understanding of *entailment*. Three species of entailment can be distinguished, as follows.[7]

ϕ metaphysically entails ψ iff $\phi \supset \psi$ is necessary.
ϕ epistemically entails ψ iff $\phi \supset \psi$ is a priori.
ϕ semantically entails ψ iff $\phi \supset \psi$ is analytic.

Because octopropositionalism implies that none of the three modal dichotomies is a reliable guide to any other, it also implies that none of these three species of entailment is a reliable guide to any other. For instance, if $\phi \supset \psi$ were empirical but analytic, then ϕ would semantically entail ψ without epistemically entailing it. Or if $\phi \supset \psi$ were necessary but synthetic, then ϕ would metaphysically entail ψ without semantically entailing it. And so on, for every pairing of the different species of entailment. Octopropositionalism therefore has the upshot that the three entailment relations are completely separable and distinct.

Overview. §2 explains the strategy I use to argue for octopropositionalism—a strategy which involves showing that NAS, NEA, and CAA statements exist, and then using these statements as 'raw ingredients' for constructing members of the remaining categories. §3 considers the proper framing of the analytic/synthetic distinction. §4 presents the case for thinking NAS statements exist. §5 and §6 do likewise for NEA and CAA statements. §7 wraps things up.

2. Conjunction and Disjunction

My argument for octopropositionalism hinges on the following 'trumping rules', which to the best of my knowledge have heretofore gone unnoticed in the literature on the three modal dichotomies:[8]

The conjunctive rules
T1. In a conjunction of two truths, p and q, contingency trumps necessity, in the sense that if either p or q is contingent, then '$p \wedge q$' is contingent too.
T2. In a conjunction of two truths, p and q, empiricalness trumps apriority, in the sense that if either p or q is empirical, then '$p \wedge q$' is empirical too.
T3. In a conjunction of two truths, p and q, syntheticity trumps analyticity, in the sense that if either p or q is synthetic, then '$p \wedge q$' is synthetic too.

The disjunctive rules
T4. In a disjunction, necessity trumps contingency, in the sense that if either p or q is necessary, then '$p \vee q$' is necessary too.
T5. In a disjunction, apriority trumps empiricalness, in the sense that if either p or q is *a priori*, then '$p \vee q$' is *a priori* too.
T6. In a disjunction, analyticity trumps syntheticity, in the sense that if either p or q is analytic, then '$p \vee q$' is analytic too.[9]

For example, let p be any contingent truth. Since p is contingent, it is possible for p to be false. Thus, it is possible for $p \wedge q$ to be false, irrespective of whether q is necessary or contingent ($p \wedge q$ being false if p is). And so, p's status as a contingent truth is inherited by $p \wedge q$. In short, contingency trumps necessity within conjunctions, which is what T1 says.

T2—T6 are easily confirmed using similar examples.

Table 1 shows, for any pair of truths, p and q, how the modal category that $p \wedge q$ belongs to is determined by which categories p and q belong to. The operative trumping rules are T1, T2 and T3.

---

7. I owe this point in part to (Pollock, 1970, 300).
8. For example, they are not discussed by (Swinburne, 1975), (G. Russell, 2008) or (Juhl & Looms, 2010).
9. The conjunctive rules contain a clause, 'of two truths', that the disjunctive rules lack. The clause is included in order to exclude certain problematic cases (e.g., as when $q = \neg p$) from the scope of the conjunctive rules.

4

∧	NAA	NAS	**NEA**	NES	**CAA**	CAS	CEA	CES
NAA	NAA	NAS	NEA	NES	CAA	CAS	CEA	CES
NAS		NAS	**NES**	NES	**CAS**	CAS	CES	CES
NEA			NEA	NES	**CEA**	CES	CEA	CES
NES				NES	CES	CES	CES	CES
CAA					CAA	CAS	CEA	CES
CAS						CAS	CES	CES
CEA							CEA	CES
CES								CES

Table 1. How the modal categories of *p* and *q* determine the modal category of *p* ∧ *q*.

Table 2 does the same for disjunctions (with the operative trumping rules being T4, T5 and T6):

∨	NAA	NAS	NEA	NES	CAA	**CAS**	**CEA**	CES
NAA	NAA	NAA	NAA	NAA	NAA	NAA	NAA	NAA
NAS		NAS	NAA	NAS	NAA	NAS	NAA	NAS
NEA			NEA	NEA	NAA	NAA	NEA	NEA
NES				NES	NAA	**NAS**	**NEA**	NES
CAA					CAA	CAA	CAA	CAA
CAS						CAS	**CAA**	CAS
CEA							CEA	CEA
CES								CES

Table 2. How the modal categories of *p* and *q* determine the modal category of *p* ∨ *q*.

Tables 1 and 2 have been constructed by simply applying the relevant trumping rules to each pair of 'parent' statements, in order to deduce the modal status of the 'child' statement.
Most entries in these tables are (relatively) uninteresting for one or both of these reasons:

(a) The 'child' statement obtained by conjoining or disjoining *p* with *q* belongs to the same modal category as either *p* or *q*. For instance, conjoining a NAS statement with a NES statement merely yields another NES statement, getting us nowhere.
(b) The 'child' statement is a Humean NAA or CES statement, of which bountiful uncontroversial examples already exist.

Entries in Table 1 which are not 'uninteresting' for either of these reasons are indicated in bold. There are only three of them, and they say the following:

Rule 1:   NAS ∧ NEA = NES
Rule 2:   NAS ∧ CAA = CAS
Rule 3:   NEA ∧ CAA = CEA

Table 1 also implies the following pair of rules for creating CES statements (both of which turn out to be marginally useful):

Rule 4:   NAS ∧ NEA ∧ CAA = CES
Rule 5:   NES ∧ CAS = CES

There are likewise three 'interesting' entries in Table 2, indicated in bold, which say:

Rule 6:   NES ∨ CAS = NAS
Rule 7:   NES ∨ CEA = NEA
Rule 8:   CAS ∨ CEA = CAA

Table 2 also gives us these two rules for creating NAA statements:

5

Rule 9:   NES $\vee$ CAS $\vee$ CEA=NAA
Rule 10:   NAS $\vee$ NEA=NAA

Putting all these rules together, we obtain two 'recipes' by which a 'full house' of all eight types of statements can be constructed from only three 'raw ingredients'.

Recipe 1. Start with 'raw ingredients' consisting of: (i) any NAS statement; (ii) any NEA statement; and (iii) any CAA statement. Then construct a 'full house' as follows:

NAA:	NAS $\vee$ NEA	(by Rule 10)
NAS:	-raw ingredient-	
NEA:	-raw ingredient-	
NES:	NAS $\wedge$ NEA	(by Rule 1)
CAA:	-raw ingredient-	
CAS:	NAS $\wedge$ CAA	(by Rule 2)
CEA:	NEA $\wedge$ CAA	(by Rule 3)
CES:	NAS $\wedge$ NEA $\wedge$ CAA	(by Rule 4)

Recipe 2. Start with 'raw ingredients' consisting of: (i) any NES statement; (ii) any CAS statement; and (iii) any CEA statement. Then construct a 'full house' as follows:

NAA:	NES $\vee$ CAS $\vee$ CEA	(by Rule 9)
NAS:	NES $\vee$ CAS	(by Rule 6)
NEA:	NES $\vee$ CEA	(by Rule 7)
NES:	-raw ingredient-	
CAA:	CAS $\vee$ CEA	(by Rule 8)
CAS:	-raw ingredient-	
CEA:	-raw ingredient-	
CES:	NES $\wedge$ CAS	(by Rule 5)[10]

Let conditions C1 and C2 be defined as follows:

C1: NAS, NEA and CAA statements exist.
C2: NES, CAS and CEA statements exist.

If C1 obtains, then all eight modal categories can be filled using Recipe 1, so octopropositionalism is true. Likewise, if C2 obtains then all eight categories can be filled using Recipe 2, so octopropositionalism is true. Hence octopropositionalism can be defended *either* by showing that C1 obtains *or* by showing that C2 obtains. Whoever denies octopropositionalism must deny *both* that C1 obtains *and* that C2 obtains.

Notice the dramatic shift in burdens of proof that has just been achieved. It might have been thought that an octopropositionalist must argue independently for the existence of each of the eight different types of statement. This would provide her opponent with eight independent lines of possible resistance. But it has just been shown that in practice the octopropositionalist only needs to demonstrate that *three* categories of statements exist, for she can then use these three to construct the other five. Moreover she even has a choice as to which three raw ingredients to start with: NAS, NEA and CAA, if she uses Recipe 1, or NES, CAS and CEA, if she uses Recipe 2.

That's the good news for the octopropositionalist. The bad news is that one of these two ways of proceeding can be almost immediately discounted. In order to be able to use Recipe 2 it would first be necessary to show that condition C2 obtains, which would (in part) require demonstrating the existence of some CEA statement. As noted in §1, however, plausible examples of CEA statements are decidedly thin on the ground. For this reason Recipe 2 is unlikely to be viable. Recipe 1 (which uses Rule 3 to construct CEA statements from NEA and CAA ingredients) will therefore be the focus from now on.

---

10. In practice it is obviously not necessary to construct NAA and CES statements using the methods contained in Recipes 1 and 2, since uncontroversial examples of such statements are easily found, such as (1) and (2). The rules used to construct these statements—namely, Rules 4, 5, 9 and 10—are therefore of much less interest and importance than the remaining rules—Rules 1, 2, 3, 6, 7 and 8.

On the assumption that (4), (5) and (7) are NAS, NEA and CAA statements, respectively, Recipe 1 enables all eight modal categories to be filled as follows:[11]

NAA:	Causation exists, or water is H_2O
NAS:	Causation exists
NEA:	Water is H_2O
NES:	Causation exists, and water is H_2O
CAA:	I am here now.
CAS:	Causation exists and I am here now
CEA:	Water is H_2O and I am here now
CES:	Causation exists, and water is H_2O, and I am here now.

For the reader who is happy to accept that (4), (5) and (7) are indeed NAS, NEA and CAA statements, that completes my argument for octopropositionalism. But for readers sceptical that (4), (5) and (7) are correctly so-pigeonholed (probably, most readers), I need to say more by way of showing that each of Recipe 1's raw ingredients are obtainable. To do this I will begin by arguing for a certain position regarding the proper framing of the analytic/synthetic distinction.

3. On the analytic/synthetic distinction

The analytic/synthetic distinction was coined by Kant, who took the following pair of doctrines to be true.

> *Analyticity Entails Apriority:* all analytic statements are *a priori*.
> *Analyticity Entails Necessity*: all analytic statements are necessary.

If either of these doctrines is indeed true then octopropositionalism is false (for Analyticity Entails Apriority implies that neither NEA nor CEA statements exist, while Analyticity Entails Necessity implies that neither CAA nor CEA statements exist). One way of arguing for Analyticity Entails Apriority or for Analyticity Entails Necessity, and of thereby arguing *against* octopropositionalism, would be by adopting what I will call a *trivializing definition* of analyticity. By this I mean a definition which builds the notion of apriority and/or of necessity *directly into the notion of analyticity*, thereby, in effect making it *analytic* that octopropositionalism is false. For example, Kripke provides a trivializing definition when he writes:[12]

> [L]et's make it a matter of stipulation that an analytic statement is, in some sense, true by virtue of its meanings *and true in all possible words by virtue of its meaning*. (Kripke, 1980, 39. My italics.)

This is a trivializing definition because it builds the notion of necessity (i.e., of being true in all possible worlds) directly into the notion of analyticity, making Analyticity Entails Necessity true (and octopropositionalism false) by brute definitional fiat.[13]

Importantly, Kant *did not* argue for Analyticity Entails Apriority or Analyticity Entails Necessity by proposing a trivializing definition of analyticity. In defining analyticity, he focused specifically on affirmative predicate-subject statements of the form, *R(s)*. In his words, 'Analytic judgments say nothing in the predicate except what was actually thought already in the concept of the subject, though not so clearly nor with the same consciousness' (2004, 16). That is, *R(s)* is analytic for Kant iff *R* is contained in the concept of *s*. This characterization of analyticity doesn't make it true *by definition* that analytic statements are necessary and/or *a priori*. And so, at least for Kant, Analyticity Entails Apriority and Analyticity Entails Necessity do not *themselves* qualify as analytic judgements. (One can't discover that an analytic statement must be necessary or that it must be *a priori* just by unpacking Kant's definition of 'analytic'.)

Why then does Kant think Analyticity Entails Apriority and Analyticity Entails Necessity are true, if not because they are analytically true? In arguing for Analyticity Entails Apriority he writes, '[I]t would be absurd to ground an analytic judgment on experience, since I do not need to go beyond my

---

11. Here I use (7), rather than (6), as a CAA statement. The choice is arbitrary.
12. Kripke later acknowledges that analyticity might instead be defined in a way that enables certain contingent statements, like (6), to count as 'analytic' (1980, 122n)
13. See (Casullo, 1992) for a critique of other trivializing definitions of analyticity, as given by Quinton (1963) and Swinburne (1975).

concept at all in order to formulate the judgment, and therefore need no testimony from experience for that' (1998, B11). Here he is making the following tacit assumption:

K1. The meaning (and thus the full truth-conditional import) of a concept, or of a thought, is accessible to *a priori* reflection.

If *R(s)* is analytic, then K1 implies that *a priori* reflection will be able to detect that this is so (i.e., *a priori* reflection will be able to detect that the predicate, *R*, is contained in the idea of the subject, *s*), from which it follows that *a priori* reflection will be able to determine that *R(s)* is true. K1 therefore implies that any analytic judgement will be knowable *a priori*, just as Analyticity Entails Apriority says.

Kant's argument for Analyticity Entails Necessity is more complicated. It depends on K1 together with K2:

K2. Apriority entails necessity.

Together K1 and K2 support Analyticity Entails Necessity: for since K1 implies that analytic statements must be *a priori* while K2 implies that *a priori* statements must be necessary, they jointly imply that all analytic statements must be necessary, just as Analyticity Entails Necessity says. (Why does Kant think K2 is true? The answer doesn't really matter for my purposes, but Kant's thought was that judgements about necessity could not be empirical and must therefore be triggered by judgements about apriority. For example, he writes: 'Experience teaches us, to be sure, that something is constituted thus and so, but not that it could not be otherwise. [Thus] if a statement is thought along with its necessity, it is an a priori judgment' (1998, B3).)

K1 and K2 are substantive, non-trivial, synthetic doctrines about the relation between meaning, rationality and possibility. This is revealed by the fact that received opinion nowadays is that they are *false*. Both were accepted as self-evidently correct by philosophers for two centuries after the *Critique of Pure Reason*'s publication, until—to universal astonishment—Putnam (1973) demolished K1 with his Twin Earth thought experiment and Kripke (1980) demolished K2 with his arguments in *Naming and Necessity*. More will be said about Putnam's and Kripke's results below. For now, the important point is just that Kant, innocent as he was of Putnam's and Kripke's ideas, took both K1 and K2 to be true, and it is for this reason—and not because of any trivializing definitional stipulation on his part—that he endorsed both Analyticity Entails Apriority and Analyticity Entails Necessity.

With this point in mind, let's turn to the question as to how the analyticity/syntheticity distinction should be framed. It is traditionally framed as follows:

AnSyn1: A statement is 'analytic' iff it is true in virtue of meaning alone. Otherwise it is 'synthetic'.

AnSyn1 is imprecise. Three ambiguities that need resolving are these:

1. AnSyn1 mentions a statement's being 'true' in virtue of meaning alone. But is the truth-value in question the statement's truth-value in the *actual world* (the world we inhabit and experience), or its truth-value at *all possible worlds*?[14] Depending on the answer, AnSyn1 unpacks into either AnSyn2 or AnSyn3:

AnSyn2: A statement is 'analytic' iff it is *actually* true in virtue of meaning alone. Otherwise it is 'synthetic'.

AnSyn3: A statement is 'analytic' iff it is *necessarily* true (i.e., true in all possible worlds) in virtue of meaning alone. Otherwise it is 'synthetic'.

Notice that AnSyn3 is a *trivializing* definition, for it defines analyticity as a subspecies of necessity. If Kant had intended the analytic/synthetic distinction to be understood along the lines of AnSyn3, then he wouldn't have needed to rely on K1 and K2 in order to argue for Analyticity Entails Necessity. This being so, we must endorse AnSyn2, not AnSyn3, if we are to honor Kant's usage of the terms 'analytic' and 'synthetic'.

2. Kripke's and Putnam's examples are sometimes taken as showing that there are two kinds of meaning associated with a statement, these being: (i) a *narrow meaning* that is fully accessible to *a priori* reflection but which sometimes falls short of determining a statement's truth-value at a possible world; and (ii) a *wide meaning* that is sometimes inaccessible to *a priori* reflection, but which is fully capable,

---

14. G. Russell (2008, 41 & 52-57) notes the same ambiguity.

all by itself, of determining a statement's truth-value at a possible world (Brown, 2016). AnSyn2 (like AnSyn1, from which it is descended) mentions the 'meaning' associated with a statement, but without specifying which *kind* of meaning is relevant—narrow, or wide. It can therefore be precisified to yield either AnSyn4 or AnSyn5:

> *AnSyn4:* A statement is 'analytic' iff it is actually true in virtue of its *narrow* alone. Otherwise it is 'synthetic'.

> *AnSyn5:* A statement is 'analytic' iff it is actually true in virtue of its *wide* meaning alone. Otherwise it is 'synthetic'.

According to AnSyn4, the kind of 'meaning' relevant to analyticity is narrow meaning, which *just is* the kind of meaning accessible to *a priori* reflection. This turns analyticity into a subspecies of apriority as a matter of definitional stipulation, making Analyticity Entails Apriority trivial. Thus, AnSyn4 is (like AnSyn3) a *trivializing* definition. If, when Kant framed the analytic/synthetic distinction, he had had something like AnSyn4 in mind, then he would not have needed to rely on K1 to argue for Analyticity Entails Apriority. Indeed, it is perfectly clear that he *can't* have had AnSyn4 in mind, since the idea that statements have a 'narrow meaning' in addition to their wide meaning only occurred to philosophers after Kripke's and Putnam's discoveries (and remains controversial even now). It would be anachronistic to attribute to Kant anything similar to AnSyn4. And so, if we are to respect Kant's usage of the terms 'analytic' and 'synthetic' we should choose AnSyn5 in preference to AnSyn4.[15]

3. AnSyn5 (like AnSyn1 and AnSyn2, from which it is descended) speaks of a statement being true *in virtue* of meaning *alone*. How precisely are the italicized parts of this statement to be understood? For Kant, the answer is that a statement is an analytic truth if it can be logically deduced by what he calls the 'Law of Contradiction'—this being the principle, now more commonly known as the *Law of Non-Contradiction* (LNC), *that all contradictions are false*. For instance, he writes:

> All analytical judgments rest entirely on the law of contradiction…. For since the predicate of an affirmative analytical judgment is already thought beforehand in the concept of the subject; it cannot be denied of that subject without contradiction. (2004, 17)

And so it appears that Kant would have us precisify AnSyn5 as follows:

> *AnSyn6:* A statement is 'analytic' iff its being actually true is deducible, via LNC, from its wide meaning alone. Otherwise it is 'synthetic'.

However, Kant is being a little careless here. Suppose *p* is contradictory. LNC allows us to infer, on this basis, that *p* is false. But LNC doesn't allow us to get from the falsity of *p* to the conclusion that ¬*p* is (analytically) true. This step instead requires the use of another fundamental law of thought—namely, the *Law of the Excluded Middle* (LEM), the principle that every statement is *either* true *or* false. LEM is just as important as LNC within the deduction of ¬*p*. Making this explicit brings us to AnSyn7:

> *AnSyn7:* A statement is 'analytic' iff its being actually true is deducible, via LNC and LEM, from its wide meaning alone. Otherwise it is 'synthetic'.

In Kant's time both LNC and LEM were uncontroversial. Nowadays, however, LEM is denied by constructivists and LNC by paraconsistentists, and so AnSyn7 rests on assumptions about deductive logic that are vigorously contested. Fortunately, we can frame the analytic/synthetic distinction in a way which avoids these controversial assumptions about the foundational principles of logic by simply *remaining silent* as to which principles a sound deductive logic will use—as follows:

> *AnSyn8:* A statement is 'analytic' iff its being actually true is deducible, via sound logical principles, from its wide meaning alone. Otherwise it is 'synthetic'.

AnSyn8 has the virtue of letting two questions be separated. The first question is how analyticity should be defined. AnSyn8 follows Kant's lead by defining analyticity in terms of what can be deduced using sound principles of logic. The second question concerns what these 'sound principles of logic' *are*. AnSyn8 refers to such principles without specifying their identity. There is therefore room for classical

---

15. If the notion of 'narrow content' is ultimately incoherent (Stalnaker, 1989, 1990, 2008; Wilson, 1995) then this provides another, even quicker reason to opt for AnSyn5.

logicians, constructivists and paraconsistentists to agree in accepting AnSyn8 even while diverging radically in their answers to the second question.

A problem remains. Consider (8):

(8) At least one of the following logical principles is sound: LEM, LNC or *modus ponens*.

(8) makes an *exceedingly modest* claim about the foundations of logic—a claim so modest it will be accepted not only by classical logicians, but also by constructivists and paraconsistentists. Constructivists repudiate LEM and paraconsistentists repudiate LNC, but it would be a very rare logician indeed who would repudiate not just *one* of these fundamental laws of thought, but *all* of them, for a 'logic' that endorsed neither LEM, nor LNC, nor *modus ponens* would be so weak as to be inferentially useless.[16] Because all reputable logics assume at least one of these principles, the truth of (8) is trivially provable in all such logics, by simply invoking the laws themselves—the very laws whose truth is in question. Such a proof is obviously *worthless for persuasive purposes*, since it presupposes what is being proved, but AnSyn8 doesn't prohibit viciously circular deductions. For this reason, when AnSyn8 is combined with any remotely tenable view about which fundamental laws of thought are sound, it yields the result *that (8) is analytic*.

The problem is simply that this classification appears incorrect The essential point here has been made many times down the ages—by Aristotle (*Metaphysics,* IV, 4), Leibniz (1973, 93), Lewis Carol (1895), Frege (1964, 15), and Russell (1912, 72) among others: viz., logic can't lift itself by its own bootstraps; it can't validate its own foundational principles except on pain of vicious circularity.[17] All logical analysis presupposes certain foundational laws of thought, such as LNC, LEM and *modus ponens*, and these are therefore not themselves susceptible of being logically proved. Statements, like (8), that assert the soundness of these laws of thought are hence 'pre-analytic'. Their truth must be assumed before we can even begin to make sense of there being such things as 'analytic truths' in the first place. Since they are *pre*-analytic, they are *not* analytic, which makes them synthetic.

If further evidence is wanted for thinking (8) should be classified as synthetic, it can be obtained by noticing that (8) seems to fit the bill perfectly for being a Kantian *a priori* synthetic truth. Is (8) knowable *a priori*? It would certainly seem so, for deductive logic is a source of *a priori* knowledge if anything is, and deductive logic assumes the truth of (8). (If (8) were false then deductive logic—whether classical, constructive, or paraconsistent—could not be trusted to yield true conclusions from true premises.) This being so, (8)'s status as an *a priori* truth must be at least as secure as the *a priori* status of any deductively proved result—which is to say, as secure as could ever be. But how can (8) be *a priori* given it cannot be logically proved without begging the question? Kant held that *a priori* synthetic truths are known via a special kind of deduction—a *transcendental deduction*—that draws on rational insights into the limits of possible experience and imagination. According to Kant, φ will be *a priori* and yet synthetic if φ is not provable by logic (i.e., it is not analytic) but if the rational mind can recognize of itself that it is incapable of coherently perceiving or conceiving any state of affairs that would falsify or contradict φ. (8) fulfills this condition. We find that the rational mind can only coherently imagine, experience and conceive the world as conforming to such laws of thought as LNC, LEM and *modus ponens*. From this we draw the conclusion that the world we cognize and experience must itself be such a world—i.e., a world where (8) is true. In other words, the rational mind finds itself imprisoned in certain ways of thinking, imagining, and experiencing, with logic being, so to speak, the science that studies the bars of its prison. Any world that a rational mind coherently imagines or experiences must, for this reason, be a world where the ways of thinking that logic describes hold good, which is to say, a world where (8) is true. This is a transcendental deduction: the rational mind shows (8) to be an *a priori* truth by reflecting on its own inability to imagine or conceive a counterexample to (8).

This idea—that the laws of thought are known via a transcendental deduction—was not explicitly defended by Kant, but was defended by Schopenhauer:

> It is by means of a kind of reflection which I am inclined to call Reason's self-examination,
> that we know that [the laws of thought, including the LNC and LEM] express the conditions
> of all thinking, and therefore have these conditions for their reason. For, by the fruitlessness
> of its endeavors to think in opposition to these laws, our Reason acknowledges them to be
> the conditions of all possible thinking: we then find out, that it is just as impossible to think

---

16. In the unlikely event of a coherent and useful new logic being proposed that disclaimed LNC *and* LEM *and modus ponens*, my overall point would still stand, since I could simply further weaken (8) by adding to the disjunction a principle that the new logic relies on.
17. For a more recent discussion, see (Boghossian, 1997, 339, 345–350).

in opposition to them, as it is to move the members of our body in a contrary direction to their joints. (1974, 128)

Frege also gestures at the transcendental nature of (8) when, after noting that the laws of thought cannot be proved by logic without circularity, he writes of people who would question the soundness of these laws that 'it seems to me an attempt to jump out of one's own skin against which I can do no more than urgently warn them' (1964, 15).

In order to capture the idea that (8) is synthetic rather than analytic we need merely modify AnSyn8 by including a prohibition *against question-begging logical deductions*. The result is AnSyn9:

> *AnSyn9:* A statement is 'analytic' iff its being actually true is deducible, via non-question-begging use of sound logical principles, from its wide meaning alone. Otherwise it is 'synthetic'.

AnSyn9 has the following important virtues:

1. It is fully consistent with the traditional formulation of the analytic/synthetic distinction—namely, AnSyn1—because it is merely a disambiguated version of AnSyn1.
2. For reasons just explained, it disambiguates AnSyn1 in a way that appears to honor Kant's linguistic intentions. Since Kant both coined the analytic/synthetic distinction and made groundbreaking use of it in his own hugely influential philosophical system, one could break usage with Kant and use the terms 'analytic' and 'synthetic' at cross-purposes to him only at the price of introducing unwonted muddle and confusion into philosophical language.

I will now attempt to show that each of Recipe 1's raw ingredients exist. My arguments will assume that AnSyn9 is an adequate formulation of the analytic/synthetic distinction.

4. Why NAS statements exist

Kant reputedly showed long ago that NAS statements (which are necessary, *a priori* and synthetic) exist. He provided many examples, including (4). Matters might just be left there. But some of Kant's examples have stood the test of time poorly (e.g., his claim that determinism is *a priori* and necessary), and none of his examples are uncontroversial.

In my view (4) is a plausible example of a NAS statement. On the one hand, (4)'s denial (namely, 'Causation doesn't exist') is pretty clearly non-contradictory, making (4) synthetic. But on the other hand it also seems that we cannot cognize or imagine a world except as having a causal structure, making (4) necessary and *a priori*.[18]

However, although (4) arguably makes a useful 'Exhibit B' for the octopropositionalist, a compelling 'Exhibit A' is still wanted. The 'Exhibit A' I have in mind is already familiar—namely, (8):

> (8) At least one of the following logical principles is sound: LEM, LNC or *modus ponens*.

Is (8) *a priori*? The answer is affirmative, for reasons explained above. To recap, (8)'s status as an *a priori* truth must be at least as secure as the *a priori* status of any deductively proved result (i.e., as secure as could be), since deductive logic (whether classical or non-classical) assumes the truth of (8).

Is (8) necessary? (8) could fail to be necessary only if it were possible for (8) to be false, but deductive logic is our guide when we judge what is possible and impossible, and (8) makes an extraordinarily modest claim about the foundations of deductive logic itself. In attempting to imagine a world where (8) is false, we would be attempting to imagine a world where *deductive logic doesn't work,* and the idea of there being such a (logically) possible world is an oxymoron. We cannot imagine such a world, because our imaginative capabilities have limits—limits described by deductive logic, and, so in part, by (8). As Wittgenstein put it, 'The truth is, we could not even *say* of an "unlogical" world how it

---

18. Why *necessary*? Because, in Hume's words 'It is an established maxim in metaphysics, That whatever the mind clearly conceives, includes the idea of possible existence, or in other words, that nothing we imagine is absolutely impossible. We can form the idea of a golden mountain, and from thence conclude that such a mountain may actually exist. We can form no idea of a mountain without a valley, and therefore regard it as impossible' (Hume, 2000, §1.2.2). In short, causation's existence is necessary because conceivability and inconceivability are our guide to possibility and impossibility (D. J. Chalmers, 2002) and because we can't conceive of its non-existence.

would look' (1922, §3.031). In virtue of the mind having these imaginative limits (8) must be true, not just in the world we experience, but also in every world a rational mind can coherently conceive or imagine—making it not just *actually* true but also *necessarily* true.

Finally, is (8) analytic or synthetic? We saw above that AnSyn9 implies it is synthetic. We also saw that there are various powerful reasons to think this is the correct classification. Viz., (8)'s truth must be assumed before we can make sense of there being any such things as analytic truths in the first place, from which it follows that (8) is *pre*-analytic (and thus synthetic). Moreover, our knowledge that (8) is true appears to have a transcendental source, just as would be expected if it were Kantian *a priori* synthetic knowledge.

In short, (8) appears to be necessary, *a priori* and synthetic—making it a NAS statement. That the laws of thought have this modal status—of being synthetic *a priori* truths of the Kantian mold—is the third major claim of this paper.

5. Why NEA statements exist
For an example of a NEA statement we need look no further than (5):

(5) Water is H_2O.

That (5) is empirical is obvious: 'water' is a name for the transparent liquid that fills the lakes, rivers and oceans on Earth. This substance might conceivably have turned out to be something other than H_2O when subjected to empirical, scientific analysis.

That (5) is necessary was shown by Kripke. 'Water' is a rigid designator: it refers, in every possible world, to whatever substance it refers to actually. 'H_2O' is likewise a rigid designator: it refers in every possible world to samples of a certain type of molecule, composed of one oxygen atom and two hydrogen atoms. Given both 'water' and 'H_2O' are rigid designators, and given that, as an empirical matter of fact, they *actually* refer to the same substance, it follows that they co-refer in every possible world—i.e., *necessarily*.

Finally, is (5) analytic or synthetic? AnSyn9 implies that it is analytic, for reasons I will explain by reference to Putnam's 'Twin Earth' thought experiment. It involves two people—Oscar, who inhabits Earth, and Toscar, who inhabits another planet, Twin Earth. Both use 'water' to rigidly designate the substance that is actually the dominant transparent liquid on their own home planet. In Oscar's case this liquid is H_2O. In Toscar's case it is a different chemical compound, 'XYZ', which is, however, superficially indistinguishable from H_2O. Oscar and Toscar are molecule-for-molecule doppelgängers of each other, and hence indistinguishable with regards to their internal psychologies. But Putnam points out that their psychological similarity doesn't stop them *meaning* radically different things when they say 'Water is H_2O'. Given that 'water' is a rigid designator, the statement Oscar makes when he utters this sentence is a necessary truth, extensionally and truth-conditionally equivalent to 'H_2O is H_2O'. The statement Toscar makes is instead a necessary falsehood, equivalent to 'XYZ is H_2O'. Putnam infers, on this basis, that semantic externalism is true—i.e., that '"meanings" just ain't in the *head!*' (1973, 704, his italics). That is, the proposition an utterance expresses potentially depends not only on the internal psychology of the person who makes the utterance, but also on relevant facts about the surrounding environment—such as whether the local watery stuff is H_2O, or XYZ.

As mentioned above, philosophers sometimes distinguish *wide* meaning from *narrow*. Wide meaning is the kind of meaning that 'ain't in the head', while narrow meaning is a kind of meaning that is in the head. On this way of telling the story, when Oscar and Toscar each say 'Water is H2O' their words have *different* wide meanings while sharing *the same* narrow meaning. We may put the point by saying that Oscar and Toscar make different statements—statements truth conditionally equivalent to 'Water is H_2O' and 'Twater is H_2O' respectively—but that these two statements are perfectly alike with respect to their cognitively accessible 'narrow content'.

Recall that according to AnSyn9 a statement is analytic if its being actually true is deducible from its *wide meaning*. This being so, AnSyn9 implies that 'Water is H_2O' is analytic, the wide meaning of 'water' being enough to determine all by itself that 'Water is H_2O' is actually true (and, indeed, not only *actually* true, but *necessarily* true). [19]

Chief among the reasons why octopropositionalism appears *prima facie* implausible is because most philosophers remember Kant's famous argument against the existence of analytic empirical statements: viz., if a statement is true in virtue of meaning alone then *a priori* reflection will be able to

---

19. More generally, any statement of the form $R(D)=R(E)$ will be of type NEA, where: (i) D and E are a pair of non-rigid definite descriptions (like 'the morning star' and 'the evening star') that, as an empirically discoverable matter of fact, designate the same thing in the actual world; (ii) $R(x)$ rigidly designates whatever is *actually* designated by the definite description, x; and (iii) $x=y$ returns TRUE at world w iff x and y designate the same thing in w.

detect that this is the case, so that analyticity entails apriority. This argument withers in the face of Putnam's demonstration that 'meanings ain't in the head' (Rey, 2016, § 4.2). It assumes that the meanings of one's words, and their truth-conditional import, are accessible to *a priori* rational reflection (K1, above). The main lesson from Twin Earth is that this assumption is wrong. Oscar and Toscar mean different things when they say 'water', but they are psychologically identical and so the facts about what their own words mean are cognitively inaccessible to them. (If Oscar could access the full truth-conditional content of his words via rational reflection then (5) would, since it is a necessary truth, also be an *a priori* truth, which it obviously isn't.)

6. Why CAA statements exist

As mentioned in §1, prospective examples of CAA statements—i.e., statements that are contingent, *a priori* and analytic—include both Kripke's (6) and Kaplan's (7):

(6) The Standard Meter Bar is one meter long, if anything is.
(7) I am here now.

