

Counterfactuals and context

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1. Classical inference failure

It is widely agreed that contraposition, strengthening the antecedent and hypothetical syllogism fail for subjunctive conditionals. The following putative counter-examples are frequently cited, respectively:¹

(Reliable John)

If John had made a mistake, it would not have been a big mistake.
Therefore, if John had made a big mistake, he would not have made a mistake.

(Wet Match)

If this match had been struck, it would have lit.
Therefore, if this match had been soaked in water overnight and struck, it would have lit.

(Hoover)

If J. Edgar Hoover had been a communist, he would have been a traitor.
If he had been born a Russian, he would have been a communist.
Therefore, if he had been born a Russian, he would have been a traitor.

The standard account of subjunctives – it is alleged – explains why these classical inference rules fail.² On the standard account,

¹ See e.g. Stalnaker 1968: 107, Lewis 1973: 12–13, Jackson 1991: intro, Lycan 2001: 31.

² For simplicity we will deal only with a common variant of Lewis's (1973) account. Stalnaker's (1968) is similar, and the differences will not be relevant here.

a subjunctive of the form ‘if A had been the case, B would have been the case’ is true at a world w iff B is true at all the A-worlds closest (or most relevantly similar) to w .

Two features of this account will be emphasized for our purposes. First, a consequence of the standard account is that counterfactuals with impossible antecedents (i.e. counterpossibles) are vacuously true; if there are no closest A-worlds, then vacuously all the closest A-worlds are B-worlds. Second, closeness is contextually determined, since which worlds are relevantly similar to a given world is a contextual matter. We will talk about the respects in which the A-worlds are relevantly similar to w as the ‘background facts’. Then whether, in w , A counterfactually implies B is a matter of whether B holds in the A-worlds that share (with w) the relevant background facts.

The standard account explains our pre-theoretical intuitions about the cited classical inferences as follows. Given the relevant background fact that John is highly reliable regarding the matters in question, the closest worlds in which John has made a mistake are worlds in which John has not made a big mistake. But the more distant worlds in which John has made a big mistake are worlds in which John has made a mistake. So, contraposition fails.

Given the background fact that this match is a normal match, in the closest worlds in which this match was struck, it lit. But the more distant worlds in which this match was soaked in water overnight and then struck are worlds in which it didn’t light. So, strengthening the antecedent fails.

Given the background fact that born Russians are communists, the closest worlds in which J. Edgar Hoover was born a Russian are worlds in which he is a communist. Given the background fact that Hoover was the American FBI director responsible for deporting left-wingers under the guise of subversive anti-Americanism, the closest worlds in which he is a communist are worlds in which he is a traitor. But given the relevant fact that Russians were typically not subversive, the closest worlds in which Hoover is born a Russian are worlds in which he is not a traitor. So, hypothetical syllogism fails.

The ability of the possible worlds account to explain the failure of these inferences is thought to be one of its great strengths. However, as we will argue, the results yielded rest on a contextual fallacy.

2. *The contextual fallacy*

Standard semantics teaches us to keep the context (and circumstance if a distinction is made) fixed when we evaluate an argument for

validity.³ If context were not held fixed, none of the classical inference rules would be valid. Thus, if we allow the speaker feature of the context to vary, a simple instance of *modus ponens* fails:

If John will get a rise, I will get a rise.
 John will get a rise.
 Therefore, I will get a rise.

If I utter the premisses and you the conclusion, the premisses may be true and the conclusion false. The same point applies to other features of context such as time, location and world. Consider, for instance:

If it's raining, the streets are wet.
 It's raining.
 Therefore, the streets are wet.

The premisses may be true and the conclusion false if I utter the premisses on Wednesday and the conclusion on Thursday. The same holds if I utter the premisses in Chicago and then drive to New York and utter the conclusion there. Ditto if I utter the premisses, and my counterpart utters the conclusion.

