

On the Very Possibility of Indeterminacy

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Intuitively, an issue is *indeterminate* just in case it is unsettled, not merely epistemically, but metaphysically. We ordinarily ascribe indeterminacy by saying that there is no fact of the matter. We say for instance that there is no fact of the matter how many mountains exist. The topographical facts appear to settle that there are some mountains, but not how many.

Indeterminacy is said to plague issues of translation, reference, and meaning; issues of comparison; issues involving hidden relativity; vague issues; and conditional issues—to name a few salient categories. It is said to be indeterminate, for instance, what the denotation of ‘mass’ was before relativity theory;¹ which of Stonehenge or Salisbury Cathedral is more impressive;² whether two given spacelike separated events are simultaneous;³ what minimum worth suffices for being rich; and whether, if WWII had been different, fewer Russians would have died.

On the one hand, it seems obvious that certain issues are indeterminate. How for instance could anyone deny that it is indeterminate whether more Russians would be alive today had WWII turned out differently? Without specifying *how* WWII had turned out differently, surely there could be no fact of the matter.

On the other hand, it seems remarkably easy, expanding on arguments by both Paul Horwich and Timothy Williamson, to reduce an arbitrary ascription of indeterminacy to absurdity.⁴ Suppose, for

¹ Field (1973).

² Broome (1997).

³ Field (1994b).

⁴ Horwich (1990, p. 76) and Williamson (1994, pp. 187-95) argue for bivalence. Williamson offers a further consideration against indeterminacy. He notes that once bivalence is accepted, indeterminacy can be maintained only by identifying a natural non-epistemic interpretation of ‘determinately’ according to which, possibly, some utterance is true or false but not determinately true or determinately false. Unable to find such an interpretation,

reductio, that it is indeterminate—that is, metaphysically unsettled—whether Harry is bald. Because it is metaphysically unsettled whether Harry is bald only if it is not metaphysically settled that Harry is bald and not metaphysically settled that Harry is not bald, it is not metaphysically settled that Harry is bald and not metaphysically settled that Harry is not bald. Because it is true that Harry is bald only if it is metaphysically settled that he is bald, and because it is true that Harry is not bald only if it is metaphysically settled that he is not bald, it is not true that Harry is bald and not true that Harry is not bald. Because Harry is bald only if it is true that he is bald, and because Harry is not bald only if it is true that he is not bald, Harry is not bald and Harry is not not bald. This is a contradiction. Hence, our supposition is false. Moreover, because the issue of whether Harry is bald was chosen arbitrarily, the argument generalizes: indeterminacy is impossible.

Rejecting this argument requires rejecting at least one of (a) – (c):

- (a) it is true that *S* only if it is metaphysically settled that *S*;
- (b) *S* only if it is true that *S*;
- (c) modus ponens, conditional contraposability, and reductio ad absurdum are valid rules of inference.

Suppose first that we reject (a). We would in particular need to deny that it is true that Harry is bald only if it is metaphysically settled that he is bald. But how could it possibly be true that Harry is bald if nothing in the fabric of reality *settles* that he is bald? If the more basic facts about Harry’s hair situation, as well as those of his comparison class, together with all the facts about our use of the word ‘bald’, fail to settle that

Williamson concludes that indeterminacy is impossible. But Cargile (1969), Campbell (1974), Burgess (1990), Horwich (1990), McGee and McLaughlin (1995), and Field (2000) all at least implicitly suggest such an interpretation: *x* is *determinately* *F* iff_{df} it is metaphysically settled that *x* is *F*. Burgess, who attributes his view to Campbell, endorses bivalence but maintains that “...the uncertainty we feel in attempting to locate the point of division is not mere epistemic uncertainty but semantic uncertainty. The point *cannot be thought of as supernaturally determined*, for then [the predicate] would have to be admitted to be precise” (p. 423; italics are mine). Horwich endorses bivalence but claims that indeterminacy nonetheless arises due to gaps in the rules governing the use of language: the rules fail to *settle* whether the expressions apply in certain conditions. McGee and McLaughlin endorse bivalence but claim for instance that “the total history of the world, past, present, and future, does not [settle] the question ‘Who was the wealthiest poor person in the world on June 15, 1994?’” (p.19). Field endorses bivalence but, in arguing for instance that it is indeterminate to which relation the pre-Newtonian expression ‘heavier than’ referred, claims, “... there is little in the pre-Newtonian use of the term that could have *settled* the matter” (p.1; italics are mine). This interpretation of ‘determinately’ allows proponents of indeterminacy to escape Williamson’s argument. The argument I offer in the text is designed to block this escape.

Harry is bald, then it is hardly plausible that it might nevertheless be *true* that he is bald. Suppose, then, that we instead reject (b). We would in particular need to deny that Harry is bald only if it is true that he is bald. But how could Harry possibly be bald if it is not true that he is bald? What more could be required for it to be true that Harry is bald than for him to be bald? Suppose, then, that we instead reject (c). We would in particular need to deny that when reasoning about even the most mundane of topics, such as whether a given person is bald, we have no guarantee that three of the most basic forms of reasoning, modus ponens, conditional contraposition, and reductio ad absurdum, will guide us from true premises to a true conclusion. The costs of rejecting (c) hardly need emphasis.

We are faced with a dilemma: take the anti-indeterminacy argument at face value and look for a way to explain away our pro-indeterminacy intuitions, or take our intuitions at face value and give up on one or more of (a) – (c). Many philosophers are inclined toward the latter route. I want to take the first step toward justifying the former route, by showing how five of the most salient phenomena that give rise to pro-indeterminacy intuitions can be accounted for without postulating indeterminacy.

I examine explicitly incomplete definitions (§1), hidden relativity (§2), vagueness (§3), comparatives (§4), and counterfactuals (§5).⁵ In each case I propose a way to account for the phenomenon without postulating indeterminacy. For the most part I do not defend my proposals against their rivals. My primary aim in this paper is to establish that the relevant phenomena *can* be explained without postulating indeterminacy, not that they *must* be so explained. I simply wish to remove some apparent obstacles to taking seriously the idea that indeterminacy is impossible, by showing how several salient phenomena which appear to require the postulation of indeterminacy do not in fact require it.

⁵ Perhaps most conspicuously absent from my list is quantum physics. Though I lack the space to adequately address the topic, I should mention that indeterminacy-free interpretations of quantum physics are gaining currency, for reasons having nothing to do with indeterminacy.

Also, I will not directly address theoretical arguments for specific instances of semantic indeterminacy, such as Quine's argument (1960) for the indeterminacy of the translation of 'gavagi' as used by a hypothetical foreign population and Field's argument (1973) for the indeterminacy of reference of 'mass' as used by our population prior to relativity theory. In §1 I raise general worries about arguments of these sort. There are in addition more specific worries about the plausibility of the highly theoretical premises (e.g., behaviorism in Quine's case, and a strong principle of interpretive charity in Field's) relative to (a) – (c).

In addition to providing indeterminacy-free accounts of the phenomena, I attempt to explain away our initial pro-indeterminacy intuitions. My general strategy is to rephrase a report of ‘It is intuitive that there is no fact of the matter’ as ‘It is intuitive that there is no ___ fact of the matter’, where once the blank in the rephrasal is filled in by a qualification relevant to the issue under consideration, the rephrasal no longer expresses a pro-indeterminacy intuition. For instance, when one reports finding it intuitive that, because of relativity theory, there is no fact of the matter whether two spacelike separated events are simultaneous, I suggest interpreting the report as a misreport of the sound intuition that there is no *absolute* fact of the matter—an intuition whose truth does not require indeterminacy.⁶

1. Explicitly Incomplete Definitions

Let me introduce the expression ‘nice*’ by uttering only two sentences:

- (1) n is nice* if $n > 15$;
- (2) n is not nice* if $n < 15$ (for natural numbers n).⁷

Initially, it seems that 16 is nice*, that 14 is not nice*, and that it is indeterminate whether 15 is nice*.

In this section I argue that definitions of the preceding sort do not give rise to indeterminacy. First I argue that singular terms refer only if features of their use determine unique referents for them. Next I highlight the fact that predicate nominalizations behave as singular terms that purport to refer to whatever is expressed by the predicates they nominalize. This fact, combined with the uniqueness constraint on singular terms, entails that a predicate expresses a property (by ‘property’ I hereafter include relations) only if features of its use determine, of some unique property, that that property is expressed by the predicate. Because predicates introduced by explicitly incomplete definitions do not meet this requirement, I conclude that they do not express properties. Applied to our example above, the conclusion is that ‘is nice*’ fails to express a property. If this is right, then it is not indeterminate whether 15 is nice*:

⁶ It is true neither that there is a dyadic (absolute) relation, simultaneity, that applies to the two events; nor that there is a dyadic relation, simultaneity, that does not apply to the two events.

⁷ This example is modified from Fine (1975).

it is either false that 15 is nice*—because, though meaningful, ‘is nice*’ fails to express a property; or there is no question in the first place whether 15 is nice*—because ‘is nice*’ is meaningless.

We begin, then, by setting predicates aside and focusing on the reference of singular terms.

Consider the following uniqueness constraint: a singular term refers only if features of its use determine a unique referent for it (i.e., only if they determine, of some unique thing, that that thing is its referent). This constraint has the air of a truism. By definition a singular term purports to refer to a single thing: if it has a referent, it has a unique referent. And it is a platitude about meaning that words have their semantic features determined solely by features of their use (where the notion of use is construed broadly, so as to include relations to the environment). Hence, if a singular term refers, features of its use must determine a unique referent for it. (Do not confuse this constraint with the outright rejection of indeterminacy of reference; it does not exclude indeterminacy as to *which* object is so uniquely determined.) We have what appears to be a trivial constraint on reference for singular terms.⁸

Yet in certain contexts we are readily inclined to act as if there were no such constraint. For illustration, let me introduce the new term ‘Bitz’ by uttering only one sentence:

(3) Bitz is a resident of New York.

Now I ask you to consider whether Bitz is a resident of the U.S.A. and whether Bitz is female. There is a temptation to say that Bitz *is* a resident of the U.S.A. and that there is no fact of the matter whether Bitz is female. But why should there be any temptation to say these things when it is blatantly obvious that the uniqueness constraint on reference for ‘Bitz’ is unmet?

One hypothesis is that we have stumbled upon a counterexample to the constraint: although nothing in our use of ‘Bitz’ distinguishes among the millions of candidate referents—the residents of New York—one such candidate is nevertheless the referent of ‘Bitz’. It is of course indeterminate which such candidate is the referent, and this is why it seems indeterminate whether Bitz is female. Still, merely by uttering (3) I have succeeded in securing a referent for ‘Bitz’. If correct, this is a remarkable result: not

⁸ For a discussion of the uniqueness requirement on reference, see Lewis (1970). In opposition to Carnap, Lewis contends that if a theory is either unrealized or multiply realized, its theoretical terms are denotationless.

only can a singular term refer if features of its use fail determine a *unique* referent, it can refer even if features of its use fail to narrow the candidate referents to fewer than 20 million!

Let me suggest a more plausible hypothesis. From the perspective of my audience, the most rational way to interpret my utterance of (3) is as an act of *supposition* rather than as a genuine attempt at reference fixing. For if my utterance were a genuine attempt at reference fixing, I would be grossly incompetent: I would be under the illusion that I could secure a referent for a singular term simply by narrowing the candidate referents to 20 million. My audience might have reason to think that I am incompetent, but not *that* incompetent. A reasonable interpretation of my utterance of (3), then, is as an act of supposing that Bitz is a resident of New York.