There are very strong grounds for thinking both (6) and (7) are CAA statements. The case for holding (7) to be a CAA statement—as articulated by Kaplan (1977) and G. Russell (2008)—is straightforward. (7) is contingent because although it is *actually* true that I am here now, *counterfactually* I might not have been: I could have been somewhere else now, instead. (7) is *a priori* because mere rational reflection suffices to establish that 'I am here now' is (actually) true, and no possible experience could disconfirm this claim.[20] Finally, (7) is analytic because the meanings (both wide and narrow) of the terms 'I', 'am', 'here', and 'now' suffice by themselves to determine that (7) is *actually* (albeit not *necessarily*) true. (The definition of 'here' is such that in my mouth it rigidly designates the spatial location where I *actually* am now, so that in the actual world, if not in other possible worlds, the expressions 'here' and 'where I am now' must co-refer.)

Next, (6). Let's make it a matter of definitional stipulation that 'one meter' is a rigid designator that denotes the *actual* length of the Standard Meter Bar. With this stipulation in place, it is clear that (6) is contingent. There are, for example, possible worlds wherein the Standard Meter Bar is, say, *twice as long* as it is in the actual world, which is to say, *two meters* long. (6) will be false in such counterfactual worlds despite being true in the actual world. That (6) is *a priori* is also obvious. Mere consideration of the foregoing definition of 'one meter' suffices to establish that if the Standard Meter Bar exists then it is *actually* (if perhaps not counterfactually) one meter long, and thus that (6) is *actually* (if not always counterfactually) true. (One needn't empirically measure the length of the actual Bar to determine its length in meters, the Bar's length being itself the ultimate arbiter and reference point for all such measurements.) Finally, AnSyn9 implies that (6) is analytic: for given that we can deduce that (6) is actually true by merely contemplating the above definition of 'one meter', it is obvious that (6) is *actually* (if not *necessarily*) true by virtue of meaning (both its narrow meaning and its wide meaning) alone.[21]

The octopropositionalist needs only one example of a CAA statement, but in (6) and (7) she has two.[22]

7. Concluding remarks

My arguments of §2 showed octopropositionalism must be true if NAS, CAA and NEA statements exists, and my arguments of §4—6 showed that each of these three types of propositions do indeed exist. My conclusion: octopropositionalism is true.

In order to reject octopropositionalism one must either: (i) deny the soundness of the trumping rules described in §2; or (ii) deny of both (4) and (8) that they are NAS statements; or (iii) deny that (5) is a NEA statement; or (iv) deny of both (6) and (7) that they are CAA statements. Option (i) appears hopeless. Options (ii), (iii) and (iv) would almost certainly involve denying that AnSyn9 adequately characterizes the analytic/synthetic distinction. But on what grounds might AnSyn9 be challenged? Not on the grounds that it is inconsistent with the traditional formulation of the analytic/synthetic

---

20. This assumes that Descartes was right and that one can know a priori that the 'I' exists. If Descartes was wrong—i.e., if one can know only via empirical introspection that the 'I' exists—then (7)'s status as a CAA statement can be preserved by adding a reference-failure clause, as follows: 'Either I don't exist, or I am here now'.
21. Kripke (1980, 122n) himself acknowledges that *a priori* contingencies like (6) might be counted as analytic.
22. More generally, any statement of the form $F(D) \lor (R(D)=D)$ will be of type CAA, where: (i) D is some non-rigid definite description that picks out its referent by describing an accidental property of the referent (like 'the inventor of bifocals'); (ii) $F(D)$ returns TRUE at world w iff D fails to designate anything in w; (iii) $R(D)$ rigidly designates whatever is *actually* designated by D; and (iv) $x=y$ returns TRUE at world w iff x and y designate the same thing in w. Similar examples of CAA statements can be manufactured on the model of 'It is raining if it is actually raining' (as pointed out to me by an anonymous reviewer).

13

distinction—namely, AnSyn1—because AnSyn9 is obtained from AnSyn1 by disambiguation. Nor on the grounds that in disambiguating AnSyn1 I have failed to respect historical usage, because in deriving AnySyn9 from AnSyn1 I have used Kant as my guide, and Kant is the canonical historical source.

In arguing for octopropositionalism I have relied on the idea that Kripke and Putnam's discoveries show—contrary to what Kant imagined possible—that analytic statements can be empirical (i.e., that Analyticity Entails Apriority is false) and contingent (i.e., that Analyticity Entails Necessity is false). An opponent of octopropositionalism might be tempted to insist that Analyticity Entails Apriority and Analyticity Entails Necessity are not up for negotiation, and to deal with purported Kripkean and Putnamian counterexamples to Analyticity Entails Apriority and Analyticity Entails Necessity (e.g., (5) and (6)) by adopting a *trivializing* construal of the analytic/synthetic distinction, like AnSyn3 and/or AnSyn4. To borrow a line from Bertrand Russell (1919, 72), this is an approach with 'many advantages; they are the same as the advantages of theft over honest toil'. If one redefines analyticity to make it a matter of brute definitional stipulation that no 'analytic' statement can be contingent or empirical then, of course, one gets the result that Analyticity Entails Apriority and Analyticity Entails Necessity are true and that octopropositionalism (so conceived) is false. By the same token, ornithologists might have saved the theory that all swans are white when they met their first black swan by redefining 'swan' to mean what was formerly meant by 'white swan'. Surely, we should register Kripke's and Putnam's groundbreaking discoveries about possibility and meaning by saying that Analyticity Entails Apriority and Analyticity Entails Necessity have turned out to be *false*, not by moving the goalposts and redefining 'analyticity' to make Analyticity Entails Apriority and Analyticity Entails Necessity come out as trivially true. If we are to avoid mutilating the meanings of the terms 'analytic' and 'synthetic' and introducing unwonted equivocations into the language then we must respect Kant's usage. And as discussed in §3, it appears clear that for Kant it *was not* a matter of brute definitional stipulation that all analytic statements must be *a priori*, or that they must be necessary.

