Understanding and Essence

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Abstract Modal epistemology has been dominated by a focus on establishing an account either of how we have modal knowledge or how we have justified beliefs about modality. One component of this focus has been that necessity and possibility are basic access points for modal reasoning. For example, knowing that P is necessary plays a role in deducing that P is essential, and knowing that both P and ¬P are possible plays a role in knowing that P is accidental. Chalmers (2002) and Williamson (2007) provide two good examples of contrasting views in modal epistemology that focus on providing an account of modal knowledge where necessity and possibility are basic access points for modal knowledge, and Yablo (1993) provides a good account of how we have justified beliefs about modality. In contrast to this tradition I argue for and outline a modal epistemology based on objectual understanding and essence, rather than knowledge or justification and necessity and possibility. The account employs a non-modal conception of essence and takes objectual understanding of essence, rather than knowledge of essence to be basic in modal reasoning. I begin by articulating Kvanvig's (2003) account of *objectual understanding*, on which objectual understanding of Φ is not equivalent to propositional knowledge of Φ. I then argue that an epistemology of essence that uses property *variation-in-imagination* is better construed as a model that delivers objectual understanding of essence rather than knowledge of essence. I argue that this is so, since the latter and not the former runs into a version of the *Meno* paradox. I show how this account can be applied to two issues in modal epistemology: the Benacerraf problem for modality, and the architecture of modal knowledge.

Keywords Modal epistemology · Objectual understanding ·
Epistemology of essence · Benacerraf problem · *Meno* paradox ·
Variation-in-imagination · Architecture of modal knowledge

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Introduction

The central question in the epistemology of modality is: How do we come to know modal truths? The question is typically formulated against the background of two presuppositions.[1]

The first presupposition comes by noting that even though the actual world can provide us with some modal knowledge, knowledge of actualized possibilities, it is in general categorically insufficient to provide us with knowledge of necessity and unactualized possibilities. The typical line of reasoning for this is that modal knowledge consists at least of knowledge of what is necessary and possible. Since necessity is truth in all possible worlds and unactualized possibilities are truths not present in the actual world, knowledge of the actual world cannot give us all modal knowledge. In fact in so far as actualized possibilities are not a species of interesting modal knowledge, the actual world is typically held to provide us only with uninteresting modal knowledge.

The second presupposition comes by noting that the question is generally stated as a question about how we attain *knowledge* of modal truths, rather than how we have justified beliefs about modality or any other epistemic relation to modal truths. The distinctive worry about knowledge is often driven by the fact that skepticism about modal knowledge is fundamentally different from general skepticism. Unlike knowledge of the actual world, which suffers from general Cartesian style skepticism, which modal knowledge can also be argued to suffer from, it is often maintained that there is a special kind of skepticism that modal knowledge faces. The worry is best illustrated through the application of Benaceraff's dilemma for mathematics to the case of modality, as discussed by Peacocke (1998). Consider (R), (C), and (E).

(R)   Realism about modality maintains that the truth-makers for modal statements are possible worlds, either real abstract objects or concrete particulars on a Lewisian model.

(C)   Possible worlds on the realist model are causally isolated from the actual world.

(E)   Knowledge of P requires causal contact with P.

From (R), (C), and (E) it can be argued that we cannot have both knowledge of modal truths and a realist account of them because knowledge requires causal contact with the truth-makers of modal thought and those truth-makers on a realist account are causally isolated from human thinkers. Benaceraff style skepticism is a form of skepticism that is distinct from the worry present in Cartesian style skepticism. The latter, and not the former, is applicable to the domain of modal knowledge and to knowledge of the actual physical world.

Although these presuppositions have guided the epistemology of modality for some time, it is possible to challenge both presuppositions. An account of the epistemology of modality can reject either (i) the presupposition that the actual world cannot provide us with material for an epistemology of necessity and unactualized possibilities, or (ii) the presupposition that modal knowledge is the central and foundational target of modal reasoning, or (iii) both. The central project

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[1] See Hale (2002) for discussion of the first presupposition. See Peacocke (1998) for discussion of the second presupposition.

of this paper is to explore a version of option (ii). Let me begin by articulating two contrasting accounts in modal epistemology as a way of setting up the point of departure for exploring (ii).

Chalmers (2002) and Williamson (2007) have articulated two important but distinct accounts of the epistemology of modality. While Chalmers maintains that conceivability defined within the epistemic two-dimensional framework can be used to provide an account of our epistemic access to modal truths. Williamson maintains that counterfactual reasoning in imagination can be used to provide an account of our epistemic access to modal truths. Both accounts can be taken to minimally provide justification for beliefs about modality, and in some cases to even provide modal knowledge. With respect to possibility, Chalmers' thesis is (CP+), and Williamson's thesis is (POS).

(CP+)   If P is ideal rational primary conceivable, then P is primary possible.
(POS)   It is metaphysically possible that P if and only if it is not the case that (if it were the case that P, then it would be the case that a contradiction follows): $\lozenge P \equiv \neg \, (P \blacksquare\!\!\rightarrow \bot)$ or $\lozenge P \equiv \neg \, (P \blacksquare\!\!\rightarrow \neg P)$.

Although both (CP+) and (POS) are offered as accounts of the epistemology of modality, it is important to note that the kind of modality that we are said to have epistemic access to, on each account, could be different.

(CP+) tells us that a certain kind of conceivability is a guide to *primary possibility*, where 'primary possibility' is distinguished from 'secondary possibility' via the distinction between the primary and secondary intension of statements. 'Primary possibility' might best be characterized as a kind of *a priori* logical or conceptual possibility. For example, while it is primary possible that 'Water is XYZ' is true, because in some centered-world, such as Twin Earth, considered as actual the description associated with 'water' picks out XYZ, it is secondary impossible that 'Water is XYZ' when we take Earth as the actual world, and counterfactually evaluate 'Water is XYZ' in any possible world where XYZ is present, but H_2O is not. Moreover the primary intension of 'Water is XYZ' is contingently true, while the secondary intension of 'Water is XYZ', given that Earth is the actual world, is necessarily false.

By contrast, (POS) is directly about 'metaphysical possibility', and thus depending on what 'metaphysical possibility' amounts to on Williamson's understanding, (POS) could be an epistemic account of a distinct kind of modality. On the one hand, if 'metaphysical possibility' is taken along the traditional Kripkean lines, then (CP+) and (POS) are not epistemic accounts of the same kind of possibility, since Kripkean metaphysical possibility is *not* purely logical and conceptual. On the other hand, if Kripkean 'metaphysical possibility' were exhausted by natural necessity, then it would be better to understand (POS) as an epistemology of natural necessity, which again would make it distinct from (CP+).

While Chalmers' account and Williamson's account have both been subjected to critical scrutiny, these criticisms do not establish that the accounts fail to shed important light on the contours of modal epistemology and the epistemology of philosophy.[2] Both (CP+) and (POS) provide us with insight into the epistemology of

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[2] See, Yablo (2002) and Soames (2005: Ch 9) for discussion of Chalmers' conceivability account. And see C.S. Jenkins (2008) for discussion of Williamson's counterfactual account.

modality, and each is important to the epistemology of philosophy for different reasons. For example, Chalmers' two-dimensional conceivability account potentially provides for a defense of *a priori* conceptual analysis, and an understanding of the foundation upon which *a priori* philosophy can be furthered. By contrast, Williamson's counterfactual reasoning account potentially provides for a naturalistic account of our modal knowledge, which presents philosophical inquiry on a par with scientific inquiry.

Although (CP+) and (POS) differ over the kind of modality they give us epistemic access to and the potential epistemology of philosophy that they would deliver, there is a shared focus between the two views. This focus is also present in Yablo's (1993) conceivability account, Menzies's (1998) response-dependent account, Bealer's (2002) modal reliabilism account, Peacocke's (1998) *Principles-of-Possibility* account, and Hill's (2007) counterfactual account. The focus of all these accounts is (K).

(K)   The foundational target of modal reasoning is either modal knowledge or justified beliefs about modality, where necessity and possibility are taken as basic access points for arriving at other modal truths, such as concerning contingency, essentiality, and accidentality.

The focus on (K) in these accounts is not in itself problematic. However, it is my contention here that progress in the epistemology of modality can be made by exploration of the plausibility of accounts that do not focus, in their epistemology, on knowledge or justified beliefs about modality, and, in their metaphysics, on necessity and possibility as the basic access points for modal reasoning. The epistemology of modality that is a plausible contender to the accounts above is an epistemology of essence that has the following features. First, the account maintains that the epistemology of essence plays a central role in the foundation of a comprehensive epistemology of modality that includes the epistemology of necessity, possibility, and contingency. Second, it employs a notion of *essence* that is distinct from necessity and possibility, and which allows for the derivation of necessities and possibilities. Third, the epistemology *does not*, at its foundational level, focus on how we have knowledge of essence or mere justified beliefs about essence. Rather, the epistemology focuses on how we have *objectual understanding* of essence through some mental operation.

The plan for the exposition of this account is the following. In **2** I will explicate Kvanvig's (2003) distinction between knowledge and objectual understanding, and defend it against a dilemma. In **3** I will outline a model of the epistemology of essence called *variation-in-imagination*, (VIM). I will argue that when this model is construed as a model of how we could have knowledge of essence it leads to a version of the *Meno* paradox. In **4** I will argue that if the model is restructured as a model of how we could arrive at objectual understanding of essence, it does not lead to a version of the *Meno* paradox. In **5** I will discuss a series of objections to the initial argument against arriving at knowledge through (VIM), to the account in terms of objectual understanding, and to the relation between knowledge and objectual understanding. Finally, in **6** I will show how the account can be applied to two issues in modal epistemology: a solution to the Benacerraf problem for the case of modality, and a novel picture of the architecture of modal knowledge.

The Distinction Between Knowledge and Understanding

Kvanvig (2003, 2009) has articulated a distinction between knowledge and objectual understanding. I will present this distinction via an argument.

1.) Possessing knowledge of Φ is the same as possessing objectual understanding of Φ only if both knowledge and understanding are incompatible with epistemic luck.
2.) Knowledge is incompatible with epistemic luck.
3.) Objectual understanding is compatible with epistemic luck.
4.) So, possessing knowledge of Φ is not the same as possessing objectual understanding of Φ.

The main premises to be defended are (2) and (3). Knowledge is incompatible with epistemic luck. There are at least two types of cases epistemologists look at when they think about epistemic luck.[3]

   One kind of luck is best illustrated by Gettier's deduction case. In cases like these a subject deduces on the basis of a justified false belief, a justified true belief, but we deny that their justified true belief is knowledge, since it is an instance of luck. For example, when Smith has a justified belief that Jones owns a Ford, and deduces that *either Jones owns a Ford or Brown is in Barcelona*, and it turns out that Jones does not own a Ford, but that Brown is in Barcelona, we do not count Smith's disjunctive belief as an instance of knowledge. At least one way of explaining why Smith's belief is not an instance of knowledge is that the justification for the true belief does not derive in anyway from the truth-maker of the belief. In deduction cases of this kind what we have is a separation between the source of justification and the truth-maker for the belief.

   Another kind of luck is best illustrated by Goldman's fake-barn case. In cases like these a subject forms a justified true belief through an internally reliable process, such as perception, but we deny that their justified true belief is knowledge, since it is an instance of luck. For example, when Jones is driving in fake-barn county, and points to the one true barn amidst a plethora of fake barns, although Jones' belief is formed through the reliable process of perception, and his source of justification is connected to the truth-maker for the proposition he believes, we do not count Jones' belief as an instance of knowledge. At least one way of explaining why Jones' belief is not an instance of knowledge is because it is not *safe*. Were Jones to have looked at any other barn in the proximity he would have formed a false belief. Moreover, his belief could easily have been false.

   One way of capturing the difference between the two cases is by noting the presence or absence of a causal connection between the truth-maker and the source of justification for the proposition believed. In Gettier's deduction case we have no knowledge because no causal connection between the truth-maker and the source of justification. In Goldman's fake-barn case what we have is a causal connection between the truth-maker and the source of justification, but there is something amiss in the environment. Nevertheless, in both cases of epistemic luck, justified true belief

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[3] See D. Pritchard "Knowing the Answer, Understanding, and Epistemic Value' forthcoming in *Grazer Philosophische Studien* for discussion of different kinds of luck.

is present, but knowledge is absent. So, knowledge is incompatible with both kinds of epistemic luck. What about objectual understanding?

According to Kvanvig there are many uses of 'understanding', one of which is called *objectual understanding*. On his account objectual understanding is compatible with a certain kind of epistemic luck.

> What is distinctive about understanding, once we have satisfied the truth requirement, is internal to cognition. It is the internal seeing or appreciating of explanatory and other coherence-inducing relationships in a body of information that is crucial for understanding. When we think about knowledge, however, our focus turns elsewhere immediately if we have learned our lessons from the Gettier literature: We think about the possibility of fortuitousness, of accidentality, of being right but only by chance. We focus, that is, on what kinds of further external connections there are between mind and world, beyond the fit required for the belief to be true.
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> The basic idea here is that although knowledge is incompatible with a certain kind of epistemic luck, understanding is not. (2003: 198-99)

Is this account of objectual understanding plausible? There are at least two immediate criticisms. The criticisms can be jointly formulated through a dilemma. Either objectual understanding is non-factive or it is factive. If it is non-factive, then it is trivially distinct from knowledge, since knowledge is factive. If it is factive, then it is equivalent in an important sense with knowledge; and thus it is impossible to possess objectual understanding without knowledge.

Concerning the first horn, one might think that it is obvious that understanding is distinct from knowledge, since it is possible to understand a proposition that is false, and impossible to know a proposition that is false. Consider the following example.

