Change the Subject: Figure and Ground in Counterfactuals

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Abstract

If Socrates resembled Adonis, they would both be handsome. If Adonis resembled Socrates, neither would be handsome. And if Adonis and Socrates resembled each other, they might both be handsome and they might not. This is a puzzle for the many theories of conditionals that predict 'if *A*, would *C*' and 'if *B*, would *C*' to be equivalent whenever *A* and *B* have the same truth conditions. For Socrates resembles Adonis if and only if Adonis resembles Socrates, which holds if and only if they resemble each other. Moreover, their corresponding facts, or truthmakers, are plausibly taken to be the same: the state of Socrates resembling Adonis is identical to the state of Adonis resembling Socrates, which is identical to the state of them resembling each other.

This paper has two goals. First, I show that these contrasts, which I call 'figure–ground contrasts', are remarkably widespread, appearing with binary relations, comparatives, kinship terms, prepositions, and quantifiers. They arise in a wide range of environments beyond counterfactuals, including desire verbs, causal claims, and belief revision. They are so commonplace that any theory of counterfactuals ought to say something about them. Second, I develop and critically evaluate four accounts of these data: (i) *de re* readings; (ii) variation in counterpart strictness, proposed by Lewis; (iii) truthmaker semantics of counterfactuals; and (iv) the aboutness theory of counterfactuals. While all face challenges, I argue that the aboutness approach is the most promising of the four.

Keywords: Counterfactuals • Conditionals • Figure and ground • De re/de dicto • Truthmaker semantics • Aboutness

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1 Introduction

Goodman (1947) observed that logically equivalent sentences can behave differently as counterfactual antecedents, offering the example in (1).

(1) a. If New York City were in Georgia, then New York City would be in the South.
b. If Georgia included New York City, then New York City would be in the South.

New York City is in Georgia if and only if Georgia includes New York City: the antecedents are logically equivalent. But intuitively, (1a) is true, while (1b) is false.[1]

This poses a challenge to Substitution, the widely-endorsed principle of counterfactual logic that whenever two sentences are logically equivalent—true in all the same worlds—they are intersubstitutable salva veritate in counterfactual antecedents.[2]

Substitution. If *A* and *B* are logically equivalent, then so are *if A, would C* and *if B, would C*, for any sentence *C*.

This paper has two goals. The first is to show that contrasts like Goodman's examples are no mere edge case. They are far more widespread than we might initially have thought. They appear, for example, with comparatives (*taller than*), prepositions (*on top of*, *beneath*), binary relations (*near*, *resembles*, *is similar to*), kinship terms (*sister*, *cousin*, *teammate*), and quantifiers (*every*, *no*). They are so commonplace that any theory of counterfactuals ought to say something about them.

I show that these contrasts are not limited to counterfactuals, but arise for a variety of constructions that have been argued to involve counterfactual reasoning, including verbs of desire, causal claims, and belief revision. I then formalise the empirical generalisation and discuss its limits.

The second goal is to critically evaluate four possible responses to these data, raising challenges for each.

1. *The de re reply*. By default, subjects in counterfactual antecedents are interpreted *de dicto*, while objects are interpreted *de re*, with their value anchored to the actual world. For example, (1a)'s antecedent expresses the proposition that is true at a world *w* just in case the location of New York City *in w* is within the location of Georgia *in the actual world*, while (1b)'s antecedent expresses the proposition that is true at a world *w* just in case the

[1] (1) differs slightly from Goodman's (1947:121) original example, in which both sentences are intuitively true and have incompatible consequents. However, they leave open the reply that one sentence is *vacuously* true. I have reformulated the example to avoid the issue. Goodman also offers the example of counteridenticals (*if I were Julius Caesar* versus *if Julius Caesar were me*), which have spawned their own rich literature (Lakoff 1996; Kocurek 2018; Kauf 2018) and are certainly relevant, but which I do not discuss here due to space constraints.

[2] Substitution is also known as Left Logical Equivalence, or LLE (Arló-Costa 2007). Chellas (1975) calls it RCEA, 'the Rule of Classically Equivalent Antecedents.' It is validated by the theories of Stalnaker (1968), Lewis (1973b), Chellas (1975), Pollock (1976), Kratzer (1981), Burgess (1981), Bennett (1984), and Delgrande (1987). Exceptions include Nute (1980), Fine (2012), Ciardelli, Zhang, and Champollion (2018), and Santorio (2018).

location of Georgia *in w* includes the location of New York City *in the actual world*. Since these propositions are not logically equivalent, on this reading, (1) is not a counterexample to Substitution after all.

The central challenge for the *de re* reply is that there are logically equivalent antecedents that behave differently even on their *de dicto* readings. Moreover, a variety of examples show that object terms in counterfactual antecedents are not interpreted *de re* by default, and some lack the required *de re* readings altogether.

2. *The strict counterpart reply*. The second is Lewis's reply to Goodman's New York–Georgia pair. Lewis (1973b:43) suggests that subject terms summon up a less stringent counterpart relation than object terms.

   I argue that this approach requires giving up plausible principles governing the counterpart relation, such as Lewis's idea that it is based on similarity. In addition, there remain the usual worries that counterpart theory gives rise to a highly controversial quantified modal logic.

3. *The fine-grain reply*. The third is to replace worlds with something more fine-grained. In particular, Fine (2012) develops a truthmaker semantics of conditionals, based not on possible worlds but on (partial) states, and an exact verification relation between states and sentences.

   I argue that this reply requires highly controversial assumptions about the exact verification relation. For it is plausible that 'Socrates resembles Adonis', 'Adonis resembles Socrates' and 'Socrates and Adonis resemble each other' not only have the same truth conditions, but also the same exact verifiers. To predict their different behaviour in counterfactual antecedents on Fine's approach, they must have different verifiers, while it is not at all clear what such states could be.

4. *The aboutness reply*. On this approach, our selection of counterfactual possibilities is guided not only by the antecedent's truth conditions, but also what the sentence is *about*. The key idea is that when we interpret a counterfactual antecedent, we allow what it is about to vary (McHugh 2022, 2023).

   I discuss two challenges facing the aboutness approach, from disjunctive antecedents and quantified antecedents, respectively, though in each case there are plausible replies available to the aboutness theory. On balance, I conclude that the aboutness approach offers the most promising account of the data we consider.

It is important to be clear on what the data we consider do *not* show. I do not believe that they uniquely determine a correct theory of counterfactuals. In a field as rich as counterfactuals, it would be hard for any single phenomenon to do so. The ultimate question of which theory of counterfactuals to adopt must be settled by considerations beyond this paper.

The paper proceeds as follows. Section 2 presents a wide range of environments in which these contrasts arise and outlines the empirical phenomenon to be explained. Sections 3–6 develop and challenge the four replies in turn, raising challenges for each along the way. Section 7 concludes.

2 Figure–Ground contrasts in counterfactuals

Goodman's example is the tip of a vast iceberg. This section presents challenges to Substitution from a wide range of constructions (comparatives, prepositions, non-spatial relations, quantifiers), shows that the phenomenon is not unique to counterfactuals, and outlines the empirical phenomenon to be accounted for.

2.1 Comparatives

In *The Principles of Mathematics*, Russell distinguishes what he calls the *subject* and *assertion* of sentences, arguing that comparatives illustrate the distinction:

> In a relational proposition, say '*A* is greater than *B*,' we may regard *A* as the subject and 'is greater than *B*' as the assertion, or *B* as the subject and '*A* is greater than' as the assertion. There are thus, in the case proposed, two ways of analyzing the proposition into subject and assertion.
>
> (Russell 1903:§48)

Russell did not apply his observations about comparatives to counterfactuals. When we do so we find some stark contrasts.

(2) *Alice is 25, Bob is 15. One must be over 21 to enter the bar.*
   a. If Alice were younger than Bob, they could both enter the bar.
   b. If Bob were older than Alice, they could both enter the bar.

(3) *Alice is 1.5m tall, Bob is 1m tall. One must be at least 1.2m tall to ride the Ferris wheel.*
   a. If Alice were shorter than Bob, they could ride the Ferris wheel together.
   b. If Bob were taller than Alice, they could ride the Ferris wheel together.

In each pair, we naturally read the first sentence as false and the second as true. Plausibly, the antecedents are logically equivalent. Alice is younger than Bob just in case Bob is older than Alice; Alice is shorter than Bob just in case Bob is taller than Alice. When we interpret each antecedent we have a default tendency to imagine changing the age/height of the *subject* term and keeping the age/height of the *object* term fixed. Counterfactuals seem to care about Russell's subject–assertion distinction.

2.2 Prepositions

Talmy (1975, 2000) observed a similar contrast under the heading of *figure and ground*. He understands the distinction as follows.

> The FIGURE object is a moving or *conceptually* mov*able* point whose path or site is conceived as a variable the particular value of which is the salient issue. [...] The GROUND object is a reference-point, having a stationary setting within a reference-frame, with respect to which the FIGURE's path or site receives characterization.
>
> (Talmy 1975:419)

Talmy offers *near* as an example, proposing that *the bike is near the house* and *the house is near the bike* "in fact do not say the same thing" (Talmy 1975:420). In the former, the house "has a set location within a framework [...] and is to be used as a reference-point by which to characterize the other object's (the bike's location), understood as a variable", whereas the latter makes all the reverse specifications. Talmy does not discuss reciprocals such as *the bike and the house are near each other*, though these also appear to exhibit a different division of figure and ground compared to *the bike is near the house* and *the house is near the bike*, with the figure consisting of both entities.

Talmy's characterisation of the figure–ground distinction naturally lends itself to the idea that when we interpret a counterfactual antecedent, we vary the figure and fix the ground. We see this in (4).

(4) *Alice is at home and dry. Bob is outside in the rain.*

a. If Alice were near Bob, they would both be dry.
b. If Bob were near Alice, they would both be dry.
c. If Alice and Bob were near each other, they would both be dry.

We naturally judge the first to be false, the second to be true, and the third to be indeterminate. Though Alice is near Bob just in case Bob is near Alice, which holds just in case they are near each other.[3]

I will use the term *figure–ground contrasts* to cover the contrasts considered in this essay, where two apparently equivalent sentences that differ in what is the subject and what is the object, give rise to different judgements as counterfactual antecedents. I intend this to be a neutral label without communicating any substantive commitments about the source or nature of the contrast.

All sentences whatsoever that express spatial comparisons seem to exhibit figure–ground contrasts: such as *next to*, *beside*, *adjacent to*, *near*, *above/below*, and *to the left/right of*. For instance:

[3] See Dowty (1991:556) and Gleitman et al. (1996) for arguments that *near* is truth-conditionally symmetric.

(5) *Alice lives in an expensive area and works in an affordable area.*

a. If Alice's house were adjacent to her office, her rent would be higher.
b. If Alice's office were adjacent to her house, her rent would be higher.
c. If Alice's office and house were adjacent, her rent would be higher.

Suppose that three blocks, A, B, and C, are placed in a grid as in Figure 1, where each block occupies exactly one square. Consider (6).

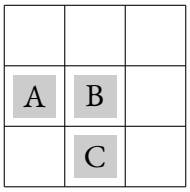
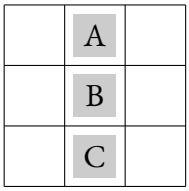


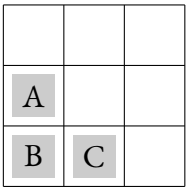
Figure 1

(6) a. If block A were on top of block B, the blocks would form a straight line.
b. If block B were beneath block A, the blocks would form a straight line.

The first is most naturally judged true and the second false. Figure 2 depicts the arrangements we tend to imagine when we interpret each antecedent.



(a) If block A were on top of block B, ...



(b) If block B were beneath block A, ...

Figure 2

2.3 Non-spatial relations

Talmy observes that non-spatial relations also express a figure–ground distinction. Take resemblance: "the sentence 'she resembles him,' which might be thought to derive from something like 'she is near him in appearance, or her appearance is near his appearance,' is not understood in the same sense as 'he resembles her' " (Talmy 1975:421). In conditionals this contrast surfaces as a difference in truth conditions. For example, Socrates was not known for being handsome, possessing a snub nose and bulging eyes (Plato, *Theaetetus* 143e). Adonis, on the other hand, was famously handsome. With that in mind, consider (7).

(7) a. If Socrates resembled Adonis, they would both be handsome.
b. If Adonis resembled Socrates, they would both be handsome.

c. If Adonis and Socrates resembled each other, they would both be handsome.

The first is intuitively true, the second false, and the third indeterminate. Similarly:

(8) a. If Bach were similar to Black Sabbath, Bach would be played less at church.
b. If Black Sabbath were similar to Bach, Bach would be played less at church.
c. If Bach and Black Sabbath were similar, Bach would be played less at church.

2.4 Relational nouns

While Russell and Talmy did not consider relational nouns (such as *compatriot*, *sister*, and *colleague*), they also give rise to similar contrasts in counterfactual antecedents.

(9) a. If Bizet had been Verdi's compatriot, they would both have been Italian.
b. If Verdi had been Bizet's compatriot, they would both have been Italian.
c. If Bizet and Verdi had been compatriots, they would both have been Italian.[4]

(10) *Amy has harsh parents, Beth has nice parents. Each person is happy just in case she has nice parents.*
a. If Amy were Beth's sister, they would both be happy.
b. If Beth were Amy's sister, they would both be happy.
c. If Amy and Beth were sisters, they would both be happy.

(11) *Alice works for a bank. Bob works as a teacher. Alice hates her job and wants to be a teacher. Bob likes his job.*
a. If Alice were Bob's colleague, they would both like their jobs.
b. If Bob were Alice's colleague, they would both like their jobs.
c. If Alice and Bob were colleagues, they would both like their jobs.

In each example, the first counterfactual is intuitively true, the second false, and the third indeterminate.

2.5 Quantifiers

Hempel (1945) famously observed that 'Every raven is black' is true just in case 'Everything that is not black is not a raven' is, but they seem to differ in what observations support them. Spector and Mouly (2025) notice that quantifiers also give rise to sentences that appear truth-conditionally equivalent but behave differently as counterfactual antecedents. Imagine a simple universe where each object must be either a raven or a parrot, and either black or white. Thus in this universe there are four possible kinds of object: a black raven, a white raven, a black parrot, and a white parrot (Figure 3).

Consider (12), for example, in the context of Figure 3.

[4] Based on an example from Quine (1950).

Black raven White raven Black parrot White parrot

Figure 3

(12) a. If every raven were black, there would be three black birds.
b. If every white bird were a parrot, there would be three black birds.
c. If every bird were either a parrot or black, there would be three black birds.

Intuitively, the first is true, the second is false, and the third is indeterminate. When we suppose that every raven is black, we tend to change the ravens' colour and leave the non-ravens as they are. In contrast, when we suppose that every white bird is a parrot, we tend to change the white birds' species and leave the non-white birds as they are. And when we suppose that every bird is either a parrot or black, we may imagine the white raven changing into a parrot or to black (perhaps alongside further changes).

As Spector and Mouly observe, the point applies broadly. *No A is B* and *No B is A* have the same truth conditions, as do *Some A is B* and *Some B is A*. But they come apart in counterfactual antecedents.

(13) a. If no raven were white, there would be three black birds.
b. If no white bird were a raven, there would be three black birds.

(14) a. If some white raven were black, there would be three black birds.
b. If some black bird were a white raven, there would be three black birds.

In the context of Figure 3, intuitively the first sentence in each pair is true and the second false.

One might object that our knowledge of the world—say, our knowledge that black ravens are more plentiful than white ravens—impacts our judgements in these cases. In reply, consider a more clinical setting, based on one by Spector and Mouly. Imagine a simple universe in which each object must be either a square or circle, and either light or dark. Consider four shapes in Figure 4.

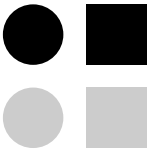
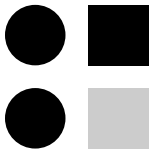


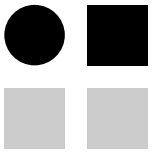
Figure 4

"Every circle is dark" has the same truth conditions as "every non-dark object is not a circle", which in this limited universe is equivalent to "every light shape is square". But these sentences intuitively give rise to different possibilities as conditional antecedents (Figure 5).

(15) a. If every circle were dark, there would be three dark shapes.
b. If every light shape were square, there would be three dark shapes.
c. If every shape were either square or dark, there would be three dark shapes.



(a) If every circle were dark, ...



(b) If every light shape were square, ...

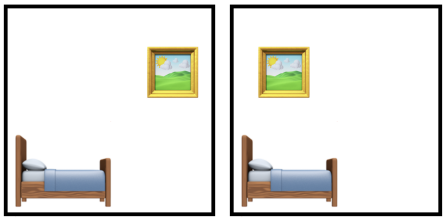
Figure 5

2.6 Beyond counterfactuals

Figure–ground contrasts are not limited to counterfactuals. We observe analogous contrasts for desire verbs like *want* and *wish*. This is perhaps unsurprising, given the popularity of analyses of desire verbs that appeal to counterfactuals (e.g. Stalnaker 1984; Heim 1992; Grano and Phillips-Brown 2022; Wimmer 2024).

(16) *Decorators are moving furniture according to their client's instructions. Currently, the bed is on the left and the painting is on the right (see Figure 6). The client wants both to be on the left. The manager instructs the employee:*

a. The client wants the painting to be above the bed.
b. The client wants the bed to be below the painting.



Current layout Desired layout

Figure 6

(17) *The client is looking at their bedroom (Figure 6). They say:*

a. I wish the painting were above the bed.
b. I wish the bed were below the painting.

(18) *Sally wishes New York City was located within the current boundaries of Georgia.*

a. Sally wishes New York City was in Georgia.
b. Sally wishes Georgia included New York City.

In (16), (17) and (18), the first sentence of each pair is intuitively true, while the second is not.

The same applies to causal claims. This is again unsurprising, given the popularity of counterfactual approaches to causation (Lewis 1973a; Collins, Hall, and Paul 2004).

(19) *Georgia has a warmer climate than New York City, allowing Georgia to grow tasty peaches.*

a. New York City grows bad peaches because it's not in Georgia.

b. New York City grows bad peaches because Georgia does not include it.

(19a) is intuitively true while (19b) is not (for the latter to be true, we would require, say, that the state of Georgia has agricultural policies that promote growing good peaches, so that if New York City were where it currently is but under Georgia's jurisdiction, it would grow good peaches). Similarly, (20a) is intuitively true while (20b) is not.

(20) *The client inspected the current layout and complained that their instructions were not followed.*

a. The fact that the painting is not above the bed caused the client to complain.

b. The fact that the bed is not below the painting caused the client to complain.

Belief revision also gives rise to figure–ground contrasts.[5] This is again unsurprising in light of the deep connection between counterfactuals ('world revision') and belief revision (Harper 1975; Gärdenfors 1978, 1982; Lewis 1979; Levi 1988). Consider (21).

(21) *John believed that Alice lives in Amsterdam and Beth lives in Berlin. But then...*

a. John discovered that Alice lives next to Beth.

b. John discovered that Beth lives next to Alice.

c. John discovered that Alice and Beth live next to each other.

Where do Alice and Beth live? (21a) suggests Berlin, (21b) Amsterdam, and (21c) does not suggest any one place in particular. For a second example:

(22) *John believed that Alice's parents are Vivienne and Michael, and that Beth's parents are Rita and Denis. But then...*

a. John discovered that Alice is Beth's sister.

b. John discovered that Beth is Alice's sister.

c. John discovered that Alice and Beth are sisters.

Who does John believe Alice and Beth's parents to be now? (22a) suggests Rita and Denis, (22b) Vivienne and Michael, and (22c) does not suggest any parents in particular (perhaps restricted to Vivienne and Michael or Rita and Denis, something likely due to a conservative update in which John retains the belief that Alice and Beth's parents are either one pair or the other).

These examples show that figure–ground contrasts are not specific to the conditional construction itself—say, to the presence of *if* or *would*. They rather arise in the presence of coun-

[5] I am grateful to Matt Mandelkern for bringing the case of belief revision to my attention.

terfactual meaning broadly construed.

2.7 The empirical phenomenon

Before examining how to account for these data, it is worth stating a descriptive generalisation to capture what we have observed. Here is a first shot:

(23) When we suppose a counterfactual antecedent featuring a subject and an object, we tend to allow the subject's properties to vary and hold fixed the object's properties.[6]

By 'hold fixed the object's properties', I mean that for every world w at which we evaluate the consequent—the counterfactual domain—the referent of the object term has the same intrinsic properties in w as it has in the actual world. We need the restriction to intrinsic properties to rule out extrinsic properties such as 'not resembling Socrates'. If they were allowed, changing, say, Socrates' appearance would inadvertently count as changing Adonis's properties, which is not what we want.

Here is a simple formalisation. Let f be a counterfactual selection function taking a sentence, a world, and perhaps other parameters (such as an accessibility relation, a similarity relation) and returning a set of worlds. $f(A, w)$ is the counterfactual domain, the set of worlds that result from supposing the sentence A true at world w. Given a class of properties C (for example, the class of intrinsic properties), we *fix x's properties* (with respect to C, f, A, and w) just in case for every property P in C and world w' in $f(A, w)$, x has property P in w' if and only if it has property P in w. We allow x's properties to vary (with respect to C, f, A, and w) just in case we do not fix x's properties (with respect to C, f, A, and w).

The generalisation in (23) is formulated in terms of counterfactual antecedents. This neglects the wide range of expressions that exhibit similar contrasts, such as desire verbs, causal claims, and belief revision. For this reason, let us speak not of supposing a counterfactual antecedent, but instead more neutrally of supposing a *sentence*. I assume interpreting a desire verb, causal claim, or statement of belief revision involves performing this act of supposition; for example, that interpreting 'The client wants the painting to be above the bed' requires supposing 'the painting is above the bed'.

(24) When we suppose a sentence featuring a subject and an object, we tend to allow the subject's properties to vary and hold fixed the object's properties.

While this generalisation is on the right track, it has an obvious flaw. In many cases, supposing the antecedent true is not compatible with holding the object's properties fixed. Some examples:

[6] Strictly speaking, it would be more appropriate to speak of subject and object *terms* that *refer* to entities; that 'Socrates' is the subject term and 'Adonis' is the object term, and that the subject term refers to Socrates and the object term refers to Adonis. I use the more concise formulation above for simplicity, with the understanding that this more exact formulation can be recovered if needed.

(25) a. If Zara hugged Cyril, he would blush.
b. If Cyril was hugged by Zara, he would blush.

For Cyril to be hugged by Zara, Zara's properties must change (she must move in the appropriate way to hug Cyril), even though Zara appears as the object in 'Cyril is hugged by Zara'.

(26) *In a chess match, Polgár won against Anand.*
a. If Anand had won against Polgár, Anand would have gotten the trophy.
b. If Polgár had lost against Anand, Anand would have gotten the trophy.

For Anand to win against Polgár, Polgár's properties—specifically, her property of having actually won the match—must change, even though she appears as the object in 'Anand won against Polgár'.

(27) *Alice and Bob are sitting on opposite ends of a see-saw. Currently Alice is low and Bob is high.*
a. If Alice were higher than Bob, Alice's legs would be dangling in the air.
b. If Bob were lower than Alice, Alice's legs would be dangling in the air.

Given the contextual fact that Alice and Bob are sitting on opposite ends of a see-saw (and that the see-saw is rigid, and doesn't break, and so on), for Alice to be higher than Bob, Bob's position must change, even though he is the object in 'Alice is higher than Bob'.

(28) a. If the age of retirement were 65, Alice could retire.
b. If 65 were the age of retirement, Alice could retire.

Given that 65 is a number (presumably having its properties essentially), it is not possible to change what 65 is, while it is easy to imagine the age of retirement having a different value.

The sentences in each pair from (25) to (28) are intuitively equivalent: they are not sensitive to differences in figure and ground. It is easy to see why. In these cases, supposing the antecedent results in worlds where the object's properties have changed. In contrast, in cases that are sensitive to figure–ground, supposing the antecedent is compatible with fixing the object's properties.

In light of these examples, our rule must include a proviso that holding the object's properties fixed be compatible with supposing the sentence—whether in virtue of the antecedent's truth conditions alone (such as what it means to hug someone) or also contextual factors (such as the fact that Alice and Bob are sitting on a see-saw). In terms of our simple formalisation using conditional selection functions, we may express this as the requirement that $f(A, w)$ contain at least one world where we hold the object's properties fixed.

(29) When we suppose a sentence featuring a subject and an object, we tend to allow the subject's properties to vary and hold fixed the object's properties, provided that this is compatible with supposing the sentence.

This rule has a striking feature: it does not care about *which* properties we fix or vary. The only constraint is that they be the subject's and object's properties, respectively. For example, when we interpret 'if Socrates resembled Adonis', the rule in (29) tells us to allow Socrates' properties to vary. It does not tell us more specifically whether to vary his appearance, age, height, or other properties.

In many cases this is not a problem. General features of counterfactual interpretation will settle which properties to vary. For example, when we interpret 'if Alice were older than Bob', we vary Alice's age abut not her height. On a similarity approach, for example, this is simply because the most similar worlds to the actual world where Alice is older than Bob are worlds where she has the same height that she actually has.

It is, however, a problem for quantified statements, (12)–(15) above, such as 'if every circle were dark'. Intuitively, when we interpret this antecedent, we take the shapes that are actually circles, and change their colour but not their shape. In theory, an alternative way for 'every circle is dark' to come out true is to turn any light circles into squares. But this is not what we do.[7] As Spector and Mouly (2025) observe, we tend to fix the extension of predicates in the sentence's *restrictor* (circle) and allow the extension of predicates in the sentence's *scope* (dark) to vary. This gives us the following rule (where in a quantified sentence *Q Fs are G*, *F* is the restrictor and *G* the scope).

(30) When we suppose a sentence featuring a subject and an object, we allow the subject's properties appearing in the sentence's scope to vary and hold fixed the object's properties, provided that this is compatible with supposing the sentence.

This generalisation can be refined in myriad ways. For now I will leave things at that. The remaining question is how to account for this phenomenon.

3 The *de re* reply

The first reply we consider is that object terms are read *de re* by default. I call this the *de re reply*.

Aristotle observes that "It is possible to walk while sitting" has both a consistent and a contradictory reading (*Sophistical Refutations* 166a24–166a30; see Dutilh Novaes 2003). Nowadays we would label the consistent reading as *de re*, and analyse it as saying that there is a possible world w where someone who is sitting in the actual world w_0 is walking in w. The contradictory reading is the *de dicto* one: there is a possible world w where someone who is sitting in w is walking in w.

De re/*de dicto* ambiguities also appear in comparatives. In 'On Denoting', Russell recalls the following anecdote.

> I have heard of a touchy owner of a yacht to whom a guest, on first seeing it, remarked, "I thought your yacht was larger than it is"; and the owner replied, "No,

[7] I am grateful to Benjamin Spector for bringing the case of quantifiers to my attention.

> my yacht is not larger than it is." What the guest meant was, "The size that I thought your yacht was is greater than the size your yacht is"; the meaning attributed to him is, "I thought the size of your yacht was greater than the size of your yacht."
>
> (Russell 1905:489)

The same ambiguity appears in conditional antecedents (Lewis 1973b:37; Kennedy 1995; Heim 2001; Borisov 2016; Wehmeier 2012).

(31) If your yacht were larger than it is, you would boast about it more.

This has a consistent reading, in which we imagine the yacht being larger in the hypothetical worlds than it is in the actual world. Compare it with (32).

(32) If your yacht were larger than itself, you would boast about it more.

The antecedent is inconsistent. A plausible idea is that (31) admits a *de re* reading, while (32) only admits a *de dicto* reading (plausibly, forced by *itself* being bound by *your yacht*).

Quantifier restrictors also have *de re* readings (Percus 2000).

(33) a. Alice thinks that everyone inside the room is outside the room.
b. If everyone inside the room were outside the room, the room would be empty.

The belief claim and antecedent have a consistent reading, saying that everyone who is inside the room *in the actual world* is outside the room in the worlds, respectively, compatible with Alice's beliefs and raised by the conditional antecedent.

Lewis (1973b:37) represents the different readings via quantifier scope. He translates *If your yacht were larger than it is, ...* as *The size of your yacht is an x such that, if the size of your yacht exceeded x, ...* This results in the right reading for Russell's example but not for (33b). This sentence does not say that everyone in the room is an x such that, if x were outside the room, it would be empty. On this reading we remove one person at a time and the sentence is false, whereas when we interpret (33b) we remove them all at once and the sentence is true.

An alternative is to represent *de re–de dicto* readings using world indices (Percus 2000; Keshet 2010).[8] Assuming a simple, Hintikka (1962) style semantics of belief for expository purposes, we can represent the two readings as follows, where w_0 is the world of evaluation.

(34) I thought your yacht was larger than it is.
a. **De dicto.** For every world w compatible with my beliefs at w_0, the size of the yacht at w is greater than the size of the yacht <u>at w</u>.

[8] I use world indices since they allow us to conveniently express all the relevant readings, though nothing I say in what follows hinges on this choice.

b. **De re.** For every world w compatible with my beliefs at w_0, the size of the yacht at w is greater than the size of the yacht at w_0.[9]

(35) Alice thinks that everyone inside the room is outside the room.

a. **De dicto.** For every world w compatible with Alice's beliefs at w_0 and for all x such that x is inside the room at w, x is outside the room at w.

b. **De re.** For every world w compatible with Alice's beliefs at w_0 and for all x such that x is inside the room at w_0, x is outside the room at w.

One may argue that the figure–ground contrasts we have considered here exhibit a similar ambiguity. For example, "Socrates resembles Adonis" has a reading on which it expresses the proposition that is true at a world w just in case Socrates' appearance in w is sufficiently close to Adonis's appearance *in the actual world* w_0.

This *de re* reading has independent motivation from belief reports. Suppose Alice believes that Bob resembles the actor Rami Malek. Alice isn't aware that Rami has an identical twin brother Sami Malek—she has no idea that Sami exists.

(36) Alice believes that Bob resembles Sami Malek.

I submit that, in the right context, (36) may have a true reading.[10]

Or suppose Suzy can see the cat but not the dog (Figure 7). She has no idea that the dog is there. Actually, the cat is near the dog. Consider:

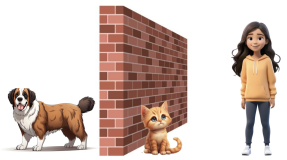


Figure 7

(37) Suzy believes that the cat is near the dog.

This is most naturally read as false—after all, Suzy has no beliefs whatsoever about the dog. But I submit that it may also have a true reading in this context, saying that Suzy believes that the cat is near the location where the dog actually happens to be. On this *de re* reading, (37) is true.

The *de re* reply asserts that *de re* readings are responsible for the contrasts we have observed. Recall, for example, (2).

(2) *Alice is 25, Bob is 15. One must be over 21 to enter the bar.*

a. If Alice were younger than Bob, they could both enter the bar.

[9] This reading differs slightly from Russell's own gloss of his example: "The size that I thought your yacht was...". As Kripke (2005) notes, Russell assumes that there was a particular size the guest believes the yacht to be. (34b) does not require this.

[10] Granted, this reading is extremely fragile. It seems to disappear as soon as Alice has any beliefs whatsoever about Sami Malek's appearance. One explanation for this is that (36), on its *de dicto* reading, presupposes that Alice has an opinion on Sami Malek's appearance, but does not presuppose this on its *de re* reading. The *de re* reading emerges as a last resort to rescue the sentence from having a false presupposition. Thus once its presuppositions are met, this rescue strategy is unavailable and only the *de dicto* reading arises.

b. If Bob were older than Alice, they could both enter the bar.

On the *de re* reading these are equivalent, respectively, to (38).

(38) a. If Alice were younger than 15, they could both enter the bar.
b. If Bob were older than 25, they could both enter the bar.

The antecedents in (2) are equivalent *de dicto* but not *de re*. Read *de re*, they are not counterexamples to Substitution and can easily be handled by extant semantics of counterfactuals, such as Stalnaker's or Lewis's.

To account for the contrasts we observed using *de re* readings, the *de re* reply must say that counterfactual antecedents are interpreted *de re* by default. This is because in figure–ground contrasts such as (2), the sentences are by default interpreted as not equivalent.

This account, however, faces numerous challenges. Here are four.

3.1 Challenge 1: *de dicto* antecedents that violate Substitution

The first and most serious challenge to the *de re* reply is that there are sentences which behave differently as counterfactual antecedents even on their *de dicto* readings.

To illustrate, suppose there are two points, A and B, sitting on a horizontal plane (see Figure 8). Point A is currently located at 2 and point B is currently located at 4. Thus their midpoint is currently located at 3. Since the location of their midpoint depends on the locations of A and B, if A or B moves, their midpoint moves accordingly. Now consider (39).

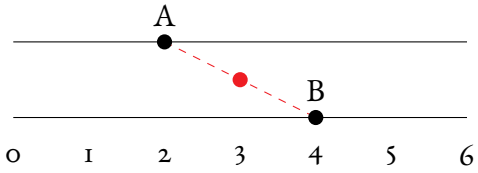


Figure 8: Point A is at 2, point B is at 4, so their midpoint is at 3.

(39) *Point A is at 2, point B is at 4, so their midpoint is at 3 (Figure 8).*
a. If A were to the right of A and B's midpoint, A would be to the right of 4.
b. If B were to the left of A and B's midpoint, A would be to the right of 4.

(39a) has two readings here. On one, we imagine A to the right of where the midpoint *actually is*. This is the *de re* reading. On this reading, (39a) is false or indeterminate, since it asks us to imagine A to the right of 3, in which case it could be at, say, 3.5.

On the other (39a) we imagine A's location changed and B where it is, and the midpoint changing accordingly. This is the *de dicto* reading: it asks us to imagine A moving to the right of where their midpoint *would be*, not where it actually is; "A is to the right of their midpoint" expresses the proposition that is true at a world w just in case A's location in w is to the right of

the location of their midpoint in *w*. On this reading, (39a) is true. Given that B is located at 4, the only way for A to be to the right of their midpoint is for A to be to the right of 4.

While (39a) has a true reading, (39b) does not appear to have any true reading whatsoever. However, given that (39a) has a *de dicto* reading, we would expect (39b) to have one too. And crucially, on their *de dicto* readings, the antecedents of (39a) and (39b) are logically equivalent.[11] (39) is therefore an example of counterfactuals that are not equivalent even on the *de dicto* readings of their antecedents.

3.2 Challenge 2: object terms in counterfactual antecedents are not interpreted *de re* by default

According to the *de re* reply, object terms in counterfactual antecedents are interpreted *de re* by default. A wide range of cases show this to be incorrect.

Consider the antecedent "if A were higher than B". According to the *de re* reply, when we interpret this we tend to imagine A higher than B *currently* is. To test this, suppose that the left side of a see-saw is at its lowest point, touching the ground, while the right side is at its highest point, one metre off the ground (Figure 9).

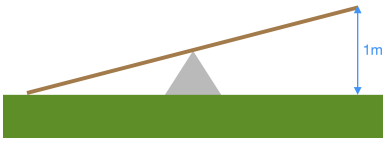


Figure 9

Compare the antecedents:

(40) a. If the left side were higher than the right side
b. If the left side were higher than the right side is

These differ in an interesting way. (40a) is naturally interpreted *de dicto*, asking us to imagine a world where the left side in that world is higher than the right side in *that very same* world. In contrast, (40b) is naturally interpreted *de re*, asking us to imagine a world where the left side in that world is higher than the right side in the *actual* world. The difference gives rise to different judgements for counterfactuals.

(41) a. If the left side were higher than the right side, ...
(i) the left side would be at most one metre off the ground.
(ii) the left side would be more than one metre off the ground.
b. If the left side were higher than the right side is, ...
(i) the left side would be more than one metre off the ground.

[11] It suffices to note that A is to the right of A and B's midpoint just in case A is to the right of B; that is, $a > \frac{a+b}{2}$ if and only if $a > b$.

(ii) the left side would be at most one metre off the ground.

Intuitively, (41a-i) is true and (41a-ii) is false, while in (41b) it is the reverse.

The expression "if A were higher than B is" shows us how a bona fide *de re* reading behaves. It is not how "if A were higher than B" behaves. This suggests that "if A were higher than B" is most naturally not read *de re*, contrary to the *de re* reply.

Further evidence comes from conjunctive antecedents such as (42).

(42) If Adonis resembled Socrates and Socrates were handsome, they would both be handsome.

(42) is most naturally judged true. It is true on the *de dicto* reading of "Adonis resembles Socrates" but false on the *de re* reading. Read *de dicto*, the antecedent is true at a world w just in case Adonis' appearance at w is sufficiently like Socrates' appearance at w and Socrates is handsome at w. In this case, both are handsome and we therefore judge the conditional true. Read *de re*, the antecedent is true at a world w just in case Adonis' appearance at w is sufficiently like Socrates' appearance at the *actual world* w_0—in which Socrates is not handsome—and Socrates is handsome at w. In that case the consequent is false. The fact that (42) is easily judged true shows that "Adonis resembles Socrates" in (42) is most naturally read *de dicto*.

A final point: if, as the *de re* reply alleges, counterfactual antecedents are read *de re* by default, we would certainly expect to observe the *de re* reading when the *de dicto* reading is contradictory. In fact, we tend to observe the contradictory *de dicto* reading. Here are three examples.

Suppose A and B are two rubber ducks floating in a tank of water. The water level in the tank can be raised or lowered, which determines how high A and B are. Consider:

(43) If A were higher than B currently is, A and B would still be at the same height.

(43) is easily judged true. This judgement comes about from reasoning that, if A were higher than B currently is, the water level would be higher, in which case A and B would still be at the same height. Compare this with (44).

(44) If A were higher than B, A and B would still be at the same height.

(44), in contrast, sounds contradictory. Similarly, consider:

(45) *Lucy's family are taking a family photo. Lucy is currently blocking the person behind her from being in the photo.*

a. If Lucy were sitting next to where Lucy is currently sitting, everyone would be in the photo.

b. If Lucy were sitting next to Lucy, everyone would be in the photo.

(45a) is easily judged true, whereas (45b) sounds contradictory. Or take (46).

(46) If every student were taller than every student, the school basketball team would be better.

(46)'s antecedent is contradictory. But its *de re* reading is consistent, asking us to imagine every student taller than the *actual* height of every student (i.e. taller than the current height of the tallest student).

On this *de re* reply, this behaviour is highly unexpected. It is generally thought that ambiguity resolution is subject to a Principle of Charity, whereby we opt for a true reading when possible.[12]

Principle of Charity. When multiple readings of a sentence are available, some of which are true, we opt for one of the true readings.

The *de re*/*de dicto* ambiguity is no different. To illustrate, suppose you see someone you know searching through a crowd. When you ask what they are doing here they reply, 'I'm looking for a friend'. Here we easily interpret them as saying that there is a particular friend they are looking for. This is the *de re* reading.

Now suppose you meet someone at a bar who tells you they are new to the neighbourhood and don't know anyone yet. When you ask what they are doing here they reply, 'I'm looking for a friend'. Now we naturally interpret them as saying that they are looking to have a friend. There is no particular person they are looking for. For all we know they might not even have any friends. This is the *de dicto* reading.

In each case, we seamlessly pick the reading that makes the sentence true. If a *de re*/*de dicto* ambiguity were at play in the figure–ground asymmetries we have considered, we would likewise expect each reading to be available, and that when the sentence is true on one reading and false on the other, we opt for the true reading. In figure–ground contrasts, this is not what we observe. We opt for the *de dicto* reading in (44), (46), and (45b), even when it results in a contradictory meaning.

These judgements pose a serious challenge to the *de re* reply. If objects are interpreted by default in counterfactual antecedents, it is mysterious why this default vanishes in many quite disparate cases. The *de re* reply fails to explain why the alleged *de re* readings of these sentences are unavailable.

[12] The Principle of Charity I have in mind here is one appearing in the work of Quine (1960), Davidson (1973) and Stalnaker (1988, 2009). Wilson, who coined the term, wrote that "we act on what might be called the Principle of Charity. We select as designatum that individual which will make the largest possible number of [...] statements true" (Wilson 1959:532). As Davidson puts it, the task of solving for meaning is aided by "assigning truth conditions to alien sentences that make native speakers right when plausibly possible" (Davidson 1973:324; for discussion see Glüer 2011).

3.3 Challenge 3: some terms seem to lack the required *de re* readings altogether

Suppose two blocks are sitting on a table. If block A were touching block B, where would the blocks be? The most natural answer, I believe, is that A would have moved to where B is, with B's location unchanged; vice versa for "if block B were touching block A". For the *de re* reply to account for this, we must assume that *touching* has a *de re* reading, on which "A is touching B" is true at a world w just in case A's location in w is touching B's location in the actual world w_0.

This is a highly implausible proposal for what *touching* could mean. There is no independent evidence for such a *de re* reading. Take belief reports—a reliable environment in which *de re* readings appear. Suppose that blocks A and B are at opposite ends of a table, as in Figure 10. Alice believes that block A is to the right of the table (in fact, where A would be, were it touching B), but has no beliefs about block B. Consider (47).

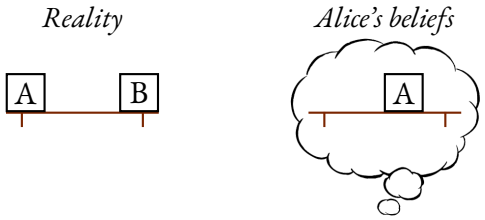


Figure 10

(47) Alice believes that block A is touching block B.

(47) does not appear to have any true reading here. However, according to the *de re* reply, 'A is touching B' should also admit a *de re* reading—as we had with example (36)—on which (47) says that in each of Alice's belief worlds w', block A's location in w' is touching B's location in the actual world. This is true in the scenario above, while (47) has no true reading.

For a second case, recall from Section 2.4 that relational nouns like *sister* exhibit a figure–ground contrast. When we interpret *if A were B's sister*, we tend to imagine A and B having B's current parents, rather than A's current parents. For the *de re* reply to account for this, we must assume that *sister* has a *de re* reading, on which 'A is B's sister' is true at a world w just in case B's parents in the actual world are A and B's parents in w.

As before, there is no evidence that kinship terms have such *de re* readings. To illustrate with belief reports again:

(48) *José believes that Alice's parents are Vivienne and Michael, and does not have any beliefs about who Beth's parents are. In fact, Vivienne and Michael are Beth's parents.*
José believes that Alice is Beth's sister.

(48) does not appear to have any true reading in this scenario. Compare this with (49).

(49) José believes that Beth's parents are Alice's parents.

(49) readily admits a *de re* reading on which it is true in the above scenario. This shows that there is nothing especially difficult about entertaining this *de re* meaning. It is just not something that (48) can express.

Summing up this section, for the *de re* reply to account for figure–ground contrasts exhibited by *touching* and relational nouns like *sister*, it must posit implausible *de re* readings for which there appears to be no independent evidence.

3.4 Challenge 4: the required *de re* propositions might not exist

The fourth and final challenge for the *de re* reply is that the required *de re* propositions might not exist. The challenge comes from the meaning of *mistakenly believes*.

Here is a simple analysis of mistaken belief. A person S mistakenly believes a proposition p just in case (i) S believes p and (ii) p is false. On this view, the believed proposition and the false proposition are one and the same. Things might turn out to be more complicated than this (see Blumberg 2018). But this analysis seems simple and reasonable as a null hypothesis.

Now consider the following case, illustrated in Figure 11 (I have labelled the locations 1, 2 and 3 for convenience).

(50) *John believes that Alice is in the rain and Bob is dry. In fact both are in the rain.*
John mistakenly believes that if Alice were near Bob, Alice would be dry.

Figure 11

(50) is intuitively true in this context. Assuming a simple, Hintikka-style analysis of belief, (50) states:

(51) For each of John's belief worlds w at the actual world w_0, Alice is dry in the selected worlds at w where the proposition p expressed by the antecedent is true.

The question is what p is. There are three relevant possibilities.

1. *De re*, anchored to the actual world: if Alice were near where Bob actually is.
   $p = \{w' :$ Alice's location in w' is near Bob's location in $w_0\}$

2. *De re*, anchored to John's beliefs; if Alice were near where John believes Bob to be.
   $p = \{w' :$ Alice's location in w' is near Bob's location in $w\}$
3. *De dicto*; if Alice were near Bob.
   $p = \{w' :$ Alice's location in w' is near Bob's location in $w'\}$

Both *de re* readings predict (50) to be false on our analysis of mistaken belief. On the first *de re* reading, (50) is false because if Alice were near where Bob actually is (location 2), Alice would be wet—(i) fails. On the second *de re* reading (50) is false because if Alice were near where John believes him to be (location 3), Alice would indeed be dry, so John wouldn't be mistaken—(ii) fails.

That leaves the *de dicto* reading. On this reading, "Alice is near Bob" is equivalent to "Bob is near Alice" (on its *de dicto* reading) and to "Alice and Bob are near each other". For theories that validate Substitution, then, (50) is equivalent to (52a), on its *de dicto* reading, and to (52b).

(52) a. John mistakenly believes that if Bob were near Alice, Alice would be dry.
b. John mistakenly believes that if Alice and Bob were near each other, Alice would be dry.

Unlike (50), however, these are intuitively false, and not equivalent to (50).

Assuming our simple analysis of mistaken belief, the *de re* reply is not able to make sense of these judgements. It predicts there to be *no* reading of (50)'s antecedent on which (50) is both true and not equivalent to (52a) and (52b).

In all, the *de re* reply faces some severe challenges. They merit considering whether there are alternative accounts that fare better.

4 The counterpart reply

The second reply we consider comes from Lewis. He offered the following account of Goodman's New York–Georgia pair in (1), repeated below.

(1) a. If New York City were in Georgia, then New York City would be in the South.
b. If Georgia included New York City, then New York City would be in the South.

> We can explain the simultaneous truth of Goodman's sentences [...] by the hypothesis that both are *de re* both with respect to 'New York City' and with respect to 'Georgia', and that a less stringent counterpart relation is summoned up by the subject terms 'New York City' in [(1a)] and 'Georgia' in [(1b)] than by the object terms 'Georgia' in [(1a)] and 'New York City' in [(1b)]. Then in [(1a)] we are concerned with the closest worlds to ours where a not-too-close counterpart of our New York is in a close counterpart of our Georgia, and hence is in (a counterpart of?) the South; whereas in [(1b)] we are concerned with the closest worlds to ours

> where a not-too-close counterpart of our Georgia includes a close counterpart of our New York City, and hence is not entirely included in the South.
>
> (Lewis 1973b:43)

The general idea is that we interpret subject terms using a looser counterpart relation than object terms. Call this the *counterpart reply*.

The counterpart reply readily extends to the other contrasts we have observed. For example, in 'Adonis resembles Socrates', the subject term is 'Adonis' and the object term is 'Socrates'. According to Lewis, then, we would expect that Adonis's counterparts may have a different appearance from the actual Adonis, while Socrates's counterparts must have the same appearance as the actual Socrates.

4.1 Extending the counterpart reply into a viable theory

For Lewis's remarks to serve as a viable theory, they must be extended in two ways.

First, we must take the counterpart relation to be loose or strict *with respect to a particular property*. To see why, consider (53).

(53) *Socrates is speaking with Diotima, while Adonis is in another town. Adonis is handsome while Socrates is not. Diotima only gazes at people whom she can see and finds attractive.*

a. If Adonis were beside Socrates and Socrates resembled Adonis, Diotima would be gazing at both of them.

b. If Socrates were beside Adonis and Adonis resembled Socrates, Diotima would be gazing at both of them.

Intuitively, (53a) is true and (53b) is false. To predict this on Lewis's approach, (53a) must summon up a loose counterpart relation with respect to Adonis's location but a strict counterpart relation with respect to his appearance, while for Socrates it is the reverse. In (53b) this is swapped.

Second, the counterpart reply must sometimes avail of the *de re* readings from the *de re* reply. This is motivated by examples like (54).[13]

(54) If Alice were taller than she is, she would have been picked for the basketball team.

Here Alice appears as both a subject and object. A naive application of Lewis's proposal would predict her to summon up both a loose and strict counterpart relation at once. Then someone with Alice's actual height both would and would not be a counterpart of Alice—a contradiction. And even if one somehow overcomes this challenge, if there are two counterpart relations at play, there remains the issue of how to determine which counterpart relation should be used to interpret the occurrence of 'she' in the consequent.

[13] Examples such as (54) were first discussed in the context of counterpart theory by Milne (1993). For responses, see Forbes (1994), Wehmeier (2012), Kocurek (2016), and Borisov (2023).

We naturally interpret (54) as asking us to imagine Alice taller than she *actually* is. One might therefore propose enriching counterpart theory with an 'actually' operator. However, it has long been observed that counterpart theory struggles to analyse the 'actually' operator in a satisfactory manner (Hazen 1979; Fara and Williamson 2005).[14] According to many, it cannot be done—or at least faces substantial challenges. One might hope for an analysis of sentences like (54) that avoids the thorny issues raised by analysing 'actually' within counterpart theory.

Russell (1905) and Milne (1993) suggest enriching the language with degrees. Indeed, this is the standard approach in work on the semantics of comparatives (see Kennedy 2005). Lewis (1986:13), for his part, is unsatisfied with this reply for sentences that do not overtly refer to degrees, wishing to stick closer to the sentence's surface form. Though doing so avoids the need for an 'actually' operator and allows the counterpart reply to avail of *de re* readings of degrees when needed. Indeed, such readings are required anyway to account for examples such as (31) and (33b).

4.2 Challenges for the counterpart reply

Even when extended in this way, there are a number of reasons to be unsatisfied with the counterpart reply.

To start, there are the usual, overarching criticisms of counterpart theory. Critics have argued that it gives rise to a deviant modal logic (Hazen 1979; Kripke 1972; Forbes 1982; Woollaston 1994; Cresswell 2004; Ramachandran 2008). For example, it validates the controversial Converse Barcan Formula $\Box\forall xFx \rightarrow \forall x\Box Fx$ but invalidates simple, intuitive rules such as $\Box(Fa \wedge Gb) \rightarrow \Box Fa$, Leibniz' Law, and the necessity of identity (Kripke 1972; Plantinga 1974; Hall, Rabern, and Schwarz 2024). These consequences may seem so unpalatable that one might prefer to avoid counterpart theory in general.

Second, we would have to give up much of what we thought we knew about counterpart theory. We would like to have some independent grasp on the counterpart relation. Lewis offers a promising idea: the counterpart relation is "based on similarity" (Lewis 1973b:41). For Lewis,

> [S]omething has for counterparts at a given world those things existing there that resemble it closely enough in important respects of intrinsic quality and extrinsic relations, and that resemble it no less closely than do other things existing there.
>
> (Lewis 1973b:39)

These are eminently plausible ideas. However, nothing in them leads us to expect that subject and object terms should differ in what counterpart relations they summon up. For instance, given that Alice and Bob are in different locations, worlds where they are where Alice currently is would appear to be equally similar to the actual world as worlds where they are both where

[14] For attempts to solve the issues, see Meyer (2013), Russell (2013), Rigoni and Thomason (2014), and Bacon (2014). For further problems, see Milford (2024). Lewis, for his part, seems not to be bothered by the fact that quantified modal logic struggles to represent counterpart-theoretic notions (Lewis 1971:206, n. 4, 1986:13–17).

Bob currently is. If the counterpart relation is based on similarity, we would therefore expect the counterpart relation not to distinguish between the antecedents "if Alice were near Bob" and "if Bob were near Alice".

Moreover, it seems perfectly clear who Alice and Bob's counterparts are in each of these worlds: the people with the same names, histories, intrinsic properties, and so on, as Alice and Bob, but for a possible difference in location. Lewis's proposal would lead us to believe that when we interpret an antecedent such as "if Alice were near Bob", we temporarily suspend belief that people who are exactly like Bob, with the same history and intrinsic properties, except for being in a different location, count as Bob's counterparts.

Lewis does not offer any indication why the counterpart relations would differ between subject and object terms in this way, admitting that "I cannot say in general how grammar and context control which counterpart relation is used where" (Lewis 1973c:436). It is reasonable to find this unsatisfying, and to therefore seek an alternative account on which differences between figure–ground are expected.

5 The fine-grain reply

The third reply we consider is that figure–ground contrasts in counterfactuals call for a more fine-grained approach to meaning. According to possible worlds semantics (Lewis 1970; Partee 1977), the meaning of a sentence—such as a counterfactual antecedent—can be modelled as the set of possible worlds in which it is true. This framework automatically validates Substitution.

In response to figure–ground contrasts, one might propose that the fault lies with the coarse grain of truth conditions, and that by moving to a more fine-grained, hyperintensional notion of meaning, in which logically equivalent sentences can be distinguished, the overall architecture of one's theory of counterfactuals might be maintained.

For instance, Stalnaker (1968) introduces a selection function that takes a proposition (a set of possible worlds) and a possible world and returns a single world. One might think that if the selection function were to instead take as input a *sentence*, rather than a *proposition*, his theory can account for the figure–ground contrasts in counterfactuals we have observed.

The problem, however, runs deeper than that. Substitution follows from quite weak principles in the logic of conditionals, such as Weaker than Entailment and Reciprocity.[15]

Weaker than Entailment. If *A* entails *C*, then *if A, would C* is true.[16]

Reciprocity/CSO. If *if A, would B* and *if B, would A* are true, then *if A, would C* is true just in case *if B, would C* is true.

[15] The name Reciprocity comes from Egré and Rott (2021). Nute (1980) calls it CSO, and Starr and Kocurek (2025) call it Substitution of Subjunctive Equivalents.

[16] Weaker than Entailment in turn follows from plausible principles such as Identity (*if A, would A*) and Right Weakening (if *B* entails *C* then *if A, would B* entails *if A, would C*). For a discussion of semantics that—surprisingly—invalidate Identity, see Mandelkern (2021).

Lewis's theory of counterfactuals validates Reciprocity, assuming that the similarity order is indeed an order; that is, reflexive and transitive. Stalnaker regards Reciprocity as essential to his theory, remarking that "the selection is based on an ordering of possible worlds with respect to their resemblance to the base world. If this is correct, then [Reciprocity] must be imposed [...]. These conditions on the selection function are necessary in order that this account be recognizable as an explication of the conditional" (Stalnaker 1968:36).

There are, however, other theories that invalidate Substitution. Here we consider one prominent theory, due to Fine (2012).

5.1 Fine's truthmaker semantics of counterfactuals

Fine's theory has three primitive notions: (i) a set of *states*, representing parts of the world, (ii) an *exact verification* relation between states and sentences, telling us which states exactly verify which sentences, and (iii) a *transition relation* between states, stating when one state is a 'possible outcome' of another at a given world.

Fine (2012:237) offers the following semantics.

> A counterfactual 'if A, would C' is true at a world w just in case for every exact verifier t of A and possible outcome u of t at w, u contains an exact verifier of C.

Following Fine (2014b:576), let us call two sentences *exactly equivalent* just in case they have the same exact verifiers and falsifiers. Sentences may be logically equivalent without being exactly equivalent, such as A, $A \vee (A \wedge B)$, and $(A \wedge B) \vee (A \wedge \neg B)$. Fine's semantics therefore does not validate Substitution, but it does validate an analogous principle.

Exact Substitution. If A and B are exactly equivalent, then *if A, would C* is true just in case *if B, would C* is true.

This theory has the resources to account for the figure–ground contrasts in counterfactuals, provided that the antecedents in question are not exactly equivalent. The state space and exact verification relation are primitives of Fine's theory. Given antecedents A and B that behave differently as counterfactual antecedents, we are free to stipulate within Fine's theory that A and B do not have the same exact verifiers. Recall (6), for example, showing that 'Block A is on top of block B' and 'Block B is beneath block A' behave differently in counterfactual antecedents. To account for this on Fine's theory, we may stipulate that the state space contains a state exactly verifying that block A is on top of block B, without exactly verifying that block B is beneath block A.

5.2 Challenges for Fine's account

Such a stipulation is certainly possible, but is it plausible? According to Fine himself, it is not.

> Suppose that a given block a is on top of another block b. Then there is a certain state of affairs s_1, we may describe as the state of a's being on top of b. There is also

> a certain state of affairs s_2 that may be described as the state of b's being beneath a. Yet surely the states s_1 and s_2 are the same. There is a single state of affairs s "out there" in reality, consisting of the blocks a and b having the relative positions that they do; and the different descriptions associated with s_1, and s_2 would merely appear to provide two different ways at getting at this single state of affairs.
>
> (Fine 2000:3)

These remarks strongly suggest that *Block a is on top of block b* and *Block b is beneath block a* should have the same exact verifiers.[17] Given this, (6) is a counterexample to Exact Substitution.

For a second example, recall from (5) that *A is adjacent to B* and *B is adjacent to A* behave differently as counterfactual antecedents. According to Fine, however, "the state of a's being adjacent to b is surely the same as the state of b's being adjacent to a" (2000:17), which would imply that the sentences in (5) are equivalent on Fine's theory of counterfactuals.

While Fine appeals to intuition to support his claims, there are positive arguments that speak in their favour. Here are two.

Mysterious states. First, it is hard to understand what such a state could be, that verifies that block A is on top of B, without exactly verifying that block B is beneath A. One suggestion is that it is the state of block B being in a particular location L, such as the bottom left corner of Figure 1. Such a suggestion, however, conflicts with plausible principles governing exact verification. It is widely assumed that states necessitate the truth of the statements they exactly verify: if s exactly verifies A then necessarily, whenever s obtains, A is true (Fine 2017c). However, the state of block B being in L does not necessitate that B is beneath A. For in a world where B is in L but A is not above L, the state will obtain but B will not be beneath A. It seems that we do not have any independent grasp on what states could stand in the appropriate exact verification relations for Fine's theory to account for figure–ground contrasts in counterfactuals.

Mysterious relations between states. Second, the proposal seems to require necessitation relations between states whose nature is also mysterious. One may wish to maintain that 'A is on top of B' and 'Block B is beneath block A' are logically equivalent, despite not being exactly equivalent (their logical equivalence, after all, motivates moving to a more fine-grained framework). Within work on truthmaker semantics, it is commonly thought that contingent statements—such as 'Block A is on top of B' and 'B is beneath A'—are true at a world just in case the world contains an exact verifier of the statement (in other words, that whenever a statement is true at a world, the world loosely verifies the statement; see Fine 2014b:4; Fine 2017a). Given this, if 'A is on top of B' and 'B is beneath A' are logically but not exactly equivalent, every world containing an exact verifier of one must also contain an exact verifier of the other, despite

[17] Geach and Williamson propose a related, though not identical view. Geach states that "a relation neither exists nor can be observed apart from its converse relation" (Geach 1957:33), and Williamson argues that relations are identical to their converses: " '- - - stabs ...' and '- - - is stabbed by ...' (and '... stabs - - -') stand for the same relation" (Williamson 1985:249). For discussion see MacBride (2007), Gaskin and Hill (2012), and Liebesman (2013).

the verifiers being distinct: the presence of an exact verifier of one must necessitate the presence of an exact verifier of the other. One may stipulate such a necessitation relation between sets of states, but the need for additional stipulations weakens the account's explanatory power.

For such a stipulation to be plausible, one would ideally like to have an independent grasp of this necessitation relation. To my knowledge, truthmaker semantics provides only one such necessitating relation: *parthood*. Whenever a state obtains, its parts do too. However, using parthood, the account would require that every exact verifier of 'A is on top of B' contain as a proper part an exact verifier of 'B is beneath A', and vice versa. This, in turn, would imply the existence of an infinite descending chain of states, $s_1 > t_1 > s_2 > t_2 > \cdots$, where each s_i exactly verifies 'A is on top of B' and each t_i exactly verifies 'B is beneath A'. While this position is consistent, it seems extremely implausible that accounting for simple examples like (6) should require us to postulate the existence of such an infinite descending chain of states.

To sum up, while Fine's theory of counterfactuals can account for the figure–ground contrasts above, it does so at the cost of some highly controversial assumptions on the exact verification relation. It would require the existence of mysterious states and mysterious necessitation relations between them of which we have no independent grasp. For this reason, it is worth exploring alternative analyses of figure–ground contrasts in counterfactuals.

6 The aboutness reply

The fourth and final reply we consider is to add a notion of *aboutness*, or *subject matter*, to the theory of conditionals. Here we consider one way to do so: the aboutness theory of counterfactuals (McHugh 2022, 2023).[18]

The key tenet of the aboutness theory is that when we interpret a counterfactual antecedent, we allow what the sentence is about to vary, and fix what it is not about.[19] The theory interprets counterfactuals using the following steps, stated here informally (for further details and a formalisation, see McHugh 2022, 2023:63ff.).

1. Pick a time at which to imagine the change, called the *intervention time*.
2. Allow the part of the world the antecedent is about at intervention time to vary.
3. Play forward the laws.

[18] An earlier approach is Ciardelli, Zhang, and Champollion (2018), who make use of the same foreground–background distinction in formulating their background semantics of counterfactuals. They propose that "Background facts are held fixed while making a counterfactual assumption, while foreground facts are allowed to change" (2018:599). While Ciardelli, Zhang, and Champollion (2018) formulate their account in terms of a foreground–background distinction, their ultimate proposal does not account for the contrasts we have observed, since they predict that logically equivalent sentences have the same foreground and background.

[19] There are many choices as to what kinds of thing sentences are about (see Hawke 2018 for an overview). For instance, some take subject matters to be *questions* (Lewis 1988a,b; Plebani and Spolaore 2021), others take them to be *states* (Fine 2017b, 2020), and yet others take them to be individuals (Perry 1989). I remain neutral on the issue here.

4. Stick on the actual past.
5. Restrict to worlds where the antecedent holds.
6. A counterfactual is true just in case its consequent is true at all of/the selected resulting world(s).[20]

On the aboutness theory, we split the world into *foreground* and *background*, allowing the foreground to vary while fixing the background.

There is a striking parallel between the foreground–background distinction, as it appears in the aboutness theory of counterfactuals, and the figure–ground distinction, as studied by Talmy. In particular, the idea that we allow the foreground to vary and fix the background parallels how Talmy understands the figure–ground distinction, whereby the figure is "conceptually movable" and "variable" while the ground is "stationary".

There is also a parallel between Russell's distinction between the subject and assertion of sentences, on the one hand, and the distinction between what a sentence is and is not about, on the other, Russell himself makes this clear:

> The proposition "humanity belongs to Socrates," which is equivalent to "Socrates is human," is an assertion about humanity; but it is a distinct proposition. In "Socrates is human," the notion expressed by *human* occurs in a different way from that in which it occurs when it is called *humanity*, the difference being that in the latter case, but not in the former, the proposition is *about* this notion.
>
> (Russell 1903:§48)

In light of these remarks, an aboutness relation seems to aptly capture the distinction Russell had in mind.

6.1 Aboutness and logical equivalence

A fundamental question in the analysis of aboutness is whether logically equivalent sentences can differ in what they are about. According to intensional analyses of aboutness (such as Putnam 1958; Goodman 1972), they cannot, while according to hyperintensional analyses (such as Fine 2017b; Hawke, Hornischer, and Berto 2024), they can. If we plug an intensional notion into the aboutness theory, the resulting logic of counterfactuals will validate Substitution, while if we plug in an hyperintensional analysis, the resulting logic will not.

Here is an argument for that aboutness, in the sense relevant to counterfactual antecedents, is hyperintensional. Consider the following scenario, modelled on one by Fine (2014a).[21] A simple universe contains one gold coin and infinitely many silver coins. Each coin can face either heads or tails. Compare the sentences:

[20] I write "all of/the selected resulting world(s)" to leave open whether counterfactuals quantify universally over the resulting domain or select a unique world from it.

[21] Goodsell (2022) presents a similar case.

(55) a. Infinitely many of the coins are facing tails.
b. Infinitely many of the silver coins are facing tails.

These sentences are logically equivalent.[22] If infinitely many of the silver coins are facing tails, then infinitely many of the coins are, and given that there is only one gold coin, if infinitely many of the coins are facing tails, then infinitely many of the silver coins are. There is, however, a clear sense in which the sentences are *about* different things. (55a) is about all of the coins, including the gold coin, while (55b) is only about the silver coins.

Counterfactuals care about the difference. Suppose the coins are spread out throughout the universe and have no influence on one another. Currently, every coin is facing heads. Compare:

(56) a. If infinitely many of the coins were facing tails, the gold coin would still be facing heads.
b. If infinitely many of the silver coins were facing tails, the gold coin would still be facing heads.

(56b) is intuitively true, but (56a) is not. Substitution fails. The aboutness approach captures these judgements. (56b)'s antecedent is only about the silver coins: we fix the state of the gold coin, keeping it facing heads. In contrast, (56a)'s antecedent is about all of the coins, so when we interpret it we allow the state of all of the coins to vary, including the gold coin.

6.2 The Subject Constraint

Let us now state a general principle that captures Russell and Talmy's claim that sentences like 'Alice is taller than Bob' and 'Alice is near Bob' are about Alice and not about Bob. The idea is straightforward. In these cases, the *grammatical subject* is also the *subject matter*: the two notions of subject coincide.[23] More specifically, a simple subject-predicate sentence is not about any property of its grammatical subject whatsoever, but how it stands with respect to the predicate, such as Alice's height in 'Alice is taller than Bob' and her location in 'Alice is near Bob'. I assume that each predicate is associated with a particular *dimension*. For *taller than* it is height, for *near* it is location, for *resembles* it is appearance, and so on. The principle is:

[22] One might reply that (55a) and (55b) are not logically equivalent: in a world where the gold coin does not exist, and infinitely many of the silver coins are facing tails, (55b) is true but (55a) is either false or undefined. To get around this, we may add to the sentences the information that there is one gold coin and infinitely many silver coins. The resulting sentences will then be logically equivalent but still differ in what they are about. 'The universe contains one gold coin and infinitely many silver coins, and infinitely many of the silver coins are facing tails' is about the existence of the coins and how the silver coins are facing, while 'The universe contains one gold coin and infinitely many silver coins, and infinitely many of the coins are facing tails' is about the existence of the coins and how the coins are facing.

[23] See Paul (2010) for an overview of the notion of grammatical subject. For philosophical work on subjects, see Geach (1962) and Strawson (1964, 1974). For a discussion of the notion of grammatical subject in English, see Conner (1968:43ff.). For a list of criteria to identify subjects, see Biber et al. (2021:127).

The Subject Constraint. By default, sentences are only about their subjects. A sentence of the form *Fa* is, by default, only about how *a* stands with respect to the dimension of the predicate *F*.

Paired with the aboutness theory, the Subject Constraint has the resources to account for the figure–ground contrasts we have observed. To illustrate, recall (7).

(7) a. If Socrates resembled Adonis, they would both be handsome.
b. If Adonis resembled Socrates, they would both be handsome.
c. If Adonis and Socrates resembled each other, they would both be handsome.

Given that 'Socrates resembled Adonis' is about Socrates' appearance and not about Adonis', according to the aboutness theory, when we interpret 'if Socrates resembled Adonis' we vary Socrates's appearance and fix Adonis's properties. We then restrict to worlds where the antecedent is true, resulting in worlds where Socrates and Adonis are both handsome. In contrast, given that 'Adonis resembles Socrates' is about Adonis's appearance and not Socrates', the aboutness theory predicts that we consider worlds where both are not handsome. And given that 'Adonis and Socrates resemble each other' is about both of their appearances, the aboutness theory predicts that when we interpret 'if Socrates and Adonis resembled each other' we allow both of their appearances to vary. We then restrict to worlds where the antecedent is true, resulting in some worlds where they are both handsome and some worlds where they are not.

Now that we have an idea of how the Subject Constraint generates the correct predictions, I would like to make three clarifications.

The default status of the Subject Constraint. I qualify the Subject Constraint as a default, rather than a universal generalisation. One reason for its default status comes from dummy subjects (such as *it* and *there*).

(57) a. If it were necessary to call in advance, I would do so.
b. If there were a coin in my pocket, I would spend it.

It is often assumed that dummy subjects are semantically empty: they do not denote anything in particular (Haider 2019). Strictly enforcing the rule that sentences are only about their subjects would imply that (57) are not about anything, and therefore on the aboutness theory that we do not change anything when we interpret them—an undesirable result.[24]

A second case where this default is overruled occurs when imagining a counterfactual antecedent true requires changing more than just the subject. We have already seen cases of this in (25)–(28). When there is a conflict between the truth of the antecedent and changing only the subject's properties, the truth of the antecedent wins out.

[24] An alternative stance is that dummy subjects refer to a general, loosely specified state; say, the state of it not being necessary to call in advance, or the state of there being no coin in my pocket. Given this response, dummy subjects would no longer challenge the idea that sentences are only about their subjects.

Distinguishing grammatical subject from topic and theme. It is worth clarifying why the Subject Constraint is phrased in terms of a sentence's grammatical subject, rather than other, closely related notions. The grammatical subject of a sentence is distinct from what is often called a sentence's *topic* (Reinhart 1981) or, in the Prague School of functional linguistics, its *theme* (Firbas 1964; Mathesius 1975).[25] According to Reinhart (1981), we can isolate the topic using terms such as *speaking of*, *as for*, and *talking about*, as in (58).

(58) a. Talking about Adonis, if Socrates resembled him, they would both be handsome.
b. Talking about Socrates, if Adonis resembled him, they would both be handsome.

Here the topic and grammatical subject come apart. In (58a), Adonis is the topic while Socrates is the grammatical subject of the antecedent; vice versa in (58b). In each case, we vary the properties of the grammatical subject rather than the topic. (58a) is true and (58b) is false.

The need for *de re* readings. While the aboutness theory gives the correct result for antecedents like 'if Socrates resembled Adonis', it alone does not predict the full range of data under consideration. Specifically, we still need to appeal to *de re* readings when the antecedent is contradictory on its *de dicto* reading, as in (31), 'if my yacht were larger than it is' and (33b), 'if everyone who is inside were outside'. On the aboutness theory, we restrict to worlds where the antecedent is true. On their *de dicto* readings, then, these antecedents would ask us to suppose a contradiction.

Since the mechanism that generates *de re* readings and aboutness are independent components, the aboutness theory is free to invoke *de re* readings when required. Nonetheless, given the challenges facing the *de re* reply (Section 3), *de re* readings are unlikely to account for the full range of data under consideration.

6.3 Challenges for the aboutness theory

This section points out two challenges facing the aboutness theory and sketches some replies.

Disjunctive antecedents. Suppose there are two blocks, A and B, each sitting on a patch of grass, with a path between them (Figure 12). Consider (59).

Figure 12

[25] While the topic and grammatical subject are distinct notions, it is nonetheless true that the grammatical subject will often happen to be the topic. According to Reinhart, "There is a strong preference in discourse to interpret the grammatical subject of the sentence as its topic, or to place the topic in subject position. [...] this preference is only a matter of tendency and we can use sentences with non-subjects as topics" (Reinhart 1981:62).

(59) a. If A were beside B or B were beside A, both blocks would still be on grass.
b. If A and B were beside each other, both blocks would still be on grass.

Here we find an interesting contrast. In (59a), we imagine A where B is, or B where A is—we fix the location of one block in each case, while in (59b), we allow the locations of both blocks to vary simultaneously. Thus (59a) is true but (59b) is not.

At first glance, the aboutness theory struggles with the contrast, since both blocks appear as subjects in both antecedents. There is, however, a reply available to the aboutness theory. A popular view is that disjunctive antecedents are not interpreted as a single antecedent but as multiple antecedents—called the conditional's *alternatives*—and that a conditional is true just in case it holds when supposing each alternative (Alonso-Ovalle 2006, 2009; Ciardelli 2016; Santorio 2018; Willer 2018; Khoo 2022). On this view, a disjunction has as alternatives the individual disjuncts. This view predicts a counterfactual *if A or B, would C* to be equivalent to the conjunction of *if A, would C* and *if B, would C*. For instance, (59a) is equivalent to the conjunction of:

(60) a. If A were beside B, both blocks would still be on grass.
b. If B were beside A, both blocks would still be on grass.

The aboutness approach readily predicts the truth of each counterfactual. Incorporating alternatives, then, (59a) is no longer a challenge to the aboutness theory.

In contrast, an antecedent like 'if A and B were beside each other', which lacks disjunction, has a single alternative: the entire antecedent. Both blocks appear as subjects, so the aboutness approach predicts that when we interpret (59b) we vary the locations of both blocks simultaneously, so (59b) is not true, as desired.

Quantified antecedents. A second potential challenge for the aboutness theory comes from quantified antecedents such as (61).

(61) *Alice is one of the people on a football field. She is at a goalpost.*
If everyone on the field were less than one metre away from Alice, everyone would be near a goalpost.

When we interpret (61), we move everyone else to Alice's *actual* location and the conditional is true. Plausibly, 'everyone on the field is less than one metre from Alice' is about the locations of everyone on the field, including Alice's location. On the aboutness theory, then, we would expect to vary everyone's location, including Alice's. In fact, we hold her location fixed.

Here again the aboutness theory has a reply: domain restriction. It is well-known that quantifiers come with a covert domain restriction (Westerståhl 1985; von Fintel 1994; Stanley and Szabó 2000). This is illustrated in (62).

(62) a. Everyone shook hands with everyone.

b. Everyone on the field is more than one metre away from Alice.

(62a) typically does not imply that everyone shook their own hands. Likewise, even when Alice is one of the people on the field, (62b) typically does not imply that Alice is more than one metre away from herself. The quantifier's domain is restricted to exclude Alice. If the same goes for (61), then its antecedent is not about Alice at all, and the aboutness theory predicts that when we interpret it we hold Alice's location fixed, as desired.

6.4 Aboutness: semantic or pragmatic?

So far we have implemented aboutness in counterfactuals within the aboutness theory of counterfactuals. This is a semantic theory, according to which aboutness influences the literal truth conditions of counterfactuals.

One might instead consider adding aboutness through the pragmatics, whereby some context-dependent parameter is sensitive to aboutness. One motivation for this is to preserve one's preferred theory of the semantics of counterfactuals—say, based on a similarity order—that validates Substitution. If aboutness merely affects the choice of a context-dependent parameter, this will not affect the underlying logic of counterfactuals, given the standard view that validity is determined while holding the context fixed (an inference is valid just in case in any context where the premises are true, the conclusion is true in that same context too).

One potential entry point for a pragmatic implementation of aboutness is via an accessibility relation. A number of theories of counterfactuals make use of a contextually-supplied accessibility relation, whereby the antecedent is only evaluated at accessible worlds (see von Fintel 2001; Gillies 2007; Williams 2008; Moss 2012; Mandelkern 2018). Further components of the theory, such as a similarity order or conditional selection function, then determine which accessible worlds make up the counterfactual domain. One may propose that the accessible worlds tend to be those that agree with the actual world on everything the antecedent is not about.

A full comparison of semantic and pragmatic implementations of aboutness goes beyond the scope of this paper. Nonetheless, let me briefly mention two prima facie reasons to favour a semantic account.

The first comes from sentences like (59). As we saw in Section 6.3, the aboutness account can account for the truth of (59a) by assuming that *if A or B, would C* is equivalent to the conjunction of *if A, would C* and *if B, would C*, where A and B are logically equivalent but differ in what they are about. In contrast, on the proposed pragmatic account, when we interpret *if A were beside B*, we opt for an accessibility relation where the actual world accesses worlds where B's location is unchanged; vice versa for *if B were beside A*. For such a pragmatic account to predict (59a)'s truth, and its non-equivalence with (59b), it would have to say that the disjuncts A and B embedded within the antecedent *if A or B* are interpreted in different contexts. This, however, is extremely implausible. Two expressions embedded within a disjunction, itself embedded within a conditional antecedent, itself embedded within a whole conditional, are by all appearances interpreted in the same context.

For comparison, it is widely thought that adjectives such as *tall* and *ready* are context-sensitive. Yet it seems impossible to observe any context shift mid-disjunction in 'if Alice were tall or tall' (to mean if Alice were tall with respect to one standard or with respect to another) or 'if Alice were ready or ready' (to mean if Alice were ready for one thing or for a second thing).

The second reason comes from the dynamics of context shift. It has often been observed that counterfactuals exhibit a dynamic effect: possibilities introduced by earlier counterfactuals are relevant when assessing later counterfactuals, but not vice versa. This is familiar from the contrast between Sobel sequences and reverse Sobel sequences (von Fintel 2001; Gillies 2007; Williams 2008; Moss 2012; Willer 2017; Lewis 2018; Ippolito 2020; Klecha 2022; see Starr and Kocurek 2025:§4.3 for an overview). On this view, the set of accessible worlds tends to expand but not contract.

If aboutness is a pragmatic effect, influencing a contextually-supplied accessibility relation, we would expect sequences of counterfactual antecedents that differ in what they are about to exhibit the same dynamic effect. Consider:

(63) *Block A is on the left, block B is on the right.*
If block A were near block B, they would both be on the right side. If block B were near block A, they would both be on the left side.

(63) is clearly acceptable. The fact that we varied A's location in the first counterfactual has no effect on how we interpret the second counterfactual. When we interpret the second, we systematically ignore cases where A's location changes.

On the pragmatic implementation of aboutness we are considering, the first counterfactual in (63) shifts the contextually-supplied accessibility relation to render accessible worlds where A's location changes. This pragmatic story then faces the challenge of explaining why these newly accessible possibilities are ignored when we evaluate the second counterfactual; why, in other words, this shift differs from other, more familiar shifts in the accessibility relation. A semantic theory, in contrast, handles (63) straightforwardly. The antecedents are interpreted in isolation. They each select different worlds, without requiring any shift in a contextual parameter.

7 Conclusion

Figure–ground contrasts represent a new, robust, and widespread challenge to Substitution. They show up in a wide range of environments, including comparatives (as Russell observed), prepositions and non-spatial relations (as Talmy observed), and quantifiers (as Spector and Mouly observed), and for counterfactuals, desire verbs, causal claims, and belief revision.

We considered four replies to these contrasts. The *de re* reply alleges that the antecedents in question express distinct propositions: subjects tend to be interpreted *de dicto*, objects *de re*. No doubt every account of figure–ground contrasts will need the resources of the *de re* reply for examples that are contradictory on their *de dicto* readings, such as 'if everyone inside the room

were outside the room' in (33b) and 'if your yacht were larger than it is' in (31). As an account of all data considered, however, the *de re* reply faces severe challenges.

Against the *de re* reply, there are logically equivalent sentences that behave differently even on their *de dicto* readings; many expressions are not interpreted *de re* by default (such as 'A is higher than B', in contrast to 'A is higher than B is', which is interpreted *de re*); and some terms, such as *touching* and *sister*, seem to lack the required *de re* readings altogether.

According to the counterpart reply, due to Lewis, counterpart relations tend to be strict for subjects and loose for objects. While this has the resources to account for figure–ground contrasts, it violates plausible principles governing the counterpart relation, and results in a highly controversial modal logic.

The fine-grain reply accepts that the antecedents of figure–ground contrasts are logically equivalent, but argues that counterfactuals are sensitive to more than mere truth conditions. On Fine's truthmaker semantics of counterfactuals, two counterfactual antecedents are inter-substitutable salva veritate provided they have the same exact verifiers. The problem is that the antecedents involved in figure–ground contrasts—such as 'Socrates resembles Adonis', 'Adonis resembles Socrates', and 'Socrates and Adonis resemble each other'—do seem to have the same exact verifiers. It is hard to see what such states could be, that would verify one but not another.

Lastly, the aboutness reply alleges that counterfactuals are sensitive to what their antecedents are about, over and above their truth conditions. When paired with the Subject Constraint, that sentences are by default only about their subjects, this accounts for figure–ground contrasts in counterfactuals.

I end with one challenge for all of the accounts we have considered. There is evidence that figure–ground contrasts arise for information that is not explicitly part of the sentence at issue but merely part of the context. Talmy (1975) claims that in a sentence such as $y = 3x^2 + 1$, y appears "figure-like" while x appears "ground-like" (Talmy 1975:422). This seems to give rise to similar contrasts in conditionals. Let m, n, and k be three numbers. We are told that $m = 5$, $n = 2$, and $k = 3$. Compare (64) in the following two contexts.

(64) *Context 1: we are told that* $m = k + n$.
Context 2: we are told that $k = m - n$.
If n were 4, m would be 7.

In context 1, but not in context 2, we have a default preference for changing n but not k, in which case the conditional is true. But $m = n + k$ is true just in case $k = m - n$ is. Each equation suggests that the values of the subject terms are determined by the values of the terms in the predicate, which are independent variables—as it is in Pearl's (2000) structural equations.

It remains to compare how the four accounts considered here account for this contrast. So far we have only considered how they interpret counterfactual antecedents specifically, rather than contextual information broadly construed. An exciting future challenge is to compare how they extend to capture the vast range of figure–ground contrasts in a uniform way.

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