Contextualists in semantics famously deny that {speaker, location, time, world} is the complete set of contextual features. Quantifier restriction strategists, for instance, think we need domain-restricting functions.⁴ 'All the bottles are empty' may be true in spite of the fact that plenty of bottles in the universe are full. Explanation: context supplies a restricted domain, for instance, the set of objects in this room. But then for the classical inference rules to come out valid, the domain-restricting functions must be kept fixed. Consider:

If all the bottles are empty, then there is no more beer.
 All the bottles are empty.
 Therefore, there is no more beer.

If the premisses are assigned a truth-value relative to the set of objects in my house but the conclusion is assigned a truth-value relative to the set of objects in your house, then the premisses may be true and the conclusion false.

Contextualists in epistemology as well multiply contextual features.⁵ They augment the list of contextual features to include the range of

³ A point urged vigorously by David Kaplan (1989). See also Lowe's (1990) and Edgington's (1995: 254) remarks on hypothetical syllogism.

⁴ For example, Stanley and Szabo (2000) and Stanley (2002).

⁵ For example, Cohen (1987), DeRose (1995), and Lewis (1996).

possibilities the knowledge ascriber takes into account (wittingly or unwittingly). That move enables the contextualist to respect both ordinary knowledge attributions and sceptical attributions of ignorance. To illustrate, consider the following all too familiar sceptical argument resting on Closure:⁶

(Hands)

I know I have hands.

If I know I have hands, then I know I am not a brain in a vat.

Therefore, I know I am not a brain in vat.

In spite of the fact that the premisses seem true and the conclusion false, the argument is widely regarded as valid. Contextualists tend to agree to the argument's validity, *given a fixed context*. In a low-standards context, I really do know I am not a brain in a vat – as the ordinary ascriber insists. In a high-standards context, I really don't know I have a hand – just as the sceptic insists. Contextualists often add to this that the feeling that the premisses are true and the conclusion false owes to a shift of context (for example, on Lewis's (1996) theory, it owes to a shift in the range of relevant error-possibilities that must be ruled out).

Although there is disagreement about which features are features of context, there is hardly any disagreement about how to evaluate an argument for validity: hold the contextual features fixed.

3. *Classical inference victory*

Enter subjunctive conditionals. On the standard treatment, context determines a set of background facts. But if context must remain fixed when evaluating an argument for validity, the set of contextually determined background facts must remain fixed when evaluating an argument involving subjunctives for validity. And once we fix the background facts when evaluating arguments involving subjunctives for validity, contraposition, antecedent strengthening and hypothetical syllogism come out valid.⁷ Take (Reliable John):

(Reliable John)

If John had made a mistake, it would not be a big mistake.

Therefore, if John had made a big mistake, he would not have made a mistake.

⁶ Closure: if s knows p , and s knows p entails q , then s knows q . There are other more sophisticated and plausible versions of Closure, but they won't matter for our purposes.

⁷ Hájek (typescript), Lycan (2001), Tichy (1984) and Wright (1983) arrive at related conclusions on different grounds.

If the antecedent-worlds closest to the actual world are worlds in which John is highly reliable on the matters in question then the premiss is true. All the relevant worlds in which highly reliable John makes a mistake are worlds where he makes no big mistake. When evaluating the conclusion we must then hold fixed the relevant fact that John is so reliable. But then the conclusion is vacuously true. If the closest worlds are worlds in which John is highly reliable and so makes no big mistake, then there is no accessible world in which the antecedent of the conclusion is true.⁸ The conclusion is a counterpossible, and so, the consequent is implied vacuously. If, on the other hand, there are contextually relevant closest worlds in which John made a big mistake, then the premiss is false. Either way, (Reliable John) is no counter-example to contraposition.

Analogous remarks apply to the other alleged classical inference failures. If the context for evaluating the true premiss of (Wet Match) requires us to consider only worlds where a typical dry match is struck, then it will be precisely those worlds that figure in our evaluation of the conclusion. But none of those worlds are worlds where the match was soaked overnight. Since none of the contextually determined closest worlds in which the match is struck are worlds in which the match has been soaked in water, there are in that context no closest worlds where the match was soaked and struck. Evaