RESEARCH

Essence and Explanation

Albert Casullo

University of Nebraska-Lincoln, US

acasullo@unl.edu

In *Necessary Beings*, Bob Hale addresses two questions: What is the source of necessity? What is the source of our knowledge of it? He offers novel responses to them in terms of the metaphysical notion of *nature* or, more familiarly, *essence*. In this paper, I address Hale's response to the first question. My assessment is negative. I argue that his essentialist explanation of the source of necessity suffers from three significant shortcomings. First, Hale's leading example of an essentialist explanation merely asserts that the nature of an entity explains some necessity, but leaves unexplained how it does so. Second, his essentialist explanation of particular necessities introduces new necessities that remain unexplained. Third, Hale's version of essentialism presupposes a controversial metaphysical theory of properties, for which he offers no defense.

Introduction

According to Michael Dummett (1959: 327), 'The philosophical problem of necessity is two-fold: what is its source, and how do we recognize it.' As Bob Hale (2013: 89) astutely notes, 'Dummett's terse formulation carries two substantial presuppositions: first, that there is such a thing as necessity, and, second, that necessities are potential objects of knowledge.' Hale embraces those presuppositions and offers original responses to both of Dummett's questions in terms of the metaphysical notion of *nature* or, more familiarly, *essence.*

My goal is to assess whether the introduction of essences has the potential to provide illuminating answers to Dummett's two questions. My strategy for doing so is to examine the responses to these questions that Hale offers in his book, *Necessary Beings*, which provides one of the few systematic treatments of both questions from the essentialist perspective.[1] In this paper I address Hale's response to the first question: What is the source of necessity?[2] My assessment is negative. I argue that his essentialist explanation of the source of necessity suffers from three significant shortcomings. First, Hale's leading example of an essentialist explanation merely asserts that the nature of an entity explains some necessity, but leaves unexplained how it does so. As a consequence, it remains obscure how essence explains necessity. Second, his essentialist explanation of particular necessities introduces new necessities that remain unexplained. Hence, even if it is granted that the essentialist can explain particular necessities, it remains unclear how it can explain the source of necessity in general. Third, Hale's version of essentialism presupposes a controversial metaphysical theory of properties, for which he offers no defense. If that theory cannot be sustained, Hale's essentialism falls with it.

Hale's response to Dummett's first question is structured by a critical discussion of Simon Blackburn's (1986) quasi-realist account of modality. Hale maintains that there are modal facts, and that at least some modal facts are basic or fundamental. They are not reducible to non-modal facts, and they do not depend or supervene on non-modal facts. True modal statements, such as 'It is necessary that p,' record modal facts. Blackburn rejects the view that true modal statements record objective modal facts, maintaining, instead, that they express our non-cognitive attitudes to non-modal facts. Blackburn motivates his position

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[1] In a series of papers, E. J. Lowe (2008, 2012, 2014) provides a less systematic treatment of these issues. I address Lowe's views in Casullo 2019b.

[2] I address the second question in Casullo 2019a.

by providing an argument against the traditional view endorsed by Hale. Hale's diagnosis of a gap in Blackburn's argument provides the key idea to his response to Dummett's first question.

1. Blackburn's Dilemma

Why reject the view that modal statements record objective modal facts? According to Blackburn (1986: 19; quoted in Hale 2013: 92):

> The problem is that of the fugitive fact, and the solution is to capture the nature of the fugitive fact in an intelligible way. The answer would tell us what such truths *consist in*: the answer would be obtained by establishing the *truth-conditions* for such judgements. It would give us an 'account' of the states of affairs in which their truth consists, or of what it is that *makes* them true. The account would have an explanatory role as well: fully established, it would explain why it is necessary that twice two are four, …

Blackburn, however, maintains that any attempt to explain why, for example, it is necessary that twice two are four faces a dilemma. Hale (2013: 92) presents the dilemma as follows:

> To give the ultimate source of any necessity, we must either appeal to something which could have been otherwise (i.e., is itself merely contingent) or advert to something which could not have been otherwise (i.e., is itself necessary). But any appeal to another necessity must fail to provide the desired explanation, since it begs or merely shifts the question, and so is viciously circular or regressive, while adverting to a contingency is equally hopeless, because, by resting the supposed necessity on a mere contingency, we deprive it of the very necessity we sought to explain.

Hale, however, maintains that there is a gap in each horn of Blackburn's dilemma.

   Consider the contingency horn. Suppose that one explains the necessity of $2 \times 2 = 4$ in terms of contingent linguistic conventions. Blackburn maintains that such an explanation undermines the necessity of $2 \times 2 = 4$ since, if the conventions had been different, $2 \times 2 = 4$ might not have been true, let alone necessarily true. Hale disagrees. He maintains that Blackburn's argument establishes only that it is not necessarily necessary that $2 \times 2 = 4$. The further conclusion that it is not necessary that $2 \times 2 = 4$ follows only if one assumes the characteristic S4 principle that what is necessary is necessarily so. Hale, however, closes this gap in the contingency horn by offering an independent argument for the S4 principle.[3] Hence, the focus of Hale's attention in offering his positive account of the source of necessity is on the necessity horn of the dilemma.

   Hale (2013: 92) argues that there is a gap in the necessity horn of the dilemma: it assumes 'that explanations of necessity in terms of other necessities must take a certain form.' The rejection of this assumption provides the key to rejecting the necessity horn of Blackburn's dilemma and to providing an answer to Dummett's first question. Hale (2013: 96) focuses attention on what he calls the *transmission model* for explaining particular necessities along with a limitation that it faces:

> A transmissive explanation has the form: necessarily B because necessarily A and it follows from A that B—the necessity of A is *transmitted* across the entailment to the *explanandum*. The transmission model offers no prospect of an explanation of necessity in general.

Although Hale (2013: 96) agrees with Blackburn that the transmission model cannot explain necessity in general, he maintains that there is a crucial gap in Blackburn's argument:

> But we have, thus far, been given no reason to think that any explanation of necessity whose *explanans* is necessary must be transmissive…. Nothing established so far shows that there cannot be explanations of the shape: □p because q, where—while it may be necessary that q—what explains why □p is just the *fact* that q, and its necessity does no distinctive explanatory work (as it does in a transmissive explanation).

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[3] See Hale (2013), section 5.4.

So the key idea of Hale's approach to providing a response to the question of the source of necessity in general is to provide a non-transmissive explanation, where a non-transmissive explanation of □p takes the form □p because q, where q is necessarily true, but what explains □p is not □q but non-modal q.

There is one important assumption of Hale's strategy that is worth highlighting. Hale is surely correct in maintaining that the transmission model cannot explain necessity in general since any transmissive explanation of why □p will introduce another necessity, q, where the necessity of q plays an essential role in explaining □p. However, he also appears to assume that the non-transmission model does provide an explanation of necessity in general because it appeals to only the fact that q and not to its necessity. He does not, however, address the question of whether non-transmissive explanations introduce unexplained necessities in some other, perhaps more indirect, fashion. In particular, he does not address whether such explanations introduce necessities other than □q that are not, strictly speaking, part of the explanation for □p but are, nevertheless, necessary for the adequacy or correctness of the explanation. If they do, then non-transmissive explanations, like transmissive explanations, fail to provide the desired explanation of necessity in general since they merely shift or beg the question. I return to this issue in section 4.

2. Non-Transmissive Explanation: An Example

Hale maintains that the best way to see how some necessities are explained non-transmissively is by example. His leading example is the logical proposition:

(1)   A conjunction of two propositions A and B is true only if A is true and B is true.

Hale (2013: 132) maintains that this proposition is necessarily true, i.e.,

(2)   □(A conjunction of two propositions A and B is true only if A is true and B is true).

There are two central ideas to Hale's explanation of the necessity expressed by (2). First, (2) is about a certain function of propositions. Second, that function has a nature or identity, where a nature or identity of a thing is 'what it is to be that thing—what makes it the thing it is and distinguishes it from every other thing' (Hale 2013: 132). Hale (2013: 132) employs these two ideas to offer the following explanation of the necessity expressed by (2):

(3)   □(A conjunction of two propositions A and B is true only if A is true and B is true) because conjunction just *is* that binary function of propositions the value of which is a true proposition iff both its arguments are true propositions.

Hale (2013, 132) goes on to defend three claims with respect to (3):

(C1)   (3) provides an explanation of the necessity.
(C2)   The *explanans* in (3) is necessarily true.
(C3)   The explanation that (3) provides 'neither appeals to nor otherwise presupposes its necessity' in order to explain the necessity of the *explanandum*.

(C1) is necessary to establish that claims about the nature of things are genuinely explanatory. (C2) is necessary to ensure that the resulting explanation of necessity satisfies the characteristic S4 axiom. (C3) is necessary to establish that the explanation is non-transmissive.

3. Non-Transmissive Explanation: Assessment of (C1)

Hale offers no *direct* defense of (C1). In place of a direct defense of (C1), he replies to what he regards as the most obvious line of objection to it: namely, that claims about the nature of a thing are just thinly disguised claims about necessity.[4] With respect to Hale's leading example, the objection alleges that (3) reduces to something like:

(3')   □(A conjunction of two propositions A and B is true only if A is true and B is true) because □(A conjunction is true iff both its conjuncts are true).

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[4] In her review of Hale (2013), Mackie (2014) questions whether Hale has adequately addressed this concern.

Hale (2013: 134) rejects this objection on the grounds that, although the *explanans* in (3), (E3), entails the *explanans* in (3'), (E3'), the converse entailment does not hold:

(E3)   By the nature of conjunction, a conjunction is true iff both its conjuncts are true.[5]
(E3')   □(A conjunction is true iff both its conjuncts are true).

In defense of this claim, he offers an example inspired by Fine (1994). Although it is necessary that 17 is a member of its singleton set, it is not the case that it is true in virtue of the nature of 17 that it belongs to its singleton set. Its necessity is due to the nature of sets. The more general moral is that 'a proposition about an entity X may be necessarily true, without its truth being in any way owed to the nature of X' (Hale 2013: 135).

   Hale draws two conclusions from this example, one negative and one positive. The negative conclusion is that (E3) does not simply reduce to (E3') since (E3) asserts that the necessity in question has its source in the nature of conjunction alone, but (E3') does not. The positive claim is that (E3) provides an informative explanation of the necessity in question:

> Given that in general, a necessary proposition about an entity X may not owe its truth to the nature of X at all or may owe it to the nature of other entities in addition to X, this is informative and explanatory (Hale 2013: 135).

Hale concludes that (C1) is true: (3) does provide an explanation of necessity.

   Hale's argumentative strategy is puzzling. His goal is to offer a defense of (C1). He does so by considering and rejecting an objection to (C1). But neither the objection nor his response to it addresses the central point in question: Does a claim about the nature of some entity X explain the necessity of some proposition p? Let us grant that (E3') does not provide an explanation of (2) and, consequently, if (E3) were reducible to (E3'), it would not provide an explanation of (2).

   Moreover, let us grant Hale's negative conclusion—namely, that (E3) is not reducible to (E3'). How does this show that (E3) provides an explanation that is *better* than that offered by (E3'), let alone that (E3) is a *good* explanation?

   One might respond, on behalf of Hale, that (E3), but not (E3'), entails (E3*):

(E3*)   The source of the necessity expressed in (2) is the nature of conjunction alone.

This important difference between them, the response continues, shows that (E3) is a *better* explanation since, unlike (E3'), it is *not* a trivial explanation. Moreover, the response concludes, (E3*) offers a *good* explanation since it locates the source of the necessity expressed by (2) in the nature of conjunction alone. This response, however, begs the question at issue. The point of the original argument was to establish that an appeal to natures can explain the necessity of a proposition. But Hale's positive claim, which is that locating the source of the necessity of some proposition in the nature of some particular entity explains that necessity, assumes that nature explains necessity. It provides no independent support for that claim. So, even if we grant that (E3) does not reduce to (E3'), Hale has not shown that (E3) is a better explanation than (E3'), let alone that it is a good explanation.

   Hale's defense of (C1) fails to address the central challenge faced by that claim.

   According to (3), the necessity of a necessary truth—namely, (2)—is explained by the nature of some entity—namely, conjunction. (E3) provides that explanation. Two questions immediately arise regarding (E3). Taken at face value, (E3) explains, at most, the *truth* of (E3') and not its *necessity*. Hence, even if one concedes (E3), the central question at issue remains unaddressed:

(Q1)   How does (E3) explain the *necessity* of (2)?[6]

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[5] Hale (2013, 134) introduces (E3) as shorthand for:

   (E3+)   Conjunction just *is* that binary function of propositions the value of which is a true proposition iff both its arguments are true propositions.

[6] Lowe's (2013) essence-based account of modal knowledge faces the same problem. See Casullo 2019b for an assessment of Lowe's account.

We are left with the following unanswered question:

(Q2)   What is the connection between explaining the *truth* of a proposition by appeal to the nature of some entity and explaining its *necessity*?

Moreover, (E3) just shifts the explanatory question from (Q1) to (Q3):

(Q3)   How does (E3) explain the truth of (2)?

This question is especially pressing given that all we are told about the nature of conjunction is that it ensures the truth of (2). So, in the final analysis, Hale's defense of (C1) replaces the original question that needed to be addressed, (Q1), with two new, unanswered questions, (Q2) and (Q3).[7]

   Hale does not address the second new question, (Q3). He (2013: 134) does briefly addresses the first, (Q2):

the *explanandum*, in an explanation of the kind illustrated by (3), is why it is *necessary* that p, not just why it is *true*. What allows us to regard what is explained as the necessity of p is the fact that the truth of p is explained in a special way, in terms of some fact about what it is to be …, where [being] … is integral to the proposition that p.

This response, however, begs the question at issue. Hale singles out a particular type of explanation that he regards as 'special'. The key feature of that type of explanation is that it involves the nature of some entity that is 'integral' to the proposition in question. Hence, the response assumes that an appeal to the nature of an entity can explain the necessity of some proposition about that entity. The argument is opaque in another respect. The problem can be highlighted by considering one of Hale's leading examples: the proposition that 17 is a member of its singleton set. Presumably, 17 is integral to that proposition but the nature of 17 does not explain, according to Hale, either the truth or necessity of that proposition. So Hale's defense of (C1) raises more questions than it answers.

4. Non-Transmissive Explanation: Assessment of (C2) and (C3)
Hale defends two further claims regarding (3), his leading example of an essentialist explanation of a necessity. (C2) maintains that the *explanans* in (3), i.e., (E3), is necessarily true:

(NE3)   □(By the nature of conjunction, a conjunction is true iff both its conjuncts are true).[8]

(C2) is necessary to ensure that the resulting explanation of the necessity of (2) satisfies the characteristic S4 axiom. (C2), however, appears to pose a potential problem for Hale. Since he maintains, in (C1), that (E3) explains the necessity of (2) and he maintains, in (C2), that (E3) is necessarily true, it appears to follow that his explanation of the necessity of (2) is *transmissive*. If his explanation were indeed transmissive, it would undercut his claim that it avoids Blackburn's dilemma. Therefore, Hale goes on to maintain, in (C3), that,

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[7]   A referee suggests that one could respond to (Q1) and (Q3) as follows: (i) the nature of essence is such that, if something is true in virtue of an entity's essence, then it is necessary, and (ii) a good answer to the question, 'Why is P the case?' is 'Because it must be the case.' There are problems with both responses. Consider:

(N)   The nature of essence is such that, if something is true in virtue of an entity's essence, then it is necessary.

According to the response the conjunction of (E3) and (N) explains (NE3). Since any explanation of necessity must be necessary (see section 1), it follows that:

(NN)   □(The nature of essence is such that, if something is true in virtue of an entity's essence, then it is necessary.)

But, according to essentialism, every necessity has its source in the nature of some entity. The natural candidate for the source of the necessity of (NN) is the nature or essence of essence. But, if essence has an essence, then a regress threatens. Presumably, there is something that makes the essence of essence the thing that it is. But, if so, then there is an essence of the essence of essence, and so on. See Horvath 2014 for further discussion.

   With respect to (ii), consider the central thesis of essentialism: every necessity has its source in the nature of some entity. Presumably, if that thesis is true, it is necessarily true. But if I were to ask the essentialist to explain why it is true, I would not be satisfied with the response that it must be true.
[8]   (NE3) is a reformulation of (C2).

although (E3) is a necessary truth, it is (E3) alone and not (NE3) that explains the necessity of (2). Although (3), his explanation of the necessity of (2), does not explicitly appeal to (NE3), the thrust of (C3) is to maintain that (3) does not *tacitly* appeal to (NE3) or *presuppose* it in some other way.

I propose to grant (C2) and to focus on (C3). In defense of (C3), Hale (2013: 136) maintains that it does not follow in general that, if A explains X and A entails B, it is really B that explains X, by offering the following counterexample:

> The proposition that Albert was wearing a bright red shirt entails the proposition that he was wearing a coloured shirt, but that does not mean that when I explain why Albert stood out in the crowd by observing that he was wearing a bright red shirt, what really explains why he stood out is the fact that he was wearing a coloured shirt…

Hence, he concludes that if one contends that his explanation of the necessity of (2) in terms of (E3) presupposes (NE3), that contention must be supported by a different argument.

There is a different argument in the vicinity. Hale has argued that any adequate explanation of the necessity of some proposition such as (2) must itself be necessary.[9] Moreover, he defends the adequacy of his explanation of the necessity of (2) by arguing that (E3) is indeed a necessary truth. This is his second claim: (C2). Therefore, it follows that the *adequacy* of his explanation of the necessity of (2) presupposes the necessity of its *explanans*.

Hale (2013: 136) anticipates the argument but rejects its significance:

> So in particular, (3) presupposes the necessity of its *explanans*. I shall not waste time disputing this claim. For even if granted, it is clear that presupposing the necessity of the *explanans*, in this sense, is harmless. It does nothing to undercut the claim that what does the explanatory work is the *plain* fact, e.g. that by its very nature, conjunction is such- and-such function, not its *necessitation*, …

Hale's response, however, misconstrues the objection. The objection does not allege that the necessity of the explanans, (NE3), is part of the *explanation* of the necessity of (2). It alleges that it is a *condition of adequacy* for an explanation of the necessity of (2). It alleges that (3) is an adequate explanation only if (NE3). Why is this a problem?

Hale's goal is to answer Dummett's question: What is the source of necessity (in general)? In order to do so, he must offer an *adequate* explanation of every necessity. Suppose we grant that, in the case of a non-transmissive explanation of a necessity, it is the truth (and not the necessity) of the explanandum that does the explaining. Nevertheless, if the adequacy of that explanation requires not only that the explanandum be true but also that it be necessary, then the explanation introduces another necessity that must be explained. This, by itself, is not a problem for Hale provided that he can provide a suitable explanation of the source of that necessity.

Nevertheless, until he provides that explanation, we don't have a *complete* answer to Dummett's question. The answer that we have merely shifts the question from the source of the necessity of the original *explanandum* to the source of the necessity of the *explanans*.

Hale, however, does provide an answer to the remaining question: What is the source of the necessity of the explanans? Here he (2013: 158) maintains:

> Any true proposition about the nature of a thing—that it is true in virtue of X's nature that Φ(X), say—is indeed necessary. But its necessity cannot be explained.[10]

So, in the final analysis, Hale cannot provide a *complete* answer to Dummett's question.

This result generalizes to *any* essentialist explanation of *any* necessity since the *explanans* of any essentialist explanation of any necessity will have the form: It is in virtue of X's nature that Φ(X). The adequacy of that explanation will, in turn, require that the *explanans* itself be necessary. But, unless the essentialist

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9 See the discussion of the contingency horn of Blackburn's dilemma in section 1.
10 Hale (2013: 158) also maintains that the truth of such propositions cannot be explained.

can explain the necessity of the *explanans*, the essentialist explanation cannot provide a *complete* answer to Dummett's question.[11] It merely shifts the question from the necessity of the original *explanandum* to the necessity of its *explanans*.[12]

5. The Existence of Natures

There is a final issue regarding essentialist explanations of necessity that requires attention. Hale maintains that the *explanans* in (3) is necessarily true. Consider some necessary truth, □p, and assume that the essentialist offers the following explanation of its necessity: It is true in virtue of the nature of X that q. Then, according to Hale (2013: 157):

> It would seem that if the *explanans* is to be true, there must *be* such a thing as the nature of X—and furthermore … there must be such a thing *as a matter of necessity*.

Returning to the original example, (E3) explains the necessity of (2) only if (NC) is true:

(E3)   By the nature of conjunction, a conjunction is true iff both its conjuncts are true.

(2)   □(A conjunction of two propositions A and B is true only if A is true and B is true).

(NC)   □(There is such a thing as the nature of conjunction).

(NC) introduces an unexplained necessity of *existence*. Hence, in order to explain any necessity, Hale must explain the necessary existence of some nature.

Hale offers a two-step strategy for explaining the necessary existence of some natures: (1) the existence of pure properties is necessary; and (2) some natures are pure properties. Regarding (1), Hale (2013: 167) maintains that

> It is sufficient for the existence of a *pure* property that there could be a suitably meaningful purely general predicate. Given that the relevant kind of possibility is absolute, it follows that if it is indeed possible that there should be a suitable predicate, that is itself necessarily so—i.e., it is *necessarily possible*. But if that is right, then the existence of any pure property or relation is always a matter of necessity.[13]

Regarding (2), he claims that the nature of a thing is a property of a certain kind, where the kind of a property will depend on the kind of thing it is. The nature of a particular object, for example, is a first-level property. In the case of his leading example, Hale (2013: 169) contends that since conjunction is a first-level function, 'its nature is therefore a certain kind of second-level property—a property of first-level functions.' Since the nature of conjunction is a certain second- level property and that second-level property is a pure property, the nature of conjunction exists necessarily.

Hale's argument in support of the necessary existence of some natures is based on the premise that pure properties and relations exist necessarily. Can he explain the necessary existence of pure properties and relations? Here Hale (2013: 176) maintains that 'a pure property or relation just is, by its very nature, one for the existence of which it is sufficient that there could be a suitable predicate.' Returning now to the original

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[11] A referee suggests that the essentialist might address the problem by invoking Dasgupta's (2014) idea that essence facts are autonomous. According to the referee: 'Because essence facts are autonomous, they do not need an explanation (though they are necessary, by a kind of default).' I agree with the referee that it is a consequence of Dasgupta's view that any true statement of the form:

(F)   It is true in virtue of X's nature that Φ(X)

is not apt for explanation–i.e., if a statement of the form (F) is true, the question of what grounds or explains its *truth* does not arise. But this result does not address Dummett's question. Hale and other essentialists maintain that true statements of the form (F) are necessary. Dummett's question is: What explains their *necessity*? Autonomy does not address that question. Moreover, the referee's remark that essential truths are necessary 'by a kind of default' is not a consequence of autonomy. Hence, it remains unclear how the appeal to autonomy provides a response to Dummett's question.

[12] Romero (2019), Teitel (2019) and Wildman (2018) also express doubts about explaining modality in terms of essence.