> *Party*: Frank and Mark are talking at a party and Frank says to Mark, "I understand that Mary is not coming to the party. Mark, knowing that Mary is coming to the party, asks Frank, "Why?" Frank replies, "Because I know John is coming, and Mary knows he is coming and doesn't like him."

One might argue that in the case above Frank's use of 'understand' is true and coherent, and given that it is false that Mary is not coming to the party, it is possible to understand a proposition that is false. Furthermore, one might argue that in general it appears as if there are many cases in which 'understanding' is correctly applied to false propositions.

However, this initial objection can be resisted by noting that nothing important hangs on Frank's use of 'understand'. Frank's use of 'understand' is in a clear sense elliptical for 'believe'. In fact were we to change Frank's statement to 'I believe that Mary is not coming to the party', nothing would be lost. It is sometimes pragmatically permissible to use a word to capture what one is talking about, even though another word clearly captures the meaning better. Moreover, while there are uses of 'understand' that can go proxy for belief, there are uses of 'understand' that cannot go proxy, strictly, for belief. In the example above, it is simply because Frank merely believes, rather than knows, that Mary won't come to the party, that we are inclined to say that his use of 'understand' is one on which it is correct to say he understands something that is false.

As I see it many of the cases in which we are inclined to say that a subject understands a false proposition are such that they can be divided into two uses of 'understanding'. On the one hand, there is a sense in which we often are inclined to say that a subject prior to performing a successful *reductio ad absurdum* proof understands the proposition that is assumed for reductio. We might refer to this as the *thin-conception* of understanding, because it is applicable to propositions that are contradictory. On the other hand, there are uses of 'understand', such as the one in the case above, where 'understand' is used to refer to belief. We might refer to this as the *proxy-conception* of understanding, because what is important about the use of 'understanding' is that it is applicable to false propositions, conveys a positive epistemic attitude, but is generally elliptical for some other epistemic attitude, such as belief or knowledge. However, recognizing this distinction between uses of 'understand' and its cognates, does not rule out the possibility of a use of 'understand' that is factive and distinct from belief and knowledge.

Concerning the second horn, the argument against the distinction between knowledge and understanding comes from a fact, noted by both Kvanvig and his opponents, that in natural language 'understanding' and 'knowing' appear in some contexts to be equivalent in an important sense. 'Johnny understands that he has to go to work today' and 'Johnny knows he has to go to work today' appear to convey the same thing. And 'Johnny understands logic' and 'Johnny knows logic' also appear to convey the same thing. If the two terms are genuinely interchangeable in various contexts, it is hard to ground the thesis that understanding is compatible with epistemic luck while knowing is incompatible.

The point of contention in Kvanvig's account can be seen through his discussion of the following case and argument given by DePaul and Grimm (2007) against the compatibility of understanding with luck.

> *Reporter*: Suppose that your source for World Cup soccer scores and analysis is a Jayson-Blair style news reporter who simply makes up all of his reports about the cup whole cloth. You have no particular reason to suspect this about him; moreover, from your point of view his reports seem worthy of your default trust. Your source, then claims (in a particular moment of reverie) that the United States defeated Italy 2 to 1, and that the winning goal was scored by the U.S. because the Italian goalkeeper slipped in the mud, an account that you then accept as true. In this case, moreover (what luck!), all of his claims turn out to *be* true; by chance, he has precisely described the way things actually unfolded during the game. Focusing, now on the role of understanding, we can also add the following: not only do you come to accept (based on his account) that the United States scored the winning goal because the goalie slipped in the mud, but you also (in some appropriately internal sense) "grasp" or "see" the explanatory relationship described by the reporter; that is, you "grasp" or "see" that the winning goal was scored *because* the goalie slipped in the mud. This is, to your mind, *why* the winning goal was scored. (2007: 512)

In the reporter case Kvanvig maintains that although truth and internal "seeing" are *not* marks of objectual understanding, one does understand why the U.S defeated Italy because the goalie slipped in the mud. And this is true even though one cannot be said to have propositional knowledge because of the presence of epistemic luck.

Depaul and Grimm argue that this consequence of the case suggests that Kvanvig's view is incorrect, since their intuition is that one does not understand because they do not know. Their point, according to Kvanvig, is that if *understanding why* and *knowing that* are appropriately related, one cannot understand why Φ is the case without knowing that Φ is the case.[4]

I share Kvanvig's intuition about this case, and I believe that the thesis that it is possible to understand why Φ is the case without knowing that Φ is the case is defensible and useful. More importantly, the reason why this objection does not move me is because as I see it the primary aim here is not to articulate a theory of objectual understanding relative to linguistic data and our common uses of 'understand' and its cognates *alone*. Rather, the aim is to generate a philosophical theory of a particular kind of understanding, objectual understanding, that we can make coherent sense of and put to good theoretical use. Kvanvig's own response seems appropriate.

> What I deny, however, and what I claim any interesting philosophical methodology ought to deny, is that philosophical conclusions can be read off of ordinary language in this way. The interchangeability of the terminology in question in ordinary language might indicate synonymy or it might just as easily indicate the lack of any commonly noticed significant interest or purpose that arises in ordinary life that would require distinguishing the two. In any case, whatever the correct explanation for the linguistic data here, the most anyone could legitimately claim would be that such data is defeasible evidence for certain philosophical conclusions. I don't know whether the data rises even to that level, but if it does, then the account presented here and the explanations offered constitute, I submit, just the kind of defeaters one would need to refuse to draw the conclusions these data suggest. (2009: 104–112)

In general, linguistic data is part of the data that we should use to assess a philosophical theory. Nevertheless, it is not the *only* data that should or can be used to assess a theory.[5] Understanding in the sense in question cannot be shown to be incoherent *simply* by appeal to intuitions about cases where the specific linguistic data is known to be problematic. More importantly, if our common uses of 'understanding' and 'knowledge' are interchangeable in many cases, it is no surprise that some of us, or even many of us, have linguistic intuitions in the case above, just as we did in the prior case, that go against the view that a subject can understand why without knowing that, or that it is clear that understanding and knowing are distinct, because the former, and not the later, is non-factive. Perhaps, the appropriate response to these intuitions is to attempt to explain them away as some kind of error induced by pragmatics and practical uses of 'understanding' and 'knowing', which are *precisely* not sensitive to theoretically interesting differences, which are coherent. Moreover, I take objections to Kvanvig's philosophical account of objectual understanding based solely on linguistic intuitions to be in the same camp as all intuitions used in theory construction, just part of the data to be assessed with all other factors.

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[4] See Pg. 104–112 for discussion.

[5] At least one reason in contemporary literature for being wary of the use of intuitions as the sole guide to theory construction comes from recent work by experimental philosophers on the probative value of intuitions.

