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

Douglas Ian Campbell
University of Canterbury

© 2017 Douglas Ian Campbell
This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 3.0 License.
<www.philosophersimprint.org/017025/>

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

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

![Figure 1. The modal tri-dichotomy.](image)

<table>
<thead>
<tr>
<th>necessary</th>
<th>contingent</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAS</td>
<td>CAS</td>
</tr>
<tr>
<td>NAA</td>
<td>CAA</td>
</tr>
<tr>
<td>NEA</td>
<td>CEA</td>
</tr>
<tr>
<td>NES</td>
<td>CES</td>
</tr>
</tbody>
</table>

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. 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*.

---

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 & Loomis, 2010), (G. Russell, 2008) and (Chalmers, 2012).
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) 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. 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 H₂O.

(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: Kripke’s (5) goes in one
CAA: Kaplan’s (7), Kripke’s (6) goes in one
CAS: Descartes’ (3), Kripke’s (6) goes in one

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 has 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
discovering 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 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 to the proper understanding of entailment. Three species of entailment can be distinguished, as follows:

\( \varphi \) metaphysically entails \( \psi \) iff \( \varphi \supset \psi \) is necessary.

\( \varphi \) epistemically entails \( \psi \) iff \( \varphi \supset \psi \) is a priori.

\( \varphi \) semantically entails \( \psi \) iff \( \varphi \supset \psi \) 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 \( \varphi \supset \psi \) were empirical but analytic, then \( \varphi \) would semantically entail \( \psi \) without epistemically entailing it. Or if \( \varphi \supset \psi \) were necessary but synthetic, then \( \varphi \) would metaphysically entail \( \psi \) 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 ‘\( p \land q \)’ 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 ‘\( p \land q \)’ 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 ‘\( p \land q \)’ 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 ‘\( p \lor q \)’ is necessary too.

T5. In a disjunction, apriority trumps empiricalness, in the sense that if either \( p \) or \( q \) is a priori, then ‘\( p \lor q \)’ is a priori too.

---

7. I owe this point in part to (Pollock, 1974, 300).

8. For example, they are not discussed by (Swinburne, 1975), (G. Russell, 2008) or (Juhl & Loomis, 2010).
T6. In a disjunction, analyticity trumps syntheticity, in the sense that if either \( p \) or \( q \) is analytic, then \( 'p \lor q' \) 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 \( p \land q \) to be false, irrespective of whether \( q \) is necessary or contingent (\( p \land q \) being false if \( p \) is). And so, \( p \)'s status as a contingent truth is inherited by \( p \land q \). 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 \( p \land q \) belongs to is determined by which categories \( p \) and \( q \) belong to. The operative trumping rules are T1, T2 and T3.

\
<table>
<thead>
<tr>
<th>( \land )</th>
<th>NAA</th>
<th>NAS</th>
<th>NEA</th>
<th>NES</th>
<th>CAA</th>
<th>CAS</th>
<th>CEA</th>
<th>CES</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
</tr>
<tr>
<td>NAS</td>
<td>NAS</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
</tr>
<tr>
<td>NEA</td>
<td>NEA</td>
<td>NEA</td>
<td>NAA</td>
<td>NAA</td>
<td>NEA</td>
<td>NEA</td>
<td>NEA</td>
<td>NEA</td>
</tr>
<tr>
<td>NES</td>
<td>NES</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NES</td>
<td>NES</td>
<td>NES</td>
<td>NES</td>
</tr>
<tr>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
</tr>
<tr>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
</tr>
<tr>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
</tr>
<tr>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
</tr>
</tbody>
</table>

Table 1. How the modal categories of \( p \) and \( q \) determine the modal category of \( p \land q \).

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

<table>
<thead>
<tr>
<th>( \lor )</th>
<th>NAA</th>
<th>NAS</th>
<th>NEA</th>
<th>NES</th>
<th>CAA</th>
<th>CAS</th>
<th>CEA</th>
<th>CES</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
</tr>
<tr>
<td>NAS</td>
<td>NAS</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
</tr>
<tr>
<td>NEA</td>
<td>NEA</td>
<td>NEA</td>
<td>NAA</td>
<td>NAA</td>
<td>NEA</td>
<td>NEA</td>
<td>NEA</td>
<td>NEA</td>
</tr>
<tr>
<td>NES</td>
<td>NES</td>
<td>NAA</td>
<td>NAA</td>
<td>NAA</td>
<td>NES</td>
<td>NES</td>
<td>NES</td>
<td>NES</td>
</tr>
<tr>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
<td>CAA</td>
</tr>
<tr>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
<td>CAS</td>
</tr>
<tr>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
<td>CEA</td>
</tr>
<tr>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
<td>CES</td>
</tr>
</tbody>
</table>

Table 2. How the modal categories of \( p \) and \( q \) determine the modal category of \( p \lor q \).

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 an NAS statement with an 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:

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.
Rule 1: NAS $\land$ NEA = NES

Rule 2: NAS $\land$ CAA = CAS

Rule 3: NEA $\land$ 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 $\land$ NEA $\land$ CAA = CES

Rule 5: NES $\land$ CAS = CES

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

Rule 6: NES $\lor$ CAS = NAS

Rule 7: NES $\lor$ CEA = NEA

Rule 8: CAS $\lor$ CEA = CAA

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

Rule 9: NES $\lor$ CAS $\lor$ CEA = NAA

Rule 10: NAS $\lor$ 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 $\lor$ NEA (by Rule 10)

NAS: -raw ingredient-

NEA: -raw ingredient-

NES: NAS $\lor$ NEA (by Rule 1)

CAA: -raw ingredient-

CAS: NAS $\lor$ CAA (by Rule 2)

CEA: NEA $\lor$ CAA (by Rule 3)

CES: NAS $\lor$ NEA $\lor$ 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 $\lor$ CAS $\lor$ CEA (by Rule 9)

NAS: NES $\lor$ CAS (by Rule 6)

NEA: NES $\lor$ CEA (by Rule 7)

NES: -raw ingredient-

CAA: CAS $\lor$ CEA (by Rule 8)

CAS: -raw ingredient-
CEA: -raw ingredient-

CES: NES\&CAS (by Rule 5)\textsuperscript{10}

Let conditions C1 and C2 be defined as follows:

\begin{itemize}
  \item C1: NAS, NEA and CAA statements exist.
  \item C2: NES, CAS and CEA statements exist.
\end{itemize}

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 \textit{either} by showing that C1 obtains \textit{or} by showing that C2 obtains. Whoever denies octopropositionalism must deny \textit{both} that C1 obtains \textit{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 \textit{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.

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:\textsuperscript{11}

\begin{itemize}
  \item NAA: Causation exists, or water is H\textsubscript{2}O.
  \item NAS: Causation exists.
  \item NEA: Water is H\textsubscript{2}O.
  \item NES: Causation exists, and water is H\textsubscript{2}O.
  \item CAA: I am here now.
  \item CAS: Causation exists, and I am here now.
  \item CEA: Water is H\textsubscript{2}O, and I am here now.
  \item CES: Causation exists, and water is H\textsubscript{2}O, and I am here now.
\end{itemize}

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 is obtainable.

\textsuperscript{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.

\textsuperscript{11} Here I use (7), rather than (6), as a CAA statement. The choice is arbitrary.
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:

> [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 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

---

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).
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? 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, 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 preci-
sified to yield either AnSyn4 or AnSyn5:

AnSyn4: A statement is "analytic" iff it is actually true in virtue of its narrow meaning 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 pri-
ori 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 occurred to philosophers only after Kripke’s and Putnam’s discoveries (and re-
mains 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 logi-
cally deduced by what he calls the "Law of Contradiction" — this being the principle, now more commonly known as the Law of Non-Contra-
diction (LNC), that all contradictions are false. For instance, he writes:

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.
The Eightfold Way

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 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. 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 (1773, 93), Carroll (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. 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

16. In the unlikely event of a coherent and useful new logic being proposed that claimed that AnSyn8, the 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).
conceiving any state of affairs that would falsify or contradict $\phi$. (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 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 exists. 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 is 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

\(^{18}\) 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 (Chalmers, 2002) and because we can’t conceive of its non-existence.

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 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.

5. Why NEA statements exist

For an example of an NEA statement, we need look no further than (5):

(5) Water is H₂O.

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 H₂O 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. ‘H₂O’ 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 ‘H₂O’ 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 H₂O. In Toscar’s case it is a different chemical compound, ‘XYZ’, which is, however, superficially indistinguishable from H₂O. Oscar and Toscar are molecule-for-molecule doppelgangers 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 H₂O.” 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 ‘H₂O is H₂O’. The statement Toscar makes is instead a necessary falsehood, equivalent to ‘XYZ is H₂O’. 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 H₂O, 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 H₂O’ and ‘Water is H₂O’ 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 deductible from its wide meaning. This being so, AnSyn9 implies that ‘Water is H₂O’ is analytic, the wide meaning of ‘water’ being enough to determine all by itself that ‘Water is H₂O’ is actually true (and, indeed, not only actually true, but necessarily true).¹⁹

Chief among the reasons why octopositionalism 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 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.

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 at world w if x and y designate the same thing in w.
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 exist, and my arguments of §4–6 showed that each of these three types of propositions does 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 an 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 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 AnSyn9 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

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 $F(D)\land (R(D)=D)$ 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).
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 (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)? 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). This gives rise to twelve modal categories, rather than the eight. Do all twelve have members? 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.

References


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.