[13] A purely general predicate is one that does not contain any singular terms. Hale (2013) defends the characteristic S5 axiom in section 5.4.

problem, Hale maintains that (NC) is true and, moreover, that the essentialist can explain *why* it is true. The explanation involves two steps:

(E4)   The nature of conjunction is a pure (second-level) property.
(E5)   By the nature of pure property, a pure property exists if there could be a suitable predicate.

I propose to grant (E4) and to focus on (E5).

Recall from section 4 that Hale maintains that true propositions about the nature of a thing—that it is true in virtue of X's nature that Φ(X)—are necessarily true and, moreover, that their necessity cannot be explained. Assuming that (E5) is true, it follows that (NE5) cannot be explained:

(NE5) □(By the nature of pure property, a pure property exists if there could be a suitable predicate).

Hence, Hale's explanation of the necessary existence of natures introduces a new unexplained necessity—namely, (NE5). The introduction of a second unexplained necessity exacerbates an earlier concern with Hale's theory. It also introduces a new problem.

I argued in section 4 that Hale cannot offer a complete answer to Dummett's question regarding the source of necessity since any essentialist explanation of any necessity will have an *explanans* of the form: It is in virtue of X's nature that Φ(X). The adequacy of that explanation will require that the explanans be necessary. But, according to Hale, the necessity of the *explanans* cannot be explained.

Hale's introduction of a second unexplained necessity, (NE5), exacerbates that concern. The explanans of any necessity will require that there be such a thing as the nature of X. Moreover, the adequacy of the explanation will require that the nature of X exist as a matter of necessity. Here Hale maintains that there is an explanation of the necessary existence of a thing's nature because natures are pure properties and by the nature of a pure property, a pure property exists if there could be a suitable predicate. But, once again, the adequacy of the explanation will require that the explanans be necessary—i.e., it will require (NE5). But, according to Hale, (NE5) cannot be explained. Therefore, Hale is faced with a second obstacle to answering Dummett's question: What is the source of necessity?

The new problem is introduced by Hale's explanation of the necessary existence of natures. He alleges that natures are pure properties and that pure properties exist necessarily. This explanation merely shifts the original explanatory question to a new one: What explains the necessary existence of pure properties? Hale proposes (E5) as an explanation of the necessary existence of pure properties. (E5), however, builds into the nature of properties a controversial, abundant view of properties with little defense beyond the bald assertion that 'one perfectly defensible notion of property simply *identifies* properties with the satisfaction conditions associated with (actual or possible) predicates' (Hale 2013: 38). Moreover, according to Hale, there is no explanation of why this controversial theory is true since (E5) cannot be explained.

The net result is that, even if one regards Hale's explanation of necessary existence as adequate, it has the consequence of making the viability of the essentialist program dependent on a controversial metaphysical view of properties. If the abundant view of properties cannot be sustained, and he offers no reason to believe that it can, the essentialist theory falls with it.[14]

6. Conclusion

Hale's goal is to offer a response to Dummett's question: What is the source of necessity? He contends that essentialism can provide the answer. Essence explains necessity. The key to showing that essence explains necessity is the introduction of a non-transmission model of explanation. I argue for three primary theses. First, Hale's essentialist explanation of necessity misses its target. It explains, at most, the *truth* of necessary propositions but not their *necessity* (section 3). Second, Hale's non-transmissive explanation of necessity in terms of essence cannot offer a complete answer to Dummett's question since any such explanation, by necessity, introduces two unexplained necessities (sections 4 and 5). Third, Hale's essentialist explanation of necessity is hostage to a controversial metaphysical view of properties for which he provides no substantive defense (section 5).

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[14] It also raises questions about both metaphysical and explanatory priority. The essentialist introduces natures or essences in order to explain necessities. Natures, however, are explained in terms of pure properties which, in turn, are explained in terms of possible predicates. So, it appears that, in both the metaphysical order and the explanatory order, the modal is prior to the essential. This undercuts the original theoretical motivation for introducing essences.

Acknowledgements

Competing Interests

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