Given that my utterance was prefaced by, “Let me introduce a new term, ‘Bitz’,” it is clear that the purpose of my supposition is not to investigate the epistemic possibility that there really is a unique person named Bitz who resides in New York. Its purpose, rather, is to facilitate discussion of being a resident of New York. There is a well-established practice of investigating properties by reasoning *as if* we have concrete instances in mind. We prefer concrete instances because we are better at concrete reasoning; we avoid *actual* concrete instances because we do not want to risk tainting our investigation with extraneous details. When a singular term is introduced with no attempt to narrow its candidate referents to one, it is reasonable in many contexts to interpret the introduction as an instance of this practice.

Here is a second illustration of the practice:

Mark: What do you know about the living conditions of children in Nigeria?

Missy: Let Frib be a five-year-old child in Nigeria. Can you guess what the chances are that Frib suffers from malnutrition?

Mark: I would say at least 50%.

Missy: Wrong! There is no chance at all. For there is no such person as Frib. Are you so naïve as to think that I can actually refer to a child in Nigeria just by saying ‘Let Frib be a five-year-old child in Nigeria?’

Mark: I was only trying to cooperate: I did not take *you* to be so naïve as to think that you could refer to a child in Nigeria so easily; nor did I take you to be out to deceive me. I could

only figure that you wanted me to go along with you in *supposing* that Frib is a five-year-old child in Nigeria. I thought that your aim was to teach me something about being a child in Nigeria by reasoning with me *as if* we had a concrete example in mind. Clearly you anticipated that I would reason this way and thus act *as if* I thought there was such a person as Frib; otherwise you would not have set the trap in the first place. Of course, you would only have anticipated this had you believed that I was rational and cooperative. And so I am flattered.

For a fully natural illustration of this practice, suppose that we are discussing mathematics and I say, “Let a be an odd number.” It would seem misguided for you to interpret my utterance as a genuine attempt at reference fixing. It is not as if I am raising my arms to the heavens and begging the gods to arbitrarily pick an odd number and make ‘ a ’ refer to it.⁹ Given that I make no attempt to narrow the candidate referents of ‘ a ’ to one, a rational interpretation of my act is as an act of *supposing* that a is an odd number. (Unless we have agreed to treat ‘ a ’ as a variable, rather than as a constant, in which case the rational interpretation is as an attempt to restrict its range.) The supposition is not itself mathematical, but part of the preliminary groundwork for doing mathematics; its purpose is to set the background for reasoning about the property of being odd.¹⁰

Returning to the ‘Bitz’ example, suppose that I were to make it clear that my act of uttering (3) was *not* an act of supposition: I did not mean to invite my audience to *suppose*, along with me, that Bitz is a current resident of New York, or that there is a person named ‘Bitz’ who is a current resident of New York. Rather, I meant to bring it about by my very act of uttering (3) that ‘Bitz’ *in fact* came to refer to some current resident of New York. I genuinely intended to make (3) true by uttering it.

I suspect that the initial temptation to say that Bitz is a resident of the U.S.A. and that it is indeterminate whether Bitz is female would disappear. I suspect that it would be replaced by the temptation to say that ‘Bitz’ fails to refer and that all of the following utterances are therefore either false or meaningless (depending on the correct theory of vacuous names): ‘Bitz is a resident of New York’, ‘Bitz is a resident of the U.S.A.’, and ‘Bitz is female’. It is simply too hard to believe that an utterance of

⁹ Kit Fine (1985) would interpret my act as an attempt to secure an “arbitrary object” as the referent of ‘ a ’.

¹⁰ This proposal is not intended to apply to the mathematical practice of stipulating that a newly introduced function is *undefined* in certain cases. Following Frege, we can avoid postulating incompleteness here by taking *undefined* to be a further value.

(3) might by itself provide a referent for ‘Bitz’. One might as well hold that by uttering ‘Let “zibot” mean something’ an actual meaning might be secured for ‘zibot’; or that by uttering ‘Let “Ball #1” refer to one of the two balls in this urn’ an actual referent might be secured for ‘Ball #1’. Although it is easy to *suppose* that ‘Bitz’ refers to a resident of New York, that ‘zibot’ means something, or that ‘Ball #1’ refers to one of the two balls in this urn, surely some effort is required to *actually make these states of affairs obtain*.^{11,12}

To establish an indeterminacy of reference one must perform two subtasks. First, one must show that the term in question has properties sufficient to distinguish a unique object as its referent. Second, one must show that the issue of which object is so distinguished is indeterminate. In other words, one must establish that something is more qualified than all others to be the referent of the term *and* that there is no specific fact of the matter as to *which* thing is so qualified.¹³ For singular terms like ‘Bitz’, ‘Frib’, and ‘Ball #1’, the first subtask is never completed.

How, then, should we treat our initial pro-indeterminacy intuition reports? This depends on whether the reports are made from within, or from outside, the scope of the supposition that Bitz is a resident of New York. Reports made from within do not need to be rephrased. For they only commit us to

¹¹ Is there a supervaluation-inspired response here? No. I am not arguing that there is no formal semantics which comports with the rival view that the uniqueness constraint can be violated (van Fraassen 1966 has shown that there is). I am arguing that the rival view is false.

¹² One might object that I have at most established that ‘Bitz’ fails to “determinately refer” and that although effort might be required to “determinately secure” a referent for a new term, little or no effort is required to secure a referent for a new term. On this picture, my utterance of ‘Bitz is a current resident of New York’ sufficed to secure, but not to “determinately secure,” a referent for ‘Bitz’. This objection is misplaced. While a consequence of a certain view of indeterminacy is that indeterminacy as to the referent of ‘Bitz’ is consistent with ‘Bitz’ referring, just not determinately, my claim is that it is intuitively *not* indeterminate to whom ‘Bitz’ refers, as it is intuitive—in light of our considerations about supposition—that ‘Bitz’ fails to refer to anyone.

To be sure, we can define a new relation, say, *reference**, as that which obtains between a singular term and a thing iff_{df} the thing is one of possibly many things described or demonstratively picked out as part of the introduction of the term. (Cf. Field’s (1974) notion of partial reference.) And we can say that a singular term *determinately-refers** to a thing iff_{df} it refers* only to that thing. (Note: *determinately-refers** ≠ *determinately refers**.) ‘Bitz’ then refers* to every current resident of New York and *determinately-refers** to no one. Nothing, however, has been gained in terms of establishing an instance of indeterminacy, for no person is such that it is indeterminate whether ‘Bitz’ refers* to her.

¹³ This task is pursued in a series of articles by Hartry Field (e.g. (1973), (1974), (1994a), (1994b), and (2000)). On the basis of difficulties involved in resolving issues of reference prior to a significant theoretical development, Field argues that referential indeterminacy has plagued, and likely continues to plague, some of the most central terms of basic science and mathematics.

genuine indeterminacy *on the supposition* that Bitz really is a resident of New York. And there is good reason to reject this supposition. Pro-indeterminacy reports made outside the scope of the supposition must be rephrased. Given that my audience and I have common knowledge that ‘Bitz’ is a new word that does not refer to anyone, we have common knowledge that the purpose of the supposition is not to explore the epistemic possibility that there really is a person named Bitz who resides in New York, but rather to investigate the property of being a resident of New York. Given this purpose, my asking a question that is obviously underdetermined by the supposition, for instance whether Bitz is female, is inappropriate. To draw attention to this fact, my audience might respond by disengaging from the supposition and misreporting the sound intuition that there is no suppositional fact of the matter—that is, that the supposition underdetermines the matter—as the unsound intuition that there is no fact at all of the matter. Indeed, in light of the internal difficulties with the notion of indeterminacy, it is well advised that we disengage in this way rather than threaten the coherency of our discussion by remaining in the suppositional context and ascribing indeterminacy.

Let me summarize our results so far. The following constraint seems truistic: a singular term refers only if features of its use determine a unique referent for it. Yet, when a singular term is introduced with no effort to narrow its candidate referents to one, we are inclined to act as if this constraint does not exist: we act as if the newly introduced term successfully refers, but that there is indeterminacy as to the identity of its referent. This behavior can be reconciled with the truistic air of the constraint: in light of the fact that the introduction of the term explicitly lacks the degree of determinacy required of an act of reference fixing, we charitably interpret it as an act of supposition; then, in the spirit of cooperation, we suppose that the new term refers. Within the scope of this supposition, we are inclined to say things that would normally commit us to indeterminacy and to a counterexample to the uniqueness constraint; however, because these things are said within the scope of the supposition, and because the supposition is not true, no such commitments are made. Outside the scope of this supposition, we might misreport a sound intuition that there is no suppositional fact of the matter as an unsound intuition that there is no fact at all of the matter.

Now I want to argue that a similar result holds for predicates. First I defend a uniqueness constraint on what it takes for a predicate to express a property. Then I acknowledge that, in the context of an explicitly incomplete definition, we are inclined to act as if we reject this constraint and accept indeterminacy as to which property is expressed by the new predicate. Using the same strategy as before, I argue that these dispositions need not commit us either to a violation of the uniqueness constraint or to an instance of indeterminacy.

Here is the constraint: a predicate expresses a property only if features of its use determine, of some unique property, that that property is expressed by the predicate.¹⁴ To me, this constraint has as much initial appeal as the corresponding constraint on reference for singular terms. After all, so long as we confine our attention to token predicates, thereby avoiding ambiguity, we can be assured that a predicate purports to express at most one property. Hence, if a predicate succeeds in expressing a property, it expresses a unique property. Because the expressing relation is just another meaning relation, and because meaning relations are borne by words only by virtue of how the words are used, a predicate expresses a property only if features of its use determine, of some unique property, that that property is expressed by the predicate. So it seems to me that the uniqueness constraint for predicates is on a par with that for singular terms.

Despite this reasoning, it might be suggested that the uniqueness constraint for predicates is less plausible than that for singular terms and should indeed be rejected.

The suggestion might be defended as follows. Singular terms do not have definitions; predicates do. Some definitions are partial. Partial definitions give rise to incomplete application conditions. Because a partially defined predicate *has* application conditions, it expresses a property. Because its application conditions are *incomplete*, no property is such that the predicate uniquely expresses it. Hence, a predicate might express a property even though no property is such that our use of the predicate uniquely

¹⁴ To stay neutral on whether there is a meaningful property/concept distinction, I formulate the constraint in terms of properties rather than concepts. One who believes in such a distinction may consider a stronger constraint: a predicate expresses a property only if features of its use determine, of some unique concept of some unique property, that that concept is expressed by the predicate.

determines, of it, that it is expressed by the predicate. Because singular terms do not have definitions, no corresponding argument impugns the uniqueness constraint for them; hence, we should reject the uniqueness constraint for predicates but not for singular terms.

This defense fails. For if there were such things as partially defined predicates as characterized above, then we could use them, not to define singular terms, but to fix their reference. And if we could do this, we could fix the reference of a singular term without our use determining, of any unique thing, that that thing is the referent of the term.

For illustration consider the predicate ‘is nice*’. Our use of ‘nice*’ determines that, if ‘is nice*’ expresses a property, it expresses either the property of being a natural number greater than 15 or the property of being a natural number greater than or equal to 15; but nothing in our use determines, of one property or the other, that ‘is nice*’ expresses it. Now suppose that ‘is nice*’ expresses a property, thus violating the uniqueness constraint for predicates. We can then derive a violation of the uniqueness constraint for singular terms by introducing a new singular term, say, ‘Dice*’, as follows:

(4) Dice* is the least number that is nice*.

‘Dice*’ then refers to either 15 or 16, yet no features of its use determine, of 15 or of 16, that it is the referent of ‘Dice*’. By supposing an arbitrary counterinstance to the uniqueness constraint for predicates, we have derived a counterinstance to the uniqueness constraint for singular terms.

There is a systematic method for such derivations. It employs a connection between predicates and certain of their nominalizations: if a predicate ‘F’ expresses a property, it expresses the property of being F. In other words, ‘being F’ nominalizes the predicate ‘F’: it is a singular term that purports to refer to whatever is expressed by ‘F’. Suppose, then, that ‘F’ expresses a property even though its use does not determine, of any unique property, that that property is expressed by it. Then there is such a property as being F. Hence ‘being F’ refers to a property, yet nothing in its use determines, of a unique property, that that property is its referent. We can systematically derive counterinstances to the uniqueness constraint for singular terms given counterinstances to the uniqueness constraint for predicates.

The rejection of the uniqueness constraint for predicates leads, then, to the rejection of the uniqueness constraint for singular terms. Unless we are willing to admit that a singular term can refer without features of its use narrowing its candidate referents to one, we should not admit that a predicate can express a property without features of its use narrowing the candidate properties to one. Our earlier defense of the uniqueness constraint for singular terms thus stands as a defense of the uniqueness constraint for predicates.

We still need to explain why, in the context of an explicitly incomplete definition, we are inclined to act as if we reject the uniqueness constraint for predicates and accept indeterminacy as to which property is expressed by the new predicate. My explanation is the same as for singular terms: we are conditioned by mathematics and other domains of abstract discourse to treat those acts of word introduction that explicitly lack the degree of determinacy required of successful acts of meaning fixing as acts of supposition.

Applied to the original ‘nice*’ example, we are inclined to interpret (1) and (2) as suppositions. In the spirit of cooperation, we *suppose* (1) that n is nice* if $n > 15$ and (2) that n is not nice* if $n < 15$. We are then disposed to accept that 16 is nice* and that it is indeterminate whether 15 is nice*. Outside the scope of any supposition, this disposition would commit us to a violation of the uniqueness constraint for predicates and to an instance of indeterminacy. However, because it obtains within the scope of a supposition, and because the supposition is not true, no such commitment is made. The supposition is not true because there is no such property as being nice*: the uniqueness constraint for ‘is nice*’ is not satisfied; hence ‘is nice*’ fails to express a property. As in the case of singular terms, rather than ascribing indeterminacy from within the scope of the supposition, we might disengage from the suppositional context and say that there is no fact of the matter whether 15 is nice*, in which case we would be misreporting the sound intuition that there is no suppositional fact of the matter.

Suppose, then, that I were to make it clear that my utterance of (1) and (2) was *not* an act of supposition, but a genuine attempt at securing a property as the meaning of ‘is nice*’ and thus as the referent of ‘being nice*’. Merely by uttering (1) and (2), I intended to make them true by bringing it about

that ‘is nice*’ *in fact* came to express either the property of being a natural number greater than 15 or the property of being a natural number greater than or equal to 15. I suspect that the initial temptation to say both that 16 is nice* and that it is indeterminate whether 15 is nice* would disappear. I suspect that it would be replaced by the temptation to say that ‘is nice’ fails to express a property and that all of the following utterances are therefore either false or meaningless (depending on the correct view of predicates that fail to express properties): ‘Something is nice* if it is a natural number greater than 15’, ‘16 is nice*’, and ‘15 is nice*’.

This concludes my treatment of explicitly incomplete definitions. Now I want to consider an objection to it and apply it to two examples from the literature.

The objection is that, because natural language is replete with implicit incompleteness of the sort explicit in our ‘nice*’ example, my proposal leads to a widespread error theory: if the correct thing to say about ‘is nice*’ is that it fails to express a property, then the correct thing to say about most predicates of our language is that they too fail to express properties. But then much of what we say is either false or meaningless; and this is unacceptable.¹⁵

I suspect that this worry is based on the assumption that vagueness is a type of incompleteness in the implicit definitions of our predicates. I recognize that vagueness is pervasive in natural language, but I doubt that it is a type of incompleteness.

One reason for this doubt is that there is a phenomenological difference between appearances of incompleteness and appearances of vagueness. An appearance of incompleteness manifests itself in the form of missing intuitions: in certain cases, the predicate neither seems to apply nor seems not to apply; initially, the number 15 *clearly does not* seem nice* and *clearly does not* seem not nice*. By contrast, an appearance of vagueness manifests itself in the form of vagueness in intuition: for certain cases, the predicate *sort of* seems to apply and *sort of* seems not to apply; a person who seems borderline bald *sort of* seems bald and *sort of* seems not bald.

¹⁵ Motivated in part by a worry that natural language is replete with incompleteness of the ‘nice*’ sort, Williamson (1997) offers an indeterminacy-free treatment of incomplete definitions that rivals mine.

One might think that the only alternative to treating vagueness as a type of incompleteness is treating it as a type of ignorance, and that this alternative is unacceptable. In §3 I propose a view on which vagueness is neither a form of incompleteness nor a form of ignorance. And so I am inclined to think that the proposed treatment of explicitly incomplete definitions can, without commitment to the epistemic view of vagueness, avoid the charge that it leads to a widespread error theory.

Let us see how my proposal bears on two examples from the literature.

The first concerns singular terms. Robert Brandom (1996) and Hartry Field (2000) ask us to imagine that a population of speakers separates from ours and that our respective mathematicians independently develop complex-number theory. The only difference is that our mathematicians choose '*i*' and '*-i*', whereas theirs choose '**' and '*/*', to signify the two square roots of -1 . Because the two roots are structurally identical, it is alleged by Brandom and Field to be indeterminate how '*i*' and '*-i*' translate '**' and '*/*'. Field says, "It isn't that there is a subtle fact as to 'the correct translation' that we can never know, it is that there is simply no determinate fact of the matter: the whole idea of a unique 'correct translation' is misconceived" (2000, p. 3). This claim, Field notes, goes hand in hand with the claim that it is indeterminate, of each of the four symbols, to which square root of -1 it refers.

To me it seems doubtful that '*i*' and '*-i*' even purport to refer in the first place (though whether they do is clearly an empirical matter). What a term purports to do depends on the intentions of those who introduce it and, if changes in meaning and reference are possible, of those experts who subsequently use it. Given that the experts who use '*i*' recognize the impossibility of distinguishing the two square roots of -1 , it seems to me unlikely that they intend to use '*i*' so as to *refer* to one of the two roots. After all, if the experts recognize *their* inability to distinguish between two objects, how could they reasonably expect *their terms* to do it for them? More likely, I think, their use of '*i*' involves some sort of linguistic supposition. Richard Feynman for instance makes explicit his intention to use '*i*' under the supposition that it refers to a specific square root of -1 . He says:

Let us suppose that a specific solution of $x^2 = -1$ is called something, we shall call it *i*; *i* has the property, by definition, that its square is -1 . [...] Someone could write *i*, but another could say, 'No, I prefer $-i$. My *i* is

minus your i .¹⁶ It is just as good a solution, and because the only definition that i has is that $i^2 = -1$, it must be true that any equation we can write is equally true if the sign of i is changed everywhere. (1963)

Upon considering Brandom's hypothetical scenario, Feynman might either (i) correctly report *from within the scope of his supposition* that there is no fact of the matter whether ' i ' and '\ ' corefer; in which case he would commit to the proposition that the supposition underdetermines whether ' i ' and '\ ' corefer, but not to an instance of indeterminacy; or (ii) misreport *from outside the scope of his supposition* the sound intuition *that there is no suppositional fact of the matter whether ' i ' and '\ ' corefer* as the unsound intuition *that there is no fact of the matter whether ' i ' and '\ ' corefer*. On my proposal, speaking outside the supposition, the fact of the matter is that ' i ' and '\ ' do not refer and therefore do not corefer. This proposal is consistent with the fact that practicing mathematicians would never, and should never, deny the truth of the statement that $i^2 = -1$, for because the supposition is part of the preliminary groundwork for doing mathematics, and not part of mathematics itself, practicing mathematicians are always practicing within its scope.

We turn to an example concerning predicates. Scott Soames (1989, 1999) discusses an explicitly incomplete definition similar to that of 'nice*'.¹⁶ He says:

Imagine the predicate 'smidget' being introduced into a language by the following semantic stipulation...

- (i) Any adult human being under three feet in height is a smidget.
- (ii) Any adult human being over four feet in height is not a smidget (or is such that it is not the case that he/she is a smidget).

... An assertive utterance of 'Jack is a smidget' will convey to one's hearers the information that Jack is an adult under three feet tall and an assertive utterance of 'Jack is not a smidget' will convey the information that Jack is an adult over four feet tall. In short, 'smidget' will enter the language as a useful and meaningful predicate.

The interesting thing about the predicate is, of course, that the defining conditions for something to be a smidget, and for something to fail to be a smidget, are not jointly exhaustive. Adults between three and four feet tall cannot be correctly characterized either as being smidgets or as not being smidgets. (1989; p.584-85)

¹⁶ For other discussions of explicitly incomplete definitions, see Horwich (1997), Tappenden (1993), and Williamson (1997).

There is a temptation to go along with Soames in saying that there is no answer to the question whether adults between three and four feet tall are smidgets. But we need to ask whether this temptation arises in the context of a supposition, and if so whether that supposition is true.

Are we merely supposing (i) and (ii), or are we genuinely convinced of their truth? Before accepting (i) and (ii), do we seriously consider whether Soames has the wherewithal to *stipulate* them—to make them true merely by uttering them? Or do we simply go along with him in the spirit of cooperation? Soames prefaces (i) and (ii) by saying, “Imagine the predicate ‘smidget’ being introduced into a language by the following semantic stipulation.” On a reasonable interpretation, he is asking us to *suppose* that ‘smidget’ is introduced by (i) and (ii) *and* that this act of introduction qualifies as a stipulation. It would therefore be reasonable to react to the example by supposing, rather than evaluating, (i) and (ii).

It is true that, within the scope of this supposition, an assertive utterance of ‘Jack is a smidget’ will convey to one’s hearers the information that Jack is an adult under three feet tall, and an assertive utterance of ‘Jack is not a smidget’ will convey the information that Jack is an adult over four feet tall. It is also true that, within the scope of this supposition, an assertive utterance of ‘It is indeterminate whether Jack is a smidget’ will convey the information that Jack is an adult between three and four feet tall. And so even if our entire language community were to acknowledge that ‘smidget’ is introduced by supposition, rather than by stipulation, Soames would be correct in saying that “‘smidget’ will enter the language as a useful and meaningful predicate.” (*Ibid.*) It would enter the language as a *meaningful* predicate, not in the sense that it would actually express a property, but in that acts of predicating it would—in the context of the community-wide supposition—be *meaningful*: they would convey information. All of this is consistent with the impossibility of indeterminacy: if the supposition is false, then ascriptions of indeterminacy within its scope do not carry genuine commitments to indeterminacy.

The question remains: is the supposition false, or does Soames actually have the wherewithal to stipulate (i) and (ii)? In his (1999) Soames defends versions of (i) and (ii): “Surely there is no a priori reason why the advantages of introducing a predicate by stipulations of the sort just illustrated must

always be outweighed by the potential disadvantages.” (p.164) If by ‘advantages’ Soames has in mind *practical* advantages, and if by ‘stipulations’ he simply has in mind the *acts* of uttering (i) and (ii) regardless of whether they really qualify as stipulations, then we may agree. For we need not deny the potential practical value of introducing a predicate by supposing that it expresses a property without supposing of any particular property that the predicate expresses it.

But if by ‘advantages’ Soames has in mind features conducive to the success of an act of meaning fixing, and if by ‘stipulations’ he has in mind acts that rightly qualify as stipulations, then we should disagree. For there *is* an a priori reason why the advantages must always be outweighed by the disadvantages: (i) and (ii) fail to meet the uniqueness constraint on predicates. Contrary to what Soames appears to believe, there are substantive a priori constraints on stipulations involving new words. Speakers cannot just stipulate anything they want. I for instance cannot stipulate that Bitz is a resident of New York simply by uttering ‘Bitz is a resident of New York’. I can suppose it; but some effort is required to actually make it true. Applying our earlier results to Soames’s example, we know that if he can stipulate (i) and (ii), then he can also stipulate of a certain singular term that it refers simply by narrowing its candidate referents to a certain uncountable infinity: the relevant singular term is ‘being a smidget’; the candidate referents are all properties of the form *being an adult human under k feet in height*—where k ranges over the reals in the closed interval $[3,4]$. But if he could do this, then the uniqueness constraints on both predicates and singular terms could be violated. And we have not only an a priori argument in defense of these constraints but an explanation as to why, in contexts just like the one Soames creates, we are initially inclined to behave as if we reject the constraints. I conclude that the best treatment of Soames’s example does not require positing indeterminacy.

2. *Hidden Relativity*

A second salient source of pro-indeterminacy intuitions is the phenomenon of hidden relativity.

Were events *A* and *B* simultaneous? Does Coke taste better than Sprite? Is it common to speak with a southern drawl? Is same-sex marriage legal? Is runner #34, who placed last in the Olympic 100-meter race, fast? And is it wrong to bludgeon the elderly for sport?

Several of these issues uncontroversially involve a hidden relativity. Illegality is for instance not thought by anyone to be an absolute notion. Acts are only legal or illegal relative to a set of laws. Same-sex marriage is illegal by the laws of California, but legal by those of Canada. Is it illegal simpliciter? Some are inclined to say that there is no fact of the matter. The same might be said about unrelativized questions involving the notions of tasting better, being common, and being fast, all of which are uncontroversially relativistic in nature. To me, Coke tastes better than Sprite. In Alabama, it is common to speak with a southern drawl. And, relative to most people, #34 is fast. Deny the hidden relativity and the temptation arises to say that there is no fact of the matter.

This temptation is so strong that disagreement over the “absolute versus relative” status of a matter is sometimes characterized as disagreement over the “factual versus nonfactual” status of the matter. Consider for instance the disagreement between Einstein and Lorentz over whether events can be simultaneous simpliciter, or only relative to a frame of reference. Field (1994b, p. 428) says, “According to special relativity, there is no fact of the matter as to the time order of events in certain cases (namely, when the events are spacelike separated); in these cases, we can make sense of time order only *relative to a frame of reference*.” And, “...Lorentz and Einstein agreed as to whether questions about the absolute simultaneity of spacelike separated events are unverifiable, but disagreed as to whether they were factual” (2000, p.7). By Field’s lights, Einstein took there to be no fact of the matter whether two given spacelike separated events were absolutely simultaneous *because* he took simultaneity to involve a hidden relativity. Field seems to think that hidden relativity gives rise to indeterminacy.

Or consider the disagreement over the relative/absolute nature of evaluative issues. One might wonder, for instance, whether bludgeoning the elderly for sport is wrong simpliciter, or only relative to some norm. Field sees this too as a debate over the factual/nonfactual status of the relevant matters. He defines *evaluative nonfactualism* as the view “that evaluative utterances are not straightforwardly true or

false” but rather “true or false only *relative to (complete or incomplete) norms*” (1994b, pp. 436-37).

Thus, on the view that being wrong involves a hidden relativity to the speaker’s norms, Field would say that there is no fact of the matter whether bludgeoning the elderly for sport is *absolutely* wrong—wrong, not relative to every set of norms, but without reference to any set of norms.

Of course, by definition the relativist about evaluative matters is in a sense a *non-absolute-factualist* about evaluative matters: he holds that positive evaluative facts are never absolute in form. Likewise, anyone who takes simultaneity to be a frame-dependent relation is in a sense a *non-absolute-factualist* regarding matters of simultaneity. But no sort of relativism straightforwardly demands a corresponding nonfactualism. How, after all, could a mere claim about the *form* of an issue entail that the issue has no outcome? Consider for instance the claim that simultaneity is frame-dependent and that issues of simultaneity are therefore relativistic in form. It does not follow that there is no fact of the matter whether two spacelike separated events, *A* and *B*, are *simultaneous simpliciter*—or, absolutely simultaneous, where we mean simultaneous not with respect to all frames, but without respect to any frame. If simultaneity is a frame-dependent relation, then—assuming there is no ambiguity in ‘simultaneity’—there is no such relation as absolute simultaneity. Hence, depending once again on the correct theory of predicates that fail to express properties, either it is false that *A* and *B* are simultaneous simpliciter or there is no meaningful question whether they are in the first place. Either way, we are not committed to indeterminacy.

Moreover, there is a good explanation of our initial temptation to report, of a relativistic issue formulated in absolutist terms, that there is no fact of the matter: we are misreporting the sound intuition *that there is a sense in which there is no absolute fact of the matter* as the unsound intuition *that there is no fact of the matter*. The sense in which there is no absolute fact of the matter is illustrated as follows. As to whether #34 is fast simpliciter, it is true neither that there is an absolute property of being fast such that #34 has it, nor that there is an absolute property of being fast such that #34 lacks it. On the view that a predicate can be meaningful even though it fails to express a property, there nevertheless *is* an absolute fact of the matter in the following sense: it is true that #34 is not fast simpliciter, because there is no such

property as being fast simpliciter. So it might be better to say that there is no *positive* absolute fact of matter.

We have considered whether same-sex marriage is illegal in California; the answer is *yes*. And we have considered whether it is illegal simpliciter; either the answer is *no*, or there is no such question. Now let us consider whether it is illegal. This question is puzzling, for my asking it in the present context implies that I have in mind a notion that is neither relative nor absolute, and this seems impossible. Ordinarily, an utterance of ‘Same-sex marriage is illegal’ will combine with context to express a specific, appropriately relativized, proposition—for instance, that same-sex marriage is illegal in California. But what happens when context fails to provide a specific relativization? It might be suggested that a relativized proposition is nonetheless expressed, even though there is no fact of the matter *which* such proposition it is. One might further claim that, if a relativistic question whose context does not provide a specific relativization has the same answer regardless of how the question might be relativized, then it *determinately* has that answer and is otherwise indeterminate. Gibbard (1990) and Field (1994b) treat alleged hidden relativity in evaluative discourse along these lines. In our present case, it might be suggested that it is indeterminate whether same-sex marriage is illegal because it is indeterminate *which* question is under consideration in the first place—whether same-sex marriage is illegal *in California*, or *in Texas*, or *in Canada*, or...—and the candidate questions have different answers.

Is it indeterminate which question I asked? Given the context of my utterance, I am inclined to think not. For any set of laws, it seems clear to me that I did not have *that* set of laws in mind when I asked whether same-sex marriage was illegal. It seems clear to me, for instance, that I did not ask whether same-sex marriage was illegal by the laws of New York. Why then should we think that my utterance expressed a relativized question in the first place? Would it not be more sensible to conclude either that my utterance failed to express a genuine question or that it expressed a nonrelativistic question, as its surface grammar would suggest? In either case, there would be a fact of the matter as to which question was expressed. In the former, the fact would be that my utterance did not express any question, but was

rather like an utterance of ‘Is 17 greater than?’. In the latter, the fact would be that my utterance expressed the question of whether same-sex marriage is illegal simpliciter.

In the preceding example I intentionally refrained from relativizing a predicate that I knew to be conventionally associated with a relativistic notion. Now I want to consider what happens when someone who is *ignorant* of a hidden relativity in the semantic value of a predicate attempts to use the predicate.¹⁷ Suppose for instance that Newton once uttered

(5) My birth came after Plato’s.

It would seem uncharitable to deny the truth of (5). Yet without knowledge of the relativity hidden in the notion of *coming afterwards*, Newton was in no position to intentionally relativize (5). And so it is not obvious what to say about (5). Here are the salient options:

- (i) (5) failed to express a proposition;
- (ii) (5) expressed the false proposition that Newton’s birth came afterwards *simpliciter* to Plato’s;
- (iii) (5) expressed the true proposition that Newton’s birth came afterwards *relative to his frame of reference* to Plato’s; or
- (iv) (5) expressed one of a range of relativized propositions, though it is indeterminate specifically which such proposition was expressed.

Supposing that Newton’s utterance was true, we are left with (iii) or (iv). There is some reason to prefer (iii) over (iv). (iii) requires that there be a linguistic mechanism that provides a default relativization on occasions when someone who is ignorant of a hidden relativity in the semantic value of *F* attempts to use *F*. That there be such a default is plausible in the present case, for there is an obvious candidate: the speaker’s frame of reference. (Likewise, in the evaluative case there is an obvious candidate: the speaker’s norms. That is, if evaluative discourse involves a hidden relativity, and if a speaker ignorant of this relativity ascribes, say, rightness, of some action, then plausibly the proposition expressed would automatically be relativized to the speaker’s norms.) (iv) requires a linguistic mechanism that provides a

¹⁷ Often it can be difficult for competent speakers to determine the number of arguments of a predicate. It is for instance not entirely obvious whether the verb ‘cut’ has two arguments or one: is ‘cut the paper with a knife’ like ‘give the ball to Mary’ or ‘battered the toast in the restaurant’?

range of relativized propositions when someone ignorant of a hidden relativity associated with *F* uses *F*; moreover, to ensure that what Newton said was determinately true, the mechanism would in our case need to restrict the range to *true* propositions. Without invoking an ad hoc principle, I see no way to single out such a range in Newton's case. And so, supposing that Newton's utterance was true, I believe that (iii)—which requires no indeterminacy—is preferable to (iv).

Let me summarize my proposal for treating hidden relativity. Supposing that a predicate *F* involves a hidden relativity, three cases are worth considering.

First: a speaker combines *F* with 'simpliciter', 'absolutely', or some other device to explicitly exclude relativization. She might utter, "Is such and such *F* simpliciter?" Because there is no such property as being *F* simpliciter, either the answer to her question is *no* or she fails to express a question. Either way, there is no need to posit indeterminacy.

Second: a speaker aware of the hidden relativity in *F* intentionally refrains from relativizing but does not invoke any device to explicitly exclude relativization. She might utter, "Is such and such *F*?" Because she intentionally refrains from relativizing, it is implausible that she is expressing a relativized question. Again, either she expresses a nonrelativized question—whether such and such is *F* simpliciter—and the answer is *no*, or she fails to express a question. Either way, there is no need to posit indeterminacy.

Third: a speaker uses *F* without intentionally relativizing because she is ignorant of the hidden relativity. She might utter, "Is such and such *F*?" Either *F* involves a default mechanism for relativizing in just such cases, or it does not. If it does—as is plausible in cases for instance involving simultaneity, legality, and taste—then the question expressed is relativized according to the rules of the mechanism and has an appropriate answer of relative form. If it does not, then, once more, either a nonrelativized question is expressed, in which case the answer is *no*, or no question is expressed. In any case, there is no need to posit indeterminacy.

My diagnosis of the initial temptation to ascribe indeterminacy to questions involving a hidden relativity was simple: we are misreporting the sound intuition that there is no positive absolute fact of the matter as the unsound intuition that there is no fact at all of the matter.

3. *Vagueness*

When confronted with a paradigmatically vague issue—what for instance is the minimum dollar worth for being rich—it is initially tempting to take up the view that there is no fact of the matter. Might there be a surrogate view whose adoption would quell this temptation without forcing us to deny a fact of the matter?

One suggestion is that we instead take up the view that there is no *knowable* fact of the matter. Although this proposal avoids postulating indeterminacy, many people report that adopting it would not quell their initial temptation.¹⁸ They claim that the intuition behind their temptation has a distinctively non-epistemic feel to it; that it is nothing like the intuition, say, that there is no knowable fact of the matter what exactly is going on inside a black hole.

What I suggest as a surrogate is the view that there is no *clear* fact of the matter, where I have in mind a sense of ‘clear’ that, on its face, is not epistemic in nature. When for instance a police officer reports, “Two suspects sort of fit the description; the other three clearly do not,” the expression ‘clearly’ is used in contrast to ‘sort of’ to indicate something about the degree to which the three suspects fail to satisfy the description. In particular, it indicates that there is *no vagueness* as to whether failing to satisfy the description to that degree suffices for failing to satisfy the description. On this usage, the proposition *that a is clearly F* is equivalent to the proposition *that a is F and it is not vague whether a is F*.¹⁹ Hence, the suggested surrogate is not wedded to any particular view of vagueness. While adopting it would likely

¹⁸ Another option is that we accept that there is a fact of the matter but deny that the matter stays constant upon searching for a relevant fact. In other words, we could pursue an indeterminacy-free contextualist treatment of vagueness; see e.g. Graff (2000) and Raffman (1994). I will not discuss this option, for an adequate discussion would take us too far afield.

¹⁹ For those who dispute that there is such a natural usage of ‘clearly’, we may stipulate that *x is clearly F* iff (i) *x is F* and (ii) there is no vagueness as to whether *x is F*.

quell our initial temptation to say that there is no fact of the matter, it would not explicitly commit us to indeterminacy, but only to vagueness.

One might maintain that it would implicitly commit us to indeterminacy, on the alleged grounds that vagueness is to be analyzed as a type of indeterminacy and that ‘*x* is clearly *F*’ is thus to be analyzed as *x is such that it is metaphysically settled that x is F*. Here I should emphasize that my aim in this section is not to refute vagueness-as-indeterminacy but only to provide a credible alternative to it. To do this, I need only to provide a credible account of ‘clearly’ that satisfies two criteria: (i) it must comport with the preceding rephrasal strategy, and (ii) it must be consistent with the absence of indeterminacy. By (i), it cannot be a form of epistemicism; by (ii) it cannot be a form of vagueness-as-indeterminacy.

What, then, is my positive view? On my view, vagueness is neither a species of indeterminacy nor an epistemic phenomenon, but is rather *sui generis*. There is a closely-knit family of concepts, none of which admits of analysis in terms of concepts outside the family, and at least some of which are essential to an adequate treatment of vagueness-related phenomena. One might hold a similar non-reductionism about intentional, normative, or modal phenomena. One might for instance hold that the notions of physical necessity, metaphysical necessity, and causation, together with that of a law of nature, admit of analysis only in terms of one another, if at all. To get a feel for the family of vagueness-related notions, suppose that it is vague whether Harry is bald. Depending on the source of this vagueness, we might characterize Harry as a *borderline case* of baldness. And we might say that Harry is neither *clearly* bald nor *clearly* not bald. We might say that he is *sort of* bald and *sort of* not bald; and that he both *roughly* qualifies and *roughly* fails to qualify as bald. This, we might say, is due in part to the fact that baldness is a *rough* concept; it bears only a *rough* relation to more basic concepts; and so there is *vagueness* as to what its basic application conditions are. On the view that vagueness is *sui generis*, it is impossible to break out of this family of concepts by way of reduction.

Due to constraints on space, I cannot develop or defend vagueness-as-*sui generis* in any detail, but can only motivate it with some intuitive considerations—none of which are meant to be

decisive—and refer the reader to my (2003) where I develop and defend a particular species of it.²⁰ The considerations suggest that vagueness has nothing essentially to do with indeterminacy or knowledge but rather belongs to a category of its own.

We begin with a hypothetical scenario designed to provide intuitive evidence that vagueness does not threaten the law of excluded middle. As a result of an accident, Sue is in now on an operating table having one of her legs reattached to her body. At the present stage of the procedure, it is vague whether the leg has been reattached. The surgeon asks an attending student, “What is the patient’s current weight?” Well prepared, the student knows that Sue’s body weighs precisely 100 pounds without the leg, and that the leg weighs precisely 20 pounds. She offers the intuitive response, “Clearly, the patient weighs something. The only two candidates are 100 and 120 pounds. Hence, clearly she weighs either 100 or 120 pounds, even though it is vague which.” It is vague whether Sue weighs 100 pounds; it is vague whether she weighs 120 pounds; yet, intuitively, she clearly weighs either 100 or 120 pounds. Hence, intuitively, a disjunction might be clearly true even if none of its disjuncts is clearly true. More specifically, an instance of the law of excluded middle might be clearly true even if neither disjunct is: clearly, Sue either does or does not weigh 100 pounds, even though it is vague which. Thus we have an intuitive consideration for thinking that vagueness does not threaten the law of excluded middle.

(Note that the claim that the clear truth of a disjunction does not require the clear truth of any of its disjuncts gains further support from a logically equivalent consideration: whether the clear truth of an existential generalization requires the clear truth of any of its substitution instances. Intuitively, Sue clearly weighs *something*. Of course, there is no weight such that she clearly weighs *it*, for there is vagueness as to what she weighs. Hence, intuitively, the clear truth of an existential generalization does not require the clear truth of any of its substitution instances.)

²⁰ The main complaint against vagueness-as-sui-generis is that it lacks explanatory value. In my (2003) I address this complaint by developing an intra-family analysis that purports to give both the source of vagueness and the conditions under which an arbitrary issue would admit of vagueness.

If vagueness does not threaten excluded middle, as my own intuitions about Surgery Sue suggest, there is reason to deny that it threatens bivalence. For suppose that it is vague whether Harry is bald. By excluded middle, Harry is either bald or not bald. Now suppose that bivalence is here threatened: that it is neither true nor false that Harry is bald. Then ‘Harry is bald if and only if it is true that he is bald’ is false, or at least without a truth-value, because the left-hand side is neither true nor false and the right-hand side is false. Intuitively, this is wrong. For what more could it take to make it true that Harry is bald than for him to be bald? And what more could it take for Harry to be bald than for it to be true that he is bald? If it is vague whether Harry is bald, then the natural thing to say about whether it is *true* that Harry is bald is that it is *vague* whether it is true that he is bald. Once it is admitted that Harry is either bald or not bald, though it is vague which, the natural thing to say is that it is either true or false that Harry is bald, though it is vague which. Hence, if vagueness does not threaten excluded middle, it is natural to deny that it threatens bivalence.

But if vagueness does not threaten bivalence, there is reason to deny that it threatens determinacy. For suppose that it is vague whether Harry is bald. By bivalence, it is true either that Harry is bald or that he is not bald. Now suppose that determinacy is nevertheless threatened: that it is metaphysically unsettled whether Harry is bald. Then it is metaphysically settled neither that Harry is bald nor that he is not bald. From which it follows that the following conditional is false: it is true either that Harry is bald or that he is not bald only if it is metaphysically settled either that Harry is bald or that he is not bald. But how could it be true that *S* if nothing in the fabric of reality settles that *S*? If it is vague whether it is true that Harry is bald, then the natural thing to say about whether it is *metaphysically settled* that Harry is bald is that it is *vague*. Do the more basic facts on which the application of the concept of baldness supervenes suffice to make it the case that Harry is bald? This is just what is *vague*: there is vagueness as to whether these more basic facts *settle* that Harry is bald. Once it is admitted that it is true either that Harry is bald or that he is not bald, though it is vague which, the natural thing to say is that it is metaphysically settled either that Harry is bald or that he is not bald, though it is *vague* which.

There is reason to think that if it is vague whether Harry is bald, then: Harry is bald or not bald, though it is vague which; it is true or false that he is bald, though it is vague which; and it is metaphysically settled either that he is bald or that he is not bald; though it is vague which. Vagueness would seem to flow through the conceptual and logical relations connecting negation, predication, truth, and metaphysical determination without interrupting them. By recognizing that vagueness pervades, without threatening, the basic structure of our descriptive practices, we can avoid vagueness-as-indeterminacy and many of the problems that beset it.

It might be thought that the only alternative to analyzing vagueness in terms of indeterminacy is analyzing it in epistemic terms. For suppose that it is vague whether p . Then either there is a fact of the matter whether p , or there is not. If there is, then we are ignorant of it and vagueness must thus be analyzed in epistemic terms. If there is not, then there is indeterminacy as to whether p and vagueness must thus be analyzed in terms of indeterminacy. There is no alternative.

This argument rests on the background assumption that, necessarily, if it is vague whether p , nobody knows whether p . Though widely accepted, this assumption has to my knowledge never been defended.

Its initial appeal might be explained away in kindred fashion to the appeal of the claim that, necessarily, if it is vague whether p , there is no fact of the matter whether p . Perhaps we are misreporting the sound intuition (i) that, necessarily, if it is vague whether p , nobody *clearly* knows p or *clearly* knows *not-p* as the unsound intuition (ii) that, necessarily, if it is vague whether p , nobody knows p or knows *not-p*.

Surely (i) *is* sound. If it is vague whether p , then neither p nor *not-p* is clearly true. Because it is a necessary condition on clearly knowing p that p be clearly true, and because it is a necessary condition on clearly knowing *not-p* that *not-p* be clearly true, if neither p nor *not-p* is clearly true, then nobody clearly knows p and nobody clearly knows *not-p*. (i) thus seems analytic.

(ii), by contrast, is open to doubt. Dorr (2003), Weatherson (MS), and I (2003) have given independent arguments against it. Dorr's argument is based on a defense of bivalence together with

intuitive considerations against an epistemic treatment of vagueness. Weatherson's is based on the view that demonstratives can be substituted *salva veritate* within the scope of knowledge attributions. And mine is based on the idea that an ideal thinker in full possession of a concept of a certain sort would, in certain epistemic conditions, find it intuitive that the concept applies just in case the concept really does apply. Present constraints on space prevent me from exploring any of these arguments in detail. Instead, I will simply raise an initial suspicion about (ii).

There are reasons for thinking that vagueness pervades, without threatening, not only the basic structure of our descriptive practices, but the *non*-basic structure too—that is, the structure imposed by analytic connections among non-basic concepts. To see what I have in mind, consider the concept of a bachelor. This concept is vague: it admits of conditions under which there is vagueness as to whether it applies. This vagueness pervades whatever analytic relations the concept bears to others: if it is vague whether a man is unmarried, then it is vague whether he is a bachelor. This vagueness does not however threaten the relation between manhood and bachelorhood. Upon discovering vagueness in the concepts of a bachelor, a man, and being unmarried, we should feel no pressure to revise our theories of their relations. It would be odd if such a discovery led one to propose, for instance, that being a bachelor required not just being unmarried and male, but being *clearly* unmarried and *clearly* male. Such a proposal might constitute a plausible analysis of *being a clear case of a bachelor*, but not of *being a bachelor*. For though the concept of a bachelor is itself vague, it is no sense *about* vagueness.

Now consider the concept of knowledge. This concept is vague. This vagueness pervades whatever analytic relations the concept bears to others. Suppose, for illustration, that x *knows* p iff x has a justified true belief in p and the Gettier condition obtains. Then, if it is vague whether a thinker who justifiably believes a truth satisfies the Gettier condition, it is vague whether the thinker *knows* the truth. At least initially, vagueness would not seem to threaten these relations. Upon discovering vagueness in the concepts of knowledge, justification, truth, belief, and the Gettier condition, there would seem to be no pressure to revise our theories of their relations. It would be odd if one were led by such a discovery to propose, for instance, that knowing p required not just having a justified true non-Gettier belief that p , but

having a *clearly* justified, *clearly* true, *clearly* non-Gettier, *clear* belief that *p*. Such a proposal would constitute a plausible analysis of the concept of *clearly knowing p*, but not of *knowing p*. For though the concept of knowledge is itself vague, it is in no sense *about* vagueness. Hence, at least initially, we should not expect the notion of vagueness to show up in the final analysis of knowledge.

But by (ii), the discovery of vagueness pressures us to impose a further condition on knowing *p*: *p* must be *clearly* true. Though necessary for *clearly knowing p*, being clearly true seems to me to be unnecessary for *knowing p*. Why, in addition to being true, must *p* be clearly true? (The question is not: given that *p* must be clearly true, what theory could explain this? The obvious answer is epistemicism. The question is rather what independent grounds might there be for expecting vagueness to show up in the analysis of knowledge.) If this were necessary, then *clearly knowing p* would require that *p* be *clearly clearly* true. The result would be an ad hoc mismatch of the impact of vagueness on knowledge and its related concepts. It would entail that the notion of knowledge is not just vague, but in some sense *about* vagueness. At least initially, however, knowledge does not in any sense seem to be about vagueness. For this reason, (ii) is initially suspect.

If we can reject (ii) we can reject the dilemma between vagueness-as-indeterminacy and epistemicism and open the door to novel views of vagueness.

I have tried to motivate the view that vagueness has nothing essentially to do with indeterminacy or knowledge but rather belongs to a category of its own: that vagueness is *sui generis*. I should emphasize once more that my aim in this section has simply been to establish vagueness-as-*sui generis* as a credible alternative to vagueness-as-indeterminacy, and not to defend it against its rivals. Combined with our rephrasal strategy—a report of ‘there is no fact of the matter’ is to be interpreted as a misreport of ‘there is no clear fact of the matter’—vagueness-as-*sui generis* provides for a credible indeterminacy-free treatment of vagueness.

4. Comparative Issues

Comparative issues generally take the form, which is more F , a or b ? Their possible outcomes are always three: a is more F than b ; b is more F than a ; and neither a nor b is more F than the other. At least initially, a wide range of comparative issues are likely to seem indeterminate. Consider for instance who was more athletic, Mohammed Ali or Babe Ruth? One is tempted to say that, because Ali and Ruth exhibited such different components of athleticism, and because there is no fact of the matter exactly how athleticism comprises its various components, there is no fact of the matter which of the two was more athletic.

Comparative issues have special significance due to their role in practical reasoning. For this reason, their candidacy for indeterminacy has perhaps received a disproportionate amount of attention vis-à-vis the candidacy of other sorts of issues.²¹ This, in turn, is apt to give the impression that something about comparatives per se makes them likely bearers of indeterminacy. For two reasons, I believe that this impression is misleading.

First, what has drawn the most attention to comparatives as potential bearers of indeterminacy is the alleged phenomenon of *incomparability*—where, by stipulation, a and b are *incomparable* with respect to F iff (i) a is not more F than b ; (ii) b is not more F than a ; and (iii) a and b are not equally F . At least initially, two items are likely to seem incomparable with respect to F whenever there seems to be no fact as to which of them is more F . It is tempting, for instance, to think that Ali and Ruth cannot sensibly be compared in terms of overall athleticism, but only in terms of particular subcomponents. With respect to athleticism simpliciter, it is tempting therefore to think (i') that Ali was not more athletic than Ruth; (ii') that Ruth was not more athletic than Ali; and (iii') that Ali and Ruth were not equally athletic. Hence, as to which of the two was more athletic, there is an initial temptation to say both that the issue is indeterminate and that the two athletes were incomparable with respect to athleticism. The tendency to ascribe indeterminacy in conjunction with incomparability might lead one to assume that incomparability

²¹ For a sample of recent literature on indeterminacy and incomparability regarding evaluative issues, see Chang (1997).

is a species of indeterminacy. John Broome for instance assumes that incomparability is a type of indeterminacy and then sets out to determine whether it is also a type of vagueness. He says,

...when I say a comparative ‘*Fer than*’ is indeterminate, I mean that for some pairs of things, of a sort to which the predicate ‘*Fer*’ can apply, there is no determinate answer to the question of which is *Fer than* which. Neither is *Fer than* the other, nor are the two equally *F*. (1997, p. 67.)

But incomparability cannot be a type of indeterminacy. For when two items are incomparable with respect to *F*, the question of which of them is more *F* is settled by the fact *that neither is more F than the other*, a fact that follows directly from (i) and (ii). Incomparability therefore signals the absence, not the presence, of indeterminacy. Below I offer a diagnosis of the temptation to think otherwise.

The second reason to doubt the impression that comparative issues are special candidates for indeterminacy is that, when they evoke pro-indeterminacy intuitions, they seem to do so not *because* they are comparative but only because of some attendant status—say, because they are vague, or because they involve a hidden relativity, or because they are formulated in defective terms. For instance, the issue as to who was more athletic, Ali or Ruth, is likely to seem indeterminate due to vagueness in the idea of one person’s being more athletic than another. And the issue as to which tastes better, Coke or Sprite, is likely to seem indeterminate due to a hidden relativity in the notion of tasting better.

A piecemeal strategy thus emerges for deflating reports of pro-indeterminacy intuitions about comparatives. Given such a report, we allow context to help us determine whether to rephrase it as a misreport of an intuition in favor of incomparability, vagueness, hidden relativity, or some other phenomenon. We then provide an indeterminacy-free account of the relevant phenomenon.

Vagueness is a dominant source of pro-indeterminacy reports regarding comparatives. Perhaps this is to be expected. For paradigmatically vague adjectives are *gradable*: they take comparative form and admit of application to various degrees. Consider for instance ‘wealthy’: one person can be wealthier than another, and people can be wealthy to various degrees. Though non-gradable adjectives such as ‘pregnant’ are also vague, their vagueness is relatively hidden. Given the strong connection between

gradability and vagueness, and that gradables take comparative form, we should expect vagueness to be a dominant source of pro-indeterminacy reports regarding comparatives.

When it is *vague* which of two things is more *F*, we are likely to report having the intuition that it is indeterminate which is more *F*. To treat such cases, we appeal to our general strategy for deflating vagueness-related pro-indeterminacy intuitions: a report of ‘There seems to be no fact of the matter which is more *F*, *a* or *b*’ is treated as a misreport of the intuition that there seems to be no *clear* fact of the matter which is more *F*, *a* or *b*; in other words, that it seems *vague* which of the two is more *F*. We then give an indeterminacy-free account of vagueness.

Here is an example. It is *vague* how the various components of athleticism determine overall degrees of athleticism. If athleticism were a function only of strength, quickness, and coordination, then being stronger, quicker, and more coordinated would clearly suffice for being more athletic. Being much quicker but slightly weaker and less coordinated, by contrast, might only suffice to make it *vague* whether one would be more athletic than another. This is because it is *vague* which function maps component-degrees of athleticism onto degrees of athleticism: many functions are roughly correct, though none is clearly correct. Because it is *vague* how athleticism comprises its components, it is *vague* to what degrees Ali and Ruth were athletic. This vagueness, in turn, gives rise to vagueness as to which of the two athletes was more athletic. We might, then, be tempted to misreport the sound intuition that there is no *clear* fact of the matter as to which of the two was more athletic as the unsound intuition that there is no fact at all of the matter.

Note that we might also be tempted to misreport three intuitions—(i) that Ali was not *clearly* more athletic than Ruth; (ii) that Ruth was not *clearly* more athletic than Ali; and (iii) that Ruth and Ali were not *clearly* equally athletic—as (i’) that Ali was not more athletic than Ruth; (ii’) that Ruth was not more athletic than Ali; and (iii’) that Ruth and Ali were not equally athletic. Hence the temptation to say that Ali and Ruth were *incomparable* with respect to athleticism. Because vagueness is often assumed to be a species of indeterminacy, we have at hand a diagnosis of the temptation to treat incomparability as a

type of indeterminacy: vagueness in comparatives gives rise to misreports of both pro-incomparability and pro-indeterminacy intuitions.

Vagueness is not the only source of pro-indeterminacy intuitions about comparative issues.

Consider (6):

(6) Which are better, apples or oranges?

One is initially tempted to say that there is no fact of the matter. There are at least three possible sources of this temptation.

First, one might interpret (6) as a question about the intrinsic values of apples and oranges. Plausibly, fruit has no intrinsic value; hence, neither apples nor oranges have more intrinsic value than the other. One who interprets (6) as a question about intrinsic value might, then, misreport the sound intuition that there is no positive absolute fact of the matter—that neither apples nor oranges have positive intrinsic value greater than, equal to, or less than, that of the other—as the unsound intuition that there is no fact at all of the matter.

To see the other two sources of the relevant pro-indeterminacy report, it will help to distinguish two views about evaluative comparatives. On one, something might be better *simpliciter* than another. On the other, there is no such relation as being better *simpliciter*: one thing can be better than another only relative to a so-called *covering value*, such as taste.²² Let us consider each view in turn, in light of the fact that my utterance of (6) was not implicitly relativized, as it was my intention, at least, to ask which fruit is better *simpliciter*.

Suppose first that there is a *better simpliciter* relation. It is after all plausible that some states of affairs, such as there being lots of joy and no suffering, are simply better than others, such as there being lots of suffering and no joy. What may seem implausible, even given the existence of a *better simpliciter* relation, is that either apples or oranges are simply better than the other. Granted that fruits have no intrinsic value, if one fruit is simply better than the other, it must be so in virtue of its relative extrinsic

²² See for example Thomson (1996) and Chang (1997).

value. And because there are so many components to the extrinsic value of a fruit, and because it is highly vague how these components weigh into the overall extrinsic value of a fruit, it is highly vague what the extrinsic values of apples and oranges are. We noted already how one might confuse such vagueness for indeterminacy.

Now suppose that there is no *better simpliciter* relation. Still, (6) could *purport* to be about such a relation. Two such cases need to be considered. First, ‘better than’ might be conventionally associated with a notion that purports, but fails, to signify such a relation. In this case, either the answer to (6) is that neither oranges nor apples are simply better than the other, or there is no question expressed by (6) in the first place. And the temptation might still arise to misreport the sound intuition that there is no positive absolute fact of the matter as an unsound pro-indeterminacy intuition. Second, ‘better than’ might be conventionally associated only with a relativistic notion; thus, the proper use of ‘better than’ would always require an explicit, an implicit, or a default relativization. Absent such relativization, an utterance of ‘*a* is better than *b*’ would express either a nonrelativized proposition or nothing at all. Near the end of our discussion of hidden relativity, we saw that neither of these two options has indeterminacy as a consequence, and we explained away attendant pro-indeterminacy intuitions without mention of comparativity.

We have covered the central cases in which an issue of the form, which is more *F*, *a* or *b*, is likely to seem indeterminate: those in which (i) it is vague which is more *F*, *a* or *b*; (ii) there is no such quantity as *F*; (iii) there is a quantity *F*, but *a* and *b* have it to degree zero; and (iv) there is no implicit, explicit, or default relativization, even though ‘*F*’ is conventionally associated with a relativistic notion. In each case we have found a strategy for deflating initial pro-indeterminacy intuitions. It is worth emphasizing that never was the comparative aspect of an issue implicated as the source of initial pro-indeterminacy intuitions; and so only for superficial reasons were comparatives singled out for special treatment in the first place.

5. Counterfactuals

Consider (7):

(7) Had WWII been different in some respect or other, would fewer Russians have died?

Without more specifics as to *how* WWII had been different, many are inclined to say that there is no fact of the matter. Or consider an example from Quine (1950, p. 15):

(8) Had Bizet and Verdi been compatriots, would Bizet have been Italian?

Again, without more specifics as to how the antecedent had obtained, many are inclined to say that there is no fact of the matter. What we need is a credible, indeterminacy-free, account of counterfactuals that allows for an explanation of these appearances of indeterminacy.

Let us call meaningful counterfactuals whose antecedents are too general for it to be settled whether their consequents would obtain *Under-Specific-Antecedent* counterfactuals, or *USA-counterfactuals*. (7) and (8) appear to be indeterminate because they appear to be USA-counterfactuals.

Two rival strategies emerge for avoiding the apparent indeterminacy. First, one could give an account of counterfactuals on which genuine USA-counterfactuals do not exist: contrary to appearance, the antecedent of every meaningful counterfactual is specific enough for it to be settled whether the consequent would obtain. Second, one could admit that USA-counterfactuals exist but deny that they give rise to genuine indeterminacy. My strategy will be the second, but first I want to examine the first.

One might think of a counterfactual as a claim about a counterfactual possibility: the possibility is given, at least in part, by the antecedent; the claim is that the consequent would be realized by this possibility. On this view, the appearance of a USA-counterfactual stems from two appearances:

- (a) Because the proposition expressed by the antecedent is quite *general*, the possibility under discussion is quite *broad*: it is realizable by numerous perfectly specific possibilities—in philosopher's jargon, it is realized *in many possible worlds*.
- (b) The consequent is realized in some, but not all, of these worlds.

One strategy for rejecting USA-counterfactuals is to exclude (a) by requiring that every counterfactual purport to be about a perfectly specific possibility. It might be suggested, for instance, that part of the very nature of a counterfactual is that, of all the possible worlds corresponding to the literal meaning of the antecedent, *the only one under discussion is that which most resembles the actual world*.

Robert Stalnaker suggests as much: “Consider a possible world in which A is true, and which otherwise differs minimally from the actual world. ‘If A, then B’ is true (false) just in case B is true (false) in that possible world.” (1968, pp. 33-34) On this view, however general the antecedent of a meaningful counterfactual is, the only antecedent-realizing world under discussion is the one that differs minimally from the actual world. By nature, counterfactuals purport to be about perfectly specific possibilities. (a) is therefore excluded and, arguably, so are USA-counterfactuals.

This is not to say that all sources of indeterminacy are excluded on Stalnaker’s account. For there may be indeterminacy as to *which* perfectly specific possibility is under discussion on a given occasion. Stalnaker claims for instance that (8) is indeterminate, not because the possibility under discussion is too broad for it to be settled whether the consequent would have obtained, but rather because the determinants of the meaning of (8) are too sparse for it to be settled which perfectly specific possibility is under discussion and thus whether the consequent would have obtained. On Stalnaker’s account, the only threat of indeterminacy to counterfactuals is vagueness, which we have already dealt with in §3.

One option is that we exclude USA-counterfactuals by appeal to Stalnaker’s account. Though for present purposes I need not quarrel with those who are willing to accept this option, I myself am inclined to reject it.

One reason is that it seems to give the wrong account of (7). For by it, of all the possible worlds involving a difference in WWII, (7) purports to be about the one that most resembles the actual world. Had *this* possibility been realized, would there have been more Russian fatalities? One’s first inclination is to say *no*, for surely there could have been a smaller difference in WWII than an increase in Russian fatalities. Thus (7) initially seems to be a counterexample to Stalnaker’s theory: our intuitions give one answer—*indeterminate*; Stalnaker’s theory gives another—*no*. But on reflection one questions whether there even exists the sort of possibility posited by Stalnaker. However small a difference in WWII one envisages, there would seem always to be a smaller one. Consider for instance the velocity of a bullet moving across a battlefield at a given moment: for any difference in velocity, there is always a smaller one. David Lewis (1973) argues that it is a general problem of Stalnaker’s view that it is wedded to a so-

called *Limit Assumption*: that for any meaningful counterfactual there is at least one antecedent-realizing world that differs minimally from the actual world.²³ Applied to (7), Stalnaker's proposal seems to have the undesirable result of narrowing the worlds under discussion to *zero*: because there is no limit to how closely antecedent-realizing worlds can resemble the actual world, none differs *minimally* from it. (7) is thus deemed meaningless, for it purports, but fails, to make a claim about a single possible world. But though (7) may seem inappropriate—for it is inappropriate to ask a question that seems to have no answer—it does not seem meaningless. Deeming it meaningless simply because it violates the Limit Assumption seems unwarranted.

A second reason I cannot accept Stalnaker's account is that my pro-indeterminacy intuition about (8) does not seem to be caused by appearances of vagueness but rather by the appearance of a USA-counterfactual. A USA-counterfactual is a meaningful counterfactual such that, whether its consequent would obtain is unsettled *because its antecedent is too general*. This generality has nothing to do with vagueness. The sentence 'Somebody ate lunch yesterday' is conventionally used to express a relatively general proposition. Which general proposition it expresses depends on context. Due to vagueness in its ingredient words, there may be vagueness as to which general proposition it expresses in a given context. The source of my initial pro-indeterminacy intuition about (8) has to do with the generality of the proposition expressed by the antecedent—thus with the broadness of the possibility at issue—and not with vagueness (or context-sensitivity). Though vagueness may be a source of pro-indeterminacy intuitions about certain counterfactuals—for instance, whether Harry would be bald if he had one more hair on his head—it has nothing in particular to do with counterfactuals. Yet to me it seems that counterfactuals are especially prone to indeterminacy because we can use them to express claims about *broad* possibilities. The opportunity thus arises for a consequent to be realized in some, but not all, of the worlds that realize the broad possibility under consideration. In such cases it often seems right to ascribe

²³ Stalnaker (1981) responds by claiming that if an apparent counterexample to the Limit Assumption is meaningful, its context helps to determine a class of minimally different antecedent-realizing worlds.

indeterminacy, for the antecedent is too general—the possibility it expresses too broad—for it to be settled whether the consequent would obtain.

Lewis agrees that counterfactuals can express claims about broad possibilities. And he agrees that a consequent might thus be realized in some, but not all, of the worlds that realize the broad possibility under consideration. But he does not agree that, in such a case, we ought to ascribe indeterminacy. According to Lewis, a claim expressed by a counterfactual is equivalent to the claim that “it takes less of a departure from actuality to make the consequent true along with the antecedent than it does to make the antecedent true without the consequent” (1979, p. 164).²⁴ In other words, of those worlds that realize the broad possibility corresponding to the antecedent, the claim is that one of them realizes the consequent and more closely resembles the actual world than any that does not realize the consequent.

Because the existence of some difference in WWII requires less of a departure from actuality *without* a difference in the number of Russian fatalities than *with*—imagine for instance a departure whereby just one extra raindrop falls over Germany—on Lewis’s theory it is *not* the case that fewer Russians would have died had WWII been different in some respect.²⁵ Contrary to appearance, the antecedent of (7) is specific enough for it to be settled whether the consequent would obtain: it would *not*. As for (8), because the departure from actuality required for Bizet and Verdi to have both been Italian is equal to—and *not* less than—that required for them to have both been French, it is *not* the case that Bizet would have been Italian had he and Verdi been compatriots (nor is it the case that he would not have been Italian). Again contrary to appearance, the antecedent of (8) is specific enough for it to be settled whether the consequent would obtain: it would not.

²⁴ Lewis and Stalnaker agree that a counterfactual is vacuously true if it is impossible for the antecedent to be true.

²⁵ One might think that on Lewis’s view (7) is *indeterminate*. According to Lewis, (i) what counts as “less of a departure from actuality” depends on a contextually specified similarity metric on possible worlds; (ii) there is typically some indeterminacy as to which metric is specified in a given context; and (iii) when the truth value of a counterfactual depends on how this indeterminacy might be resolved, the counterfactual is indeterminate. One might think that the indeterminacy posited by (ii) regarding my initial utterance of (7) gives rise, by (iii), to indeterminacy as to the answer to (7). But this is implausible. Only on a most unnatural similarity metric would a mere difference in the number of raindrops in WWII constitute a greater departure from actuality than a difference in the number of Russian fatalities. More importantly, I can say with confidence that I had no such metric in mind when uttering (7).

Arguably, Lewis's theory does not admit USA-counterfactuals. For as an antecedent becomes less specific, the description that must be satisfied by some world in order for the corresponding counterfactual to be true or false only becomes more indefinite. USA-counterfactuals, and any indeterminacy they appear to breed, are excluded on Lewis's theory. As with Stalnaker's theory, there is plenty of room for vagueness and other putative sources of indeterminacy, just none that is specifically counterfactual-related.

A second option, then, is that we exclude USA-counterfactuals by appeal to Lewis's theory. Again, for present purposes I need not quarrel with those who are willing to accept this option, but I am inclined to reject it.

One reason is that it seems to give the wrong account of (7) and (8): the natural response to both includes 'maybe', 'not necessarily', 'possibly', and 'there is no fact of the matter'—but not a flat out 'no'.²⁶ Lewis himself admits that his theory has counterintuitive consequences for (8). His theory tells us that it is not the case that if Bizet and Verdi had been compatriots, Bizet would have been Italian; it is not the case that if Bizet and Verdi had been compatriots, Bizet would not have been Italian; and yet, if Bizet and Verdi had been compatriots, Bizet either would or would not have been Italian. Lewis (1973, p. 80) says, "...I must admit, it does sound like a contradiction."

We need an indeterminacy-free account of counterfactuals. On the present strategy, we reject pro-indeterminacy intuitions that stem from appearances of USA-counterfactuals by adopting a theory that excludes USA-counterfactuals. This strategy has difficulty explaining our initial pro-indeterminacy intuitions. Lewis's theory provides no hint of an explanation as to why (7) and (8) *seem* indeterminate; to the contrary, it appears to admit them as counterexamples. Stalnaker's theory denies the indeterminacy of (7) and misidentifies its source in (8). Perhaps no theory that denies the existence of USA-counterfactuals will be able to explain what appears to be specifically counterfactual-related indeterminacy.

²⁶ For a survey of some other problems with Lewis's theory, see Edgington (1995).

The second strategy is therefore worth considering. On it, we admit USA-counterfactuals but deny that they give rise to genuine indeterminacy.

A novel puzzle about counterfactuals suggests that we can admit USA-counterfactuals and ascriptions of indeterminacy to them without commitment to genuine indeterminacy. To get a feel for the puzzle, consider the following scenario. Pat is addicted to gambling. His addiction is so severe that, even if he is 99% confident that A , he is willing bet \$100 against the possibility that A . Pat and I are both 99% confident that, if yesterday he had randomly drawn from an urn containing ninety-nine red balls and one black ball, he would have drawn red. And so we bet. I win \$100 if he would have drawn red; he wins \$100 if he would not have drawn red.

How do we settle our bet? We ask God, of course: “If yesterday Pat had randomly drawn from an urn containing ninety-nine red balls and one black ball, would he have drawn red?” To which God replies, “Without more specifics as to how the balls had been arranged and how Pat had reached into the urn, there can be no fact of the matter. For, given certain combinations of arrangements and ways of reaching, Pat would have drawn red, and given certain others he would have drawn black. By leaving the specifics about these combinations open, your question leaves open whether Pat would have drawn red. Hence, you are misguided to bet on the matter. Nonetheless, you are rational to be 99% confident that he would have drawn red. For because the proportion of combinations resulting in his drawing red to those resulting in his drawing black is ninety-nine to one, it is ninety-nine times more likely, had he randomly drawn from such an urn, that he would have drawn red.”

This sounds right. Yet considered in the abstract it is puzzling. How could anyone who believes that there is no fact of the matter whether A be 99% confident that A ? One who is 99% confident that A should be 99% confident that the fact of the matter whether A is that A . And one who is 99% confident that the fact of the matter whether A is that A should be at least 99% confident that there *is* a fact of the matter whether A . Hence, one who is 99% confident that A should be at most 1% confident that there is no fact of the matter whether A .

To accommodate this abstract reasoning, Hartry Field (2000) develops a non-standard calculus of degrees of confidence. By his calculus, what must sum to one are not two quantities—one’s degree of confidence that A and one’s degree of confidence that not- A —but *three*:

$$\begin{array}{r}
 \mathbf{3-to-1} \\
 \\
 \text{one’s degree of confidence that } A \\
 + \quad \text{one’s degree of confidence that not-}A \\
 + \quad \underline{\text{one’s degree of confidence that it is indeterminate whether } A} \\
 = \quad \text{one.}
 \end{array}$$

Considered in the abstract, *3-to-1* seems right. For however confident one is that A , one should be equally confident that the fact of the matter whether A is that A ; however confident one is that not- A , one should be equally confident that the fact of the matter whether A is that not- A ; and whatever confidence remains should be attributed to the possibility that it is indeterminate whether A .

3-to-1 maintains its appeal in the case of ordinary indicatives. Suppose for illustration that there is no fact of the matter whether Harry is bald. On this supposition, we are 0% confident that Harry is bald, 0% confident that he is not bald, and 100% confident that there is no fact of the matter. This comports with *3-to-1*.

Both considered in the abstract and applied to ordinary indicatives, *3-to-1* is plausible. Yet by substituting for ‘ A ’ the sentence ‘if yesterday Pat had randomly drawn from an urn containing ninety-nine red balls and one black ball, he would have drawn red’ we appear to get a counterexample. Indeed, for any counterfactual that seems indeterminate, we appear to get a counterexample. There seems nothing irrational, for instance, in being 50% confident that, if Bizet and Verdi had been compatriots, Bizet would have been Italian; being 50% confident in the opposite claim; and yet maintaining that there is no fact of the matter. Hence the puzzle: our joint ascriptions of indeterminacy and degrees of confidence to counterfactuals seem to violate an independently plausible principle, *3-to-1*.

We can solve the puzzle, and arrive at an indeterminacy-free account of USA-counterfactuals, by noting a similarity between pretense and counterfactual supposition.

In the context of pretense, we state things that we do not believe and we commit to things that we do not state. If for example we are pretending that the story of Goldilocks is true and I say, “Goldilocks has eaten all three bowls of porridge,” what I state is *that Goldilocks has eaten all three bowls of porridge* and what I thereby commit to is *that, according to the story of Goldilocks, Goldilocks has eaten all three bowls of porridge*. Unsatisfied with this commitment, you may challenge it directly, by withdrawing from our pretense and asserting its negation, or indirectly, by remaining in our pretense and stating something that commits you to its negation. You might reply, “Goldilocks has *not* eaten all three bowls of porridge,” thereby committing to the claim that, according to the story, Goldilocks has not eaten all three bowls. To which I might respond, “Alright. But she does have an iron deficiency.” Here, a bit of care is required in your response. For rejecting my statement outright would, under our pretense, commit you to the claim that, according to the story, Goldilocks does not have an iron deficiency—a falsity, for the story does not address whether Goldilocks has an iron deficiency. It would be better for you to say that *there is no fact of the matter*, thereby committing to the claim that the story entails neither that Goldilocks does, nor that she does not, have an iron deficiency. The locution ‘there is no fact of the matter’ is here used as an “external qualifier,” in the sense that it is used to qualify a proposition, from within the context of a pretense, without commitment to the claim that, according to the pretense, the proposition is so qualified. When you say that there is no fact of the matter whether Goldilocks has an iron deficiency, you commit, not to the claim that according to the story there is no fact of the matter, but rather to the claim that the story underdetermines the matter. Other external qualifiers include ‘possibly’, ‘necessarily’, and ‘probably’. If you reply by saying, “Possibly,” you commit, not to the claim that according to the story it is possible that Goldilocks has an iron deficiency, but rather to the claim that Goldilocks’s having an iron deficiency is *consistent* with the story. If you reply, “Not necessarily,” you commit to the claim that Goldilocks’s having an iron deficiency is *not entailed* by the story. If you reply, “Probably,” you commit to the claim that Goldilocks’s having an iron deficiency is *probable conditional on the story together with real-world*

facts about iron deficiency, little girls, cravings for porridge, and so on. Thus, in terms of commitment, there would be nothing problematic in your responding in all of these ways: “Not necessarily, though it’s possible. It might even be probable, given Goldilocks’s unusual appetite for a food that is rich in iron. It is not worth arguing over, however, for there is no fact of the matter.”

Now consider the analogy to counterfactual supposition. Suppose that there really were a girl with all the characteristics attributed to Goldilocks. Would such a girl be iron deficient? Not necessarily, though it is possible. Perhaps it is even probable, given that she would have an unusual appetite for a food that is rich in iron. It is not worth arguing over, however, for there is no fact of the matter.

Here the expressions ‘not necessarily’, ‘it is possible’, ‘it is probable’, and ‘there is no fact of the matter’ are used as external qualifiers: in the context of the counterfactual supposition, each is used to qualify a proposition without commitment to the claim that, according to the supposition, the proposition *would be* so qualified. For instance, when I said, “Not necessarily,” I did not commit to the claim that, according to the supposition, it would not be necessary that such a girl would be iron deficient. Rather, I committed to the claim that the supposition does not entail that such a girl would be iron deficient. In the context of a counterfactual supposition, saying that it is *necessary* that *x would have been the case* commits one to the claim that the supposition *entails* that *x would have been the case*. Saying that it is *possible* that *x would have been the case* commits one to the claim that the supposition is *consistent* with *x’s having been the case*. Saying that it is *probable* that *x would have been the case* commits one to the claim that *x’s having been the case* is *probable conditional on the supposition together with the facts about the actual world*. In a similar vein, saying that one is *confident* that *x would have been the case* commits one to the claim that one is confident, *conditional on the supposition together with what one knows about the actual world*, that *x would have been the case*. And saying that there is no fact of the matter whether *x would have been the case* commits one to the claim that the supposition underdetermines whether *x would have been the case*.

A high degree of confidence that the supposition underdetermines whether *x would have been the case* is rationally consistent with *.n* degree of conditional confidence that *x would have been the case*, and

1-.*n* degree of conditional confidence that *x would not have been the case*, given the supposition together with what one knows about the actual world. For even if a supposition underdetermines whether a given state of affairs would have obtained, facts about the supposition, together with facts about actual world, may make it more or less likely that that the supposition would have been realized by one state of affairs rather than another; and if it is .*n* degree likely that it would have been realized by a given state of affairs, then it is 1-.*n* degree likely that it would not have been realized by that state of affairs. Thus, within the scope of a counterfactual supposition, there is nothing problematic about saying both that one is confident that there is no fact of the matter whether *x would have been the case* and that one's confidence as to whether *x would have been the case* is divided exhaustively between the possibilities that *x would have*, and that *x would not have, been the case*. Within the scope of a counterfactual supposition, 3-to-1 fails.

My suggestion, then, is that we resolve the puzzle by adopting a suppositional view of counterfactuals. On this view, to make a counterfactual statement—to state that, if it were that *A*, it would be that *C*—is not to state anything categorically. Rather, it is to state, from within the scope of the supposition that it were that *A*, that it would be that *C*. Hence, *what is supposed* by the counterfactual is *that it were that A*, and *what is stated* is *that it would be that C*. Counterfactual statements are acts of supposing-*cum*-stating.²⁷ Views consistent with this proposal have been advocated by Adams (1965), (1966), (1975), Bennett (2003), Dudman (1994), Dummett (1978), Edgington (1991), (1995), Gärdenfors (1986), (1988), Mackie (1973), Quine (1950), Ryle (1950) and Woods (1997).

To ascribe confidence to a statement is to ascribe confidence to what is stated by the statement from within the scope of whatever might be supposed by the statement. Thus, to ascribe confidence to a counterfactual statement is to ascribe confidence to what it states from within the scope of what it supposes. To ascribe indeterminacy to a question is to ascribe indeterminacy to what is asked by the

²⁷ If this proposal is sound, then standard theories of counterfactuals are mistaken, not just in detail, but in spirit. For standard theories presuppose that counterfactuals are categorical statements of their contents. Differences among the standard theories are differences over which thing is categorically stated by a counterfactual. For instance, Goodman (1947) says that it is an entailment from the laws of nature together with facts about the past; Stalnaker (1968) says that it is a predication of a single possible world; and Lewis (1973) says that it is an existential generalization over a set of possible worlds. On the suppositional view, there is no such thing.

question from within the scope of whatever might be supposed by the question. Thus, to ascribe indeterminacy to a counterfactual question is to ascribe indeterminacy to what it asks from within the scope of what it supposes. We have seen that, within the scope of a counterfactual supposition, there is no tension between ascribing indeterminacy to a question *whether x would have been the case* and distributing one's confidence exhaustively between the claims *that x would have*, and *that x would not have, been the case*. Thus, on the suppositional view of counterfactuals, *3-to-1* does not apply to counterfactuals.

3-to-1 is initially appealing because we do not initially consider the possibility that 'A' may take as a substituent a sentence, part of whose function is to introduce a counterfactual supposition into the context. We implicitly assume that we are dealing only with categorical ascriptions of confidence, and presumably *3-to-1* applies in these cases.

The suppositional view accommodates USA-counterfactuals and the pro-indeterminacy intuitions they breed without commitment to genuine indeterminacy. Recall (7) and (8):

(7) Had WWII been different in some respect or other, would fewer Russians have died?

(8) Had Bizet and Verdi been compatriots, would Bizet have been Italian?

(7) and (8) appear to be indeterminate because their antecedents appear too general—the possibilities they express too broad—for it to be settled whether their respective consequents would obtain. They appear indeterminate because they appear to be USA-counterfactuals. On the suppositional view, a USA-counterfactual is a counterfactual whose supposition does not settle whether the consequent would obtain. The right thing to say about a USA-counterfactual is that it is indeterminate. To say this is to say, within the scope of the supposition of the counterfactual, that it is indeterminate whether the consequent would obtain. Because ascribing indeterminacy within the scope of a counterfactual supposition does not commit one to an ascription of indeterminacy, but only to the underdetermination of one content by another, our ascriptions of indeterminacy to counterfactuals do not commit us to genuine indeterminacy. Indeed, on this proposal, there is no need to rephrase our initial pro-indeterminacy intuitions, for we can interpret them at face value without commitment to genuine indeterminacy.

In sum, the suppositional view provides a solution to our puzzle and accommodates USA-counterfactuals and the pro-indeterminacy intuitions they breed, all without commitment to genuine indeterminacy.

6. Conclusion

We began with a dilemma: take our simple anti-indeterminacy argument at face value and look for a way to explain away our pro-indeterminacy intuitions, or take our intuitions at face value and look for a way to reject the argument. I have tried to remove some initial obstacles to the first route, by showing how five of the most salient phenomena that give rise to pro-indeterminacy intuitions can be accounted for without postulating indeterminacy. In each case I have suggested an indeterminacy-free account of the phenomenon, and as required, I have offered a strategy for deflating the force of our initial pro-indeterminacy intuitions.

My general strategy for explaining away pro-indeterminacy intuitions has been to rephrase a report of ‘It is intuitive that there is no fact of the matter’ as ‘It is intuitive that there is no ___ fact of the matter’, where once the blank in the rephrasal is filled in by a qualification relevant to the issue under consideration, the rephrasal no longer expresses a pro-indeterminacy intuition. For explicitly incomplete definitions, my recommended rephrasal is that there is no *suppositional* fact of the matter. For hidden relativity, it is that there is no *absolute* fact of the matter. For vagueness, it is that there is no *clear* fact of the matter. For comparatives, it varies case by case. And for counterfactuals I argued that there is no need for a rephrasal.

Might defenders of indeterminacy simply dig in their heels and say that they are not misreporting their intuitions? They might. In response to Saul Kripke’s (1972) proposed rephrasal of our pro-descriptivism intuition reports—for instance, that Hesperus might not have been Phosphorus—many descriptivists dug in their heels and said that they were not misreporting their intuitions. Insofar as Kripke had an argument for his proposal, it was that it best explained the apparent conflict between our initial

pro- and anti-descriptivism intuition reports.²⁸ Insofar as I have an argument for my proposal that our indeterminacy intuitions are being misreported, it is that, combined with the availability of credible indeterminacy-free accounts of the relevant phenomena, the proposal best explains the apparent conflict between our initial pro-indeterminacy intuition reports and the appeal of our anti-indeterminacy argument.

One could not at this stage show decisively that indeterminacy can be avoided universally. But if the hardest challenges can be credibly met, we are forced to take a serious look at the view that indeterminacy is impossible.²⁹

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²⁸ Bealer (1994) shows how Kripke's strategy blocks pro-descriptivism rephrasals.

²⁹ ACKNOWLEDGMENTS.

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