My arguments in this paper raise several questions. First, epistemic two-dimensional semantics provides a unified explanation of necessity and apriority (D. J. Chalmers, 2004). Can it be merged with AnSyn9 to yield a unified explanation of *all three* modal distinctions? Second, I have shown that Recipe 1 can be used to construct *logically compound* statements belonging in the NAA, NES, CAS, CEA and CES categories. Which of these categories can also be filled with *atomic* statements (not manufactured using the trumping rules)?[23] Third, octopropositionalism implies that metaphysical, epistemic and semantic entailment are not reliable guides to each other (as explained in §1). For any two of these three kinds of entailment, what are the precise conditions under which one can come apart from the other? Fourth, the dichotomy between truths that are *knowable a priori* and *knowable empirically*, can be turned into a trichotomy by also recognizing truths that are *unknowable* (a plausible example being Goldbach's conjecture).[24] This gives rise to twelve modal categories, rather than the eight. Do all twelve have members?[25] Fifth, G. Russell (2008, 56) and Juhl and Loomis (2010, 219) have recently proposed rival ways of construing the analytic/synthetic distinction. What are the relative virtues and dis-virtues of their proposals as compared with AnSyn9?

These questions are topics for future work.[26]

References

Boghossian, P. A. (1997). Analyticity. In B. Hale & C. Wright (Eds.), *A Companion to the Philosophy of Language* (331–368). Blackwell.

Brown, C. (2016). Narrow Mental Content. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2016). Metaphysics Research Lab, Stanford University. Retrieved from https://plato.stanford.edu/archives/sum2016/entries/content-narrow/

Burge, T. (1988). Individualism and Self-Knowledge. *Journal of Philosophy*, *85*(November), 649–63.

---

23. The most difficult categories to fill with atomic statements appear to be NES and CEA.
24. See (Swinburne, 1975, 184 & 188).
25. Simple extensions to arguments in this paper yield an affirmative answer.
26. Many thanks to the anonymous reviewers for their numerous constructive suggestions. Thanks too to Carolyn Mason, Tarn Somervell-Fletcher and Michael-John Turp.

Carroll, L. (1895). What the Tortoise Said to Achilles. *Mind*, *4*(14), 278–280.

Casullo, A. (1992). Analyticity and the A Priori. *Canadian Journal of Philosophy*, *22*(sup1), 113–150.

Chalmers, D. (2012). *Constructing the World*. Oxford University Press.

Chalmers, D. J. (2002). Does Conceivability Entail Possibility? In T. S. Gendler & J. Hawthorne (Eds.), *Conceivability and Possibility* (145–200). Oxford University Press.

Chalmers, D. J. (2004). Epistemic Two-Dimensional Semantics. *Philosophical Studies*, *118*(1–2), 153–226.

Evans, G. (1982). *The Varieties of Reference*. Oxford University Press.

Frege, G. (1964). *The Basic Laws of Arithmetic*. Berkeley, University of California Press.

Harman, G. (1973). *Thought*. Princeton University Press.

Harman, G. (1996). Analyticity Regained? *Noûs*, *30*(3), 392–400.

Hintikka, J. (1962). Cogito, Ergo Sum: Inference or Performance? *Philosophical Review*, *71*(1), 3–32.

Hintikka, J. (1963). Cogito, Ergo Sum as an Inference and a Performance. *Philosophical Review*, *72*(4), 487–496.

Hospers, J. (1967). *An Introduction to Philosophical Analysis* (2nd ed.). Routledge and Kegan Paul.

Hume, D. (2000). *A Treatise of Human Nature*. Oxford University Press.

Juhl, C., & Looms, E. (2010). *Analyticity*. London: Routledge.

Kant, I. (1998). Critique of Pure Reason (Translated and Edited by Paul Guyer & Allen W. Wood). Cambridge.

Kant, I. (2004). Prolegomena to Any Future Metaphysics That Will Be Able to Come Forward as Science: With Selections From the Critique of Pure Reason, Ed. By Gary Hatfield, 2nd Edition. Cambrdge University Press.

Kaplan, D. (1977). Demonstratives. In J. A. and J. P. and H. Wettstein (Ed.), *Themes From Kaplan* (481–563). Oxford University Press.

Kitcher, P. (1983). *The Nature of Mathematical Knowledge*. Oxford University Press.

Kripke, S. A. (1980). *Naming and Necessity*. Harvard University Press.

Leibniz, G. (1973). The Nature of Truth. In G. H. . Parkinson (Ed.), *Leibniz: philosophical writings*. London: Everyman's Library.

Pollock, J. (1970). *Knowledge and Justification*. Princeton University Press.

Putnam, H. (1973). Meaning and Reference. *Journal of Philosophy*, *70*(19), 699–711.

15

Quinton, A. (1963). The "A Priori" and the Analytic. *Proceedings of the Aristotelian Society*, *64*(n/a), 31–54.

Rey, G. (2016). The Analytic/Synthetic Distinction. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2016). Metaphysics Research Lab, Stanford University. Retrieved from https://plato.stanford.edu/archives/win2016/entries/analytic-synthetic/

Russell, B. (1912). *The Problems of Philosophy*. London: Oxford University Press.

Russell, G. (2008). Truth in virtue of meaning: a defense of analytic-synthetic distinction. Oxford: Oxford University Press.

Schopenhauer, A. (1974). On the Fourfold Root of the Principle of Sufficient Reason. La Salle, Ill.,Open Court.

Stalnaker, R. (1989). On What's in the Head. *Philosophical Perspectives*, *3*(n/a), 287–319.

Stalnaker, R. (1990). Narrow Content. In C. A. Anderson & J. Owens (Eds.), *Statemental Attitudes: The Role of Content in Logic, Language, and Mind*. Stanford: Csli.

Stalnaker, R. (2008). *Our Knowledge of the Internal World*. Oxford University Press.

Swinburne, R. G. (1975). Analyticity, Necessity and Apriority. *Mind*, *84*(334), 225–243.

Wilson, R. A. (1995). Cartesian Psychology and Physical Minds: Individualism and the Sciences of the Mind. Cambridge University Press.

Wittgenstein, L. (1922). *Tractatus Logico-Philosophicus*. Dover Publications.