Since my project here is the epistemology of essence, I cannot offer a comprehensive defense of Kvanvig's account. For the purposes of the epistemology of essence the key point of Kvanvig's account of the reporter case that I will be deploying is the compatibility of objectual understanding with epistemic luck due either to accidentally arriving at the truth through a process or through the failure of a causal connection between the subject and the truth-maker. In particular, in the case above it is important to note that a person can be said to understand why the U.S. won even though they have no relevant causal connection to the truth-maker of the propositions involved because the reporter has no relevant causal connection to the match. This aspect of objectual understanding makes it extremely useful for developing an epistemology of a realist theory of essence.

Knowledge of Essence

In order to present an epistemology of essence, I need to specify some aspects of the metaphysics of essence that I will be working with. The account of essence I favor is due to Fine (1994), and discussed within the context of the epistemology of modality by Lowe (2008). Following the work of Fine, I will not be working with a modal account of essence on which it is maintained that P is an essence of O if and only if O is necessarily P. Fine argues against the conditional that if O is necessarily P, then P is an essence of O. For example, Socrates has the property of being a member of the singleton set {*Socrates*} in every possible world in which Socrates exists, however the property *being a member of the singleton set containing Socrates* is not an essence of Socrates. Intuitively, Socrates is necessarily a member of his singleton, although the property *being a member of the singleton set containing Socrates* is not an essence of Socrates.

The driving force of Fine's view is the Aristotelian idea that essences capture the *whatness* individuating properties of an object. The attempt to capture *whatness* in terms of the biconditional, P is an essential property of O just in case O is necessarily P, is too *coarse* grained. It admits too many properties as essences that do not pertain to the whatness of the kind in question. So, from a metaphysical point of view I will use (ME) in developing an epistemology of essence.

(ME)   P is an essential property of O *only if* necessarily, if O exists, P is a property of O.

(ME) only specifies a necessary condition on a property being an essence of an object, and not a set of necessary and sufficient conditions. However, the condition is strong enough to separate the notion of essence from that of necessity. When P is an essence of O it follows that P is a necessary property of O. However, P can be a necessary property of O without being an essence of O. Along with (ME), it will also be useful for my purposes to specify an epistemic analogue that can be used in constructing an epistemology of essence.

(EP)   If P is a *variant* property of O, then P is *not* an essential property of O.

(EP) is also not an exhaustive account of the epistemology of essence. What (EP) specifies is a criterion that can be used in a cognitive process for making a judgment

about whether a property P is essential or accidental. (EP) allows for the construction of a basic epistemology of essence, I call, *variation-in-imagination*, (VIM), the model is partially derived from Edmund Husserl's notion of eidetic variation. The basic idea in this model is that we can make a judgment about the essential properties of an object by varying properties of the object in imagination, and *seeing* which vary and which do not. The variant properties are accidental and the invariant properties are essential.

Let me begin the development of an epistemology of essence by outlining (VIM) as a model of how we have knowledge of essence. I will then argue that when the relevant conditions for knowledge of essence are imposed on (VIM), it leads to a version of the *Meno* paradox. In **4** I will show that when the conditions for objectual understanding are imposed no version of the *Meno* paradox follows. The overall epistemic position is that (VIM) is best understood as an account of how we have objectual understanding of essence, and not knowledge of essence.

Variation-in-Imagination (VIM):

Step 1.   A considers O at t_1 to have properties: P, Q, R, T, U, and V.
Step 2.   A at t_2 takes O with the property set {P, Q, R, T, U, V} into imagination.
Step 3.   A at t_3…t_8 constructs scenarios S_1...S_5, such that in each S_i some property from {P, Q, R, T, U, V} is replaced by a property from {F, G, H, I, J, K}.

S_1:	Q is replaced by G	=	{P, G, R, T, U, V}
S_2:	R is replaced by H	=	{P, G, H, T, U, V}
S_3:	T is replaced by I	=	{P, G, H, I, U, V}
S_4:	U is replaced by J	=	{P, G, H, I, J, V}
S_5:	V is replaced by K	=	{P, G, H, I, J, K}

Step 4.   A judges that P is an essence of O, since P is invariant under S_1…S_5.

Before I discuss the set of conditions that will be required for (VIM) to yield knowledge it will be helpful to specify (VIM) in a bit more detail so as to avoid some confusions.

First, (VIM) is a process that can be applied to abstract objects, such as the number 2, and to concrete particulars, such as a table, that one visually perceives at a given time. Step 1 is the claim that a subject *considers* an object at a time with an array of properties in mind. In some cases the consideration of properties is perhaps strongly visual and imagistic. For example, when one perceives an object with a set of finite properties, and then draws a figure in their mind's eye that represents what is perceived, and subsequently performs some permutations on the representation. However, and importantly so, (VIM) is best understood as not requiring visual representation at all. In some cases, one may consider an object with a set of properties, by considering a variety of propositions. That is although variation in imagination is a process that is imaginative it is not necessarily imagistic. Many instances of (VIM), especially in mathematics and other *a priori* domains, will not be imagistic at all. And even if the exercise involves an image, it may simply use visual aids as proxy items whose real nature is not imagistic; for example, when one

uses a hexagon to stand for a many sided polygon, for which there is no imagistic analog.[6]

Second, when one considers a set of scenarios, the set of scenarios may not be complete. Note in the example above, the initial set of properties considered does not constitute a complete list of properties of O. However, it is not necessary that in coming to have a justified belief, knowledge, or understanding of O's essence that one examine every property of O. What is required is that the set of properties be adequate and representative in an appropriate sense, not that the set be complete of all properties of the object. Completeness or exhaustiveness as a requirement on the set of properties considered would be over demanding, and render any finite exercise of variation epistemically irrelevant.[7]

In order for (VIM) to produce a judgment about P being an essence of O, which is conducive of knowledge (i.e. capable of being an instance of knowledge), the following conditions are necessary.

Necessity-of-object-preservation, (NOP).

(NOP)   In order for an imaginative process, such as (VIM), to yield a judgment about whether P is an essential property of O through property variation on O via the construction of a set of scenarios $S_1…S_n$, it must be the case that O is preserved in the transition from each S_i to S_k.

(NOP) asserts that a necessary condition on the final stage of a (VIM) yielding knowledge of the essence of O is that no scenario S_i contain some object O* distinct from O. If in the construction of some S_i, O is replaced by some O* ≠ O by switching properties, then that S_i *invalidates* (VIM) from yielding knowledge of the essence of O. A S_i cannot be an instance of a property variation on O, if it does not contain an essential property of O. In order for the judgment a subject makes about what the essential property of an object is, on the basis of (VIM), to be knowledge conducive it must be such that every scenario contains the same object, otherwise the invariance or variation is not across the same object, but rather distinct objects.

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[6] The reference I am making here is to the well-known passage from Descartes' 6th meditation where he discusses the difference between imagination and pure understanding with respect to geometrical figures. See Descartes (1985), pp. 50-51.

[7] One might have caught that the language I use here, though reversed, is central in the exchange between Descartes and Arnauld in the 4th set of objections and replies to the former's *Meditations on First Philosophy*. In that exchange Arnauld questions whether conceivability entails possibility, since there are apparent cases where one could claim to have conceived of something that is impossible because they were ignorant of a property that actually made the purported conception impossible. In particular, he offers the example of a subject that claims to have conceived of a right-triangle that does not have the Pythagorean property $a^2 + b^2 = c^2$, because they are ignorant of the fact that it is an essential property of a right triangle that it has the Pythagorean property. Arnauld maintains that Descartes has failed to consider the role of adequate ideas, ideas that contain every property of an object, in the formation of a conception of an object that tracks what is genuinely possible for the object. Descartes responds by noting that adequate ideas are not required for conceivability exercises that can allow one to gain modal knowledge. He responds to Arnauld by maintaining that complete ideas are all that are required, where complete ideas are ideas that allow one to recognize something as a substance. For further discussion of this see Descartes 1985, pp. 138-162, and Almog (2002).

Non-accidental-construction, (NAC).

(NAC)   If a (VIM) yields knowledge of the essence of O for a subject A, then it cannot be the case that the preservation of O across $S_1 \ldots S_n$ is *accidental*.

(NAC) articulates the condition that if the output of a (VIM) is to yield a judgment that could be knowledge of the essence of O, then it cannot be the case that the choice of properties A employs in constructing an S_i *accidentally* preserve O. The core issue here is that a process is knowledge conducive if it is one whose output is not true by luck, but by the design of the process. Consider a broken thermometer that accidentally is reading the temperature reliably and correctly. Even though it is reliable and correct, a subject that forms a true belief on the basis of it does not posses knowledge because the temperature reading is not a function of the proper design of the system. Thus, if the construction of an S_i accidentally preserves O, then that S_i *invalidates* the (VIM) process from yielding a judgment that is conducive of knowledge of the essence of O. (NAC) is an anti-luck condition for (VIM) yielding knowledge of essence.

Conscious-choice-construction, (CCC).

(CCC)   In order for a subject to construct a scenario S_i involving an object O, the subject must consciously choose which properties O is to have from a set of properties Π, which the subject has knowledge of.

(CCC) codifies the thought that in performing a (VIM) one must actually construct scenarios by picking properties that they know of. A subject constructs a scenario from objects and properties by assembling them or assenting to propositions that articulate them.

(NOP), (CCC), and (NAC) are all plausible necessary conditions on (VIM) being a source of knowledge of essence. Using these conditions I will argue that it is *impossible* for a (VIM) process to provide a subject with knowledge of the essence of an object. The basic problem is a version of the *Meno* paradox. When the conditions above are imposed it is impossible for one to gain knowledge of the essence of O unless they already either possess implicit or explicit knowledge of the essence of O. Intuitively, the problem is that one cannot preserve an object across a series of transitions unless they know which properties they can alter. But knowing which properties one can alter would require that one already, either implicitly or explicitly, knows which properties are essential and which are not. The problem can be formally illustrated through consideration of a case and proof based on it.

Let:

O be an object whose essential property is F and whose accidental properties are G, H, and K. Assume for reductio that A is a subject that *does not know* that F is the essential property of O, and that G, H, and K are accidental properties of O. Suppose that A performs a (VIM) on O considered at *t* as possessing F, G, H, and K in order to *gain knowledge* of which of the properties of O is the essence of O. And suppose that the properties A will vary on O in order to gain knowledge of the essence of O are T, U, V, and W; where T, U, V, and W are not the initial considered properties of O, but possible accidental properties of O.

Proof:

1. Given that A performs a (VIM) in order to gain knowledge of the essence of O considered at t as possessing the properties F, G, H, and K, A must construct some set of scenarios $S_1…S_n$ sequentially over time, each of which involve property variation on O.
2. By (NOP), O must be an element of each S_i, and not some $O^* \neq O$.
3. By (CCC), each S_i is constructed by A choosing to replace either F, G, H, or K by T, U, V, or W.
4. In constructing each S_i, A either replaces the essential property F of O by either T, U, V, or W; or A does not replace F.
5. If in constructing S_i, A replaces F, then by the definition of essence, S_i does not contain O, since it does not contain an essence of O.
6. From (5) and (NOP), it follows that if any S_i is constructed by replacing F, then that S_i invalidates (VIM) from yielding knowledge.
7. If in constructing S_i, A does not replace F, then O is preserved in (VIM) either accidentally or non-accidentally.
8. If O is preserved in (VIM) accidentally, then by (NAC), (VIM) is invalidated from yielding knowledge.
9. If O is preserved in (VIM) non-accidentally, then O is preserved through (VIM) in virtue of A knowing either implicitly or explicitly which properties are essential to O.
10. So, in constructing each S_i, O is preserved in (VIM) in a knowledge yielding way for A, only if A already knows either implicitly or explicitly that F is an essential property of O.

(10) is the problematic conclusion. (VIM) yields knowledge of essence for a subject only if the subject already possesses either implicitly or explicitly knowledge of essence.

Objectual Understanding of Essence

When (VIM) is a model of how we have knowledge of essence we are led to a version of the *Meno* paradox. The two conditions that bring about the problem are *necessity-of-object preservation* and *non-accidental-construction*. However, when (VIM) is presented as a model of how we arrive at objectual understanding of essence neither (NOP) nor (NAC) are required, as a consequence, (VIM) as a process for delivering objectual understanding of essence does not lead to the *Meno* paradox.

First consider (NAC).

(NAC)   If a (VIM) yields knowledge of the essence of O for a subject A, then it cannot be the case that the preservation of O across $S_1…S_n$ is *accidental*.

(NAC) is the anti-luck condition for (VIM). It specifies that (VIM) cannot yield knowledge, if the preservation of O across the scenarios is accidental. This is because knowledge is incompatible with luck. Because the subject cannot accidentally preserve O in the construction of scenarios the subject must either

implicitly or explicitly know which properties can be altered. However, if (VIM) is a model of how we have objectual understanding of essence, rather than knowledge of essence, then we are free to drop (NAC) as a condition. A subject can accidentally preserve O through the scenarios and still come to an objectual understanding of the essence of O. Recall, that objectual understanding is distinguished from knowledge not by factivity, but by its consistency with epistemic luck. So, (NAC) is not a requirement on (VIM) for objectual understanding.

Second, consider (NOP).

(NOP)   In order for an imaginative process, such as (VIM), to yield a judgment about whether P is an essential property of O through property variation on O via the construction of a set of scenarios $S_1...S_n$, it must be the case that O is preserved in the transition from each S_i to S_k.

If (VIM) is aimed at objectual understanding, it need not be the case that the object is persevered in each scenario. Any scenario that does not contain O is a scenario that plays a role in the subject arriving at an objectual understanding of the essence of O. In a scenario where some O* is present the subject can see how changing a property destroys the object. This accidental insight into the object being changed allows the subject to comprehend why the property in question is essential. What is important in objectual understanding is that the termination of the process yields insight, grasping, and seeing of the true essence of O. Objectual understanding, unlike knowledge, does not appear to require object preservation.

The only condition that is required for (VIM) to yield objectual understanding is (CCC). The subject must engage in the process of property variation by consciously constructing scenarios and by choosing to vary certain properties and not others. (VIM) as a model of objectual understanding of essence allows for abandoning (NOP) and (NAC).

Objectual understanding of essence is thus construed on (VIM) as using one's imagination to arrive at a potentially accidental, yet true, grasp of the essence of an object through conscious construction of scenarios in which properties are varied over time. This account of the epistemology of essence provides us with an account of how imaginative exercises can give us understanding of the essence of objects.

Objections and Replies

There are two main sets of objections to the argument given so far. The first set of objections concerns the argument for the impossibility of (VIM) yielding knowledge of essence. The second set of objections concerns the argument for the possibility of (VIM) yielding objectual understanding of essence.

Objection 1:   The argument against (VIM) does not show that knowledge cannot be derived from (VIM). It only shows that a certain kind of knowledge cannot be derived from (VIM).

If one wanted to maintain that (VIM) could yield knowledge of essence, they could argue that knowledge of essence is what is *revealed* in the process of property variation, even though we already implicitly possess it. On this account there are two kinds of knowledge, implicit and explicit, and (VIM) is a mechanism for

transforming implicit knowledge to explicit knowledge. The purpose of property variation-in-imagination is to reveal to the subject their implicit knowledge of essence. (VIM) is thus construed as a model of knowledge transformation.

Reply to 1: The revelation objection and the account of knowledge of essence that it claims we acquire through (VIM) are problematic for one main reason. It does not provide an account of how we have implicit knowledge of essence. Moreover, one might ask: How do we arrive at or gain implicit knowledge of essence in the first place? In this model our knowledge of essence consists of turning implicit knowledge into explicit knowledge. Yet, where does implicit knowledge come from? Of course, one can deny that this is the intended goal of (VIM), and restrict it to an account of how we gain explicit knowledge from implicit knowledge. However, at least one negative consequence of this will be that (VIM) cannot be an account of our foundational modal knowledge.

Objection 2:   It is correct that if (VIM) is an account of how implicit knowledge of essence is transformed into explicit knowledge of essence it is an incomplete account of modal knowledge. However, this does not show that it cannot be supplemented in an appropriate way. For example, some implicit knowledge of essence can be innate while other implicit knowledge of essence is acquired.

If one wanted to maintain that (VIM) is part of a theory of modal knowledge they could do so by supplementing the theory with a further theory of implicit knowledge of essence. On this account one could maintain, for example, that perception provides us with implicit knowledge of the essence of perceptible things, and that our knowledge of non-perceptible things, such as mathematical objects, is innate.

Reply to 2: The supplementation of (VIM) by a theory of implicit knowledge of essence gained through perception is plausible, only if the account of perception as a source of knowledge does not itself require explicit knowledge of essence on the part of the subject. Lowe (2008) presents some considerations that can be used to formulate an argument for the following view: Any account of perceptually-based knowledge that would supplement (VIM) in the way required to make it a complete account of the epistemology of modality, would itself require explicit knowledge of essence on the part of the subject.[8]

Let *epistemic existentialism* be the thesis that knowledge that x exists is prior to knowledge of some of the essential properties of x, and let *epistemic anti-existentialism* be the thesis that knowledge of what kinds of things there are at the level of fundamental kinds and or essential properties of x is prior to any knowledge of x's existence. The existentialist is motivated by the natural idea that we first come to know, for example, that something exists prior to investigating it and discovering the essence of it. The anti-existentialist is motivated by the idea that we cannot really know that x exists unless we already possess some knowledge of essence. More precisely, the anti-existentialist is motivated by the idea that some knowledge of kinds or the essential properties of x is required in order to single out that x rather than some fundamentally distinct type of thing y exists. The anti-existentialist argues that knowing that x exists requires prior knowledge of *what x* is at

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[8] Although the point of departure for my response here is Lowe (2008) the terminology and mode of discussion I deploy is absent in his presentation. I do not aim to suggest here that any commitments my discussion takes on are exactly the one's that Lowe's discussion is saddled with.

a fundamental level, and what fundamental kinds there are. A complete articulation and defense of anti-existentialism is outside the scope of the present response, however the shape of the problem suggested by anti-existentialism is the following.

1. S's veridical perception of x can provide implicit knowledge of the essence of x only if S knows that x rather than y exists.
2. Knowing that x exists requires that S possess some explicit knowledge of essence so as to single out that x rather than y exists.
3. So, S's veridical perception of x can provide S with implicit knowledge of the essence of x only if S already possess some explicit knowledge of essence.

Thus, the plausibility of perceptually-based knowledge supplementing (VIM) in the right way, depends on a resolution of the debate over epistemic anti-existentialism.

Objection 3: Given the account of objectual understanding defended by Kvanvig, it is clear that objectual understanding of essence through (VIM) would not require (NAC) as a condition. However, how is it that (NOP) is not required for understanding, but is required for knowledge?

The two conditions that present the problem for (VIM) yielding knowledge are (NAC) and (NOP). It is clear from the definition of objectual understanding as being consistent with epistemic luck and accidentality in general, that (VIM) as a process yielding objectual understanding does not require (NAC). However, (NOP), *necessity-of-object-preservation* is not connected to accidentality in the same way that (NAC) is. And thus, it does not follow from the proposed account of objectual understanding, in as clear a fashion as (NAC) does, that (NOP) is not a requirement on (VIM) yielding objectual understanding of essence.

Reply to 3: The objection is clearly motivated, since the account of objectual understanding allows for one to drop (NAC) automatically, while there is no clear connection for dropping (NOP) from (VIM). There are two responses to this objection.

The first response is to take note of the fact that although (NOP) is not formulated as an anti-luck condition in the way (NAC) is, it nevertheless can be seen as one. Necessity of object preservation as a condition is actually present to establish that (VIM) satisfy an aboutness condition. If O is not preserved throughout (VIM), then there is a legitimate worry about how the judgment made at the end of the process can truly be about O. However, aboutness is itself an anti-luck condition. A representation R cannot accidentally be about an object O. *Aboutness* is in general an intentional relation. Consider two photos A and B that are representations. Suppose A resembles C more than B, but B is an actual photo of C, while A is a photo of D. The accidental fact that A resembles C more than B, does not make A a photo of B. Rather, even though B resembles C less than A, but is connected in the right way to C, makes it the case that B, and not A, is a photo and representation of C. Thus if (NOP) itself can be construed as an anti-luck condition, given that objectual understanding is compatible with luck, objectual understanding arrived at through (VIM) is compatible with the failure of object preservation.

The second response to the objection takes its point of departure from the initial objections raised against objectual understanding in **2**. Unlike knowledge where both our intuitions about cases and theoretical commitments about non-accidentality are strong, the construction of an account of objectual understanding would appear to

require more carving and clearing away from other uses of 'understanding' to which our intuitions may be sensitive to. The claim that objectual understanding does not require *necessity-of-object-preservation* in (VIM) is due to two claims. First, the fact that, unlike knowledge, there appears to be no apparent connection between objectual understanding and the condition imposed by (NOP). Second, the fact that objectual understanding is being carved out and separated from knowledge and other uses of 'understanding' to fit a certain theoretical role, in this case, in the epistemology of modality. The correct way to comprehend the relation between objectual understanding of essence as an output of (VIM) and the rejection of (NOP) as a requirement for that output is by taking the rejection of (NOP) to be a further elucidation of objectual understanding in its role in modal epistemology. More discussion of this issue will be made in **6** with respect to the architecture of modal epistemology.

Objection 4:   Even if (VIM) doesn't yield the *exact* paradox for objectual understanding that it yields for knowledge, why isn't there a similar paradox for objectual understanding?

It is possible for one to grant that (VIM) as an account of knowledge runs into a version of the *Meno* paradox as argued above, and yet maintain that the retreat to objectual understanding only gets us out of the particular paradox raised, but not out of a similar paradox. For example, one could present the following problem.

1.   Either S possesses objectual understanding of the essence of O or S does not.
2.   If S possesses objectual understanding of the essence of O, then there is no reason for S to use (VIM) to gain objectual understanding of the essence of O.
3.   If S does not possess objectual understanding of the essence of O, then it is impossible for S to gain objectual understanding of the essence of O through (VIM).
4.   So, either there is no reason for S to use (VIM) to gain objectual understanding of the essence of O, or it is impossible for S to gain objectual understanding of the essence of O through (VIM).

Reply to 4: The plausibility of creating a *Meno* like paradox for objectual understanding would appear to rest on the plausibility of premise (3) in the argument. In the case of knowledge, the typical reasoning for the similar premise is that if one does not know P then how can a process, which is either (VIM) or like (VIM) in relevant respects, provide one with knowledge of P, since arriving at P would require being able to recognize when one has arrived at the knowledge in question. Thus, in defending (3) reasoning similar to the knowledge case would have to be deployed. In particular, the reasoning would have to be that without objectual understanding of the essence of O one could not recognize that one has arrived at objectual understanding of the essence of O through (VIM).

However, it is precisely this kind of claim that is not required, given what objectual understanding is. Objectual understanding of essence gained through (VIM) is characterized as arriving at, a true and potentially accidental, internally coherent understanding of what O fundamentally is. The kind of recognition that is required for knowledge is not present in objectual understanding.

Objection 5:   Is it possible for a community C to possess only objectual understanding of the essence of things?

In the reporter case which motivates the distinction between objectual understanding and knowledge it is clear that the case is presented as one in which some members of a community have knowledge of the events in the soccer game, but that the person listening to the report only has objectual understanding of the events in the soccer game. It would thus appear that our intuitions are that in a community in which knowledge of P is present on the part of some, it is possible for there to be objectual understanding of P on the part of others. Thus, if the account of objectual understanding is to either explicitly claim that no one in a community has knowledge of the essence of things or that it is possible for such a community to exist, the account would appear to be inconsistent with the intuitions in the reporter case that motivate the distinction between objectual understanding and knowledge.[9]

Reply to 5: The account of objectual understanding of essence that is intended here is silent over the issue of whether anyone in a community has knowledge of essence in addition to others possessing mere objectual understanding of essence. However, the account is clearly intended to allow for the possibility of a community in which (a) no one has knowledge of the essence of O, and (b) some individuals have objectual understanding of the essence of O derived from *variation-in-imagination*. The defense of this possibility comes from a careful consideration of the intuitions that go into the reporter case.

In the reporter case our initial fix on the concept of objectual understanding comes by way of an intuition that a person A has objectual understanding of the events of the soccer game and not knowledge of the events of the soccer game. It is true that in the scenario, there is a background presupposition, that others possess knowledge of the events of the soccer game. However, this background presupposition is present, at best, to allow for a contrast between the person A that derives objectual understanding from listening to the reporter, and others that derive knowledge from, for example, a different reporter who has a causal connection to the events of the game. Moreover it does not follow from the fact that our intuitions about the distinction between objectual understanding and knowledge come through a case in which a community has members that both possess knowledge and objectual understanding of a certain event, that an essential feature of objectual understanding is that it can only be realized in a community where knowledge is present as well.

However, the issue raised by the objection can also be approached by stating the objection as a question concerning the relation between objectual understanding and knowledge of objectual understanding. More precisely, the question is the following: Is it possible for an individual A to possess objectual understanding of P without knowing that they possess objectual understanding of P? This is a substantial question about the nature of objectual understanding. It would appear that it is impossible for an individual to possess objectual understanding of P without there being some recognition of the internal seeing and coherence that characterizes objectual understanding. However, it does not appear to be necessary that the recognition of the internal seeing and coherence that characterizes objectual understanding is either (a) something the individual can explain to others through conceptualization of the phenomenon as *objectual understanding* or (b) a

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recognition that would automatically and infallibly mean that the individual *knows* that they possess objectual understanding.

Application of the Account

In this final section I want to apply the account of objectual understanding of essence to two issues in the epistemology of modality. The first is the Benaceraff problem for the case of modality discussed in **1**, which is one of the background presuppositions that has guided recent work in modal epistemology. The second is the issue of what kind of architecture modal knowledge has once objectual understanding of essence is part of a comprehensive account of modal epistemology. Let me begin by recalling the structure of the Benacerraf problem for modality.

(R)   Realism about modality maintains that the truth-makers for modal
          statements are possible worlds, either real abstract objects or concrete
          particulars on a Lewisian model.
(C)   Possible worlds on the realist model are causally isolated from the actual world.
(E)   Knowledge of P requires causal contact with P.

Recall that from (R), (C), and (E) it can be argued that we cannot have both knowledge of modal truths and a realist account of them because knowledge requires causal contact with the truth-makers of modal thought and those truth-makers on a realist account are causally isolated from human thinkers. Given that (ME) specifies a realist account of essence, the (GBP) for modality can be generated for the case of essence as well. This set up of the problem allows for three kinds of responses, which equally apply to the case of essence.

(i) Adopt anti-realism about modal truths, maintain that knowledge requires causal contact, and gain knowledge of modal truths through a conventionalist approach. (ii) Maintain realism about modal truths and that knowledge requires causal contact, and accept skepticism about modal knowledge. (iii) Maintain realism about modal truths, and knowledge of modal truths, and deny that knowledge requires causal contact.

Peacocke (1998) sketches a version of (ii) that does not yield to skepticism about modal knowledge. On his *Principles-of-Possibility* account, modal knowledge is gained through the fact that it is constitutive of understanding and making judgments of metaphysical modality that the judgments are consistent with certain *a priori* principles of metaphysical modality, such as the necessity of origins and fundamental kind. These principles are such that our judgments must be consistent with them for them to be judgments of metaphysical modality, even if we are not aware of them.

In the philosophy of mathematics Tieszen (2002) sketches a version of (iii), which could be applied to the epistemology of modality. On his account knowledge is sensitive to the domain of inquiry. Assuming that Platonism in mathematics is true, and given that we have both mathematical knowledge and sensory knowledge, it cannot be the case that knowledge always requires a causal connection. The highest common factor between the two cases of knowledge is not the presence of a causal connection. In the case of sensory knowledge causal contact is required, but in the case of knowledge of causally isolated abstract objects, such as in mathematics and modality, an intentional connection is, perhaps, all that is required.

Although both Peacocke's and Tieszen's account would yield an account of how we have knowledge of modality on a realist account of their truth conditions, Kvanvig's account of objectual understanding provides another alternative for the epistemology of essence. In particular, it allows one to obviate the problem posed by (GBP). If the foundation of the epistemology of essence is not about how we have knowledge of essence, but rather how we have objectual understanding of essence, then the (GBP) for essence can be avoided.

Recall the discussion of the two types of epistemic luck from 2. In Goldman's fake-barn case what happens is that an individual forms a justified true belief partially in virtue of a causal connection to an actual barn. However, the subject fails to have knowledge because the belief could easily have been false. However, in Gettier's deduction case, something quite different is going on. The epistemic luck that is present in that case has to do with the absence of a causal connection between the justification for the true belief and the truth-maker. The disjunctive belief that *either Jones owns a Ford or Brown is in Barcelona*, which Smith believes, derives its justification from the left disjunct, and its truth from the right disjunct. The problem is that Smith has no justification that is conducive toward knowledge because he has no relevant causal connection to the fact that Brown is in Barcelona.

Now, consider the Reporter case discussed by DePaul, Grimm, and Kvanvig with regard to objectual understanding. In that case you do *not know* that the U.S. defeated Italy because you do not have a causal connection to any source of information about the match that itself is reliable *because* of a causal connection to the actual match. The reporter makes up the report "whole cloth". As a consequence of their being no causal connection from the reporter to the actual match you lack knowledge. However according to Kvanvig, it is appropriate to say that you do have objectual understanding in this case partially because the relevant grasping and seeing are present, and the account is true. Objectual understanding is consistent with *accidentality regarding the connection between our grounds for belief and the truth of the belief.*

Given that objectual understanding is compatible with luck due to failure of causal contact with the truth-makers of the relevant body of information, we need not worry about whether our objectual understanding of the essence of an object arrived at through (VIM) is appropriately causally related with the possible worlds which constitute the truth-makers for the relevant body of information. When the epistemology of essence on (VIM) has as its target objectual understanding of essence, the (GBP) for a realist account of essence is obviated.

Moving on to the second issue the question is: How does objectual understanding of essence as part of modal epistemology alter and / or structure the architecture of modal knowledge. As the account has been presented so far objectual understanding of essence is to be located at the foundation of modal epistemology. As stated at the outset of this work, the epistemology of essence is to be seen as being prior to the epistemology of necessity and possibility. Objectual understanding of the essence of things, where essence is not defined in terms of possible worlds, plays a central role in our ability to arrive at justified beliefs and knowledge of necessity and possibility. The relation between objectual understanding of essence and the epistemology of necessity and possibility can be illustrated by consideration of its relation to conceivability accounts of the epistemology of possibility and necessity.

What conceivability accounts have in common is an endorsement of (CP)

(CP)   P's conceivability is evidence for P's possibility.

The difference between them generally comes from some difference along the following four dimensions of conceivability. How they define or explain *conceivability*, the strength to which they endorse (CP), the direction of conceivability that is accepted, and the kind of possibility that conceivability is argued to be a guide to.

Concerning the first dimension conceivability can be defined in distinct ways. For example, Chalmers (2002) defines conceivability in terms of two-dimensional semantics, while others such as Menzies (1998) do so in terms of response-dependence. If Williamson's (2007) account of modal epistemology can be read as yet another kind of conceivability account whose particular details involve counterfactual reasoning, then it would provide yet another definition of conceivability.

Concerning the second dimension there are two kinds of accounts. *Entailment* accounts, such as Chalmers (2002) accept that in certain cases conceivability entails possibility. *Evidential* accounts, such as Yablo (1993), maintain (CP) as an evidential account, while remaining silent over the issue of entailment. Others such as Menzies (1998) would appear to be best understood as evidential.

Concerning the third dimension there is a distinction between conceivability and inconceivability. Although (CP) is stated as what conceivability accounts share in common, it is better to recognize that what conceivability accounts share in common is the acceptance of either (CP) or (INC).

(INC)   P's inconceivability is evidence for P's impossibility.

There are at least two versions of (INC). On *failure to conceive* accounts of (INC), inconceivability is cashed out as the failure to conceive of P. On *positive incoherence* accounts of (INC), the inconceivability of P is cashed out as the subject arriving at a state of incoherence in conceiving P. A conceivability account may accept (INC) and deny (CP). It is plausible that an asymmetric account that endorses (INC) but not (CP) would take inconceivability as positive incoherence rather than failure to conceive.

Concerning the fourth dimension, it has already been noted that, for example, Chalmers (2002) and Williamson (2007) provide distinct accounts in the epistemology of modality, and that one difference between them may be the kind of modality that they provide us access to. In general, concerning conceivability and inconceivability one can maintain that it is only a guide either to logical, meta-physical, or physical possibility and impossibility.

However, no matter how conceivability is defined, the relation between objectual understanding of essence, and conceivability and inconceivability of possibility and impossibility is one of priority and grounding. On the proposed account of objectual understanding the architecture of modal knowledge is non-uniform. Let basic modal epistemology be constituted by the objectual understanding of the essence of things arrived at through variation-in-imagination, while non-basic modal epistemology be constituted by mental operations, such as conceivability, imaginability, or counter-factual reasoning. Basic modal epistemology supplies an objectual understanding of the essence of things that is necessary for the proper functioning of mental

operations that provide for justified modal beliefs and modal knowledge in non-basic modal epistemology. Without an objectual understanding of the essence of x one cannot arrive at a possibility or necessity claim concerning x via conceivability or inconceivability.

Moreover, it is not that conceivability and inconceivability do not provide justified beliefs about modality, modal knowledge, or function in an important way in our general modalizing. Rather, it is that objectual understanding of essence provides for an anchor that allows for conceivability and inconceivability to function as mechanisms for arriving at further modal knowledge or justified beliefs about necessity and possibility. It is because an individual possess an objectual understanding of the essence of O that she can through conceivability come to be justified in believing that it is possible for O to be P, and through inconceivability come to be justified in believing that it is impossible for O to be ¬Q.

Objectual understanding of essence, thus, plays a constitutive role in conceivability exercises. It allows for a subject to anchor their conceivability of O as P in something fundamental about O. And it allows for a subject to arrive at incoherence in trying to conceive of O as ¬Q through an understanding of what O fundamentally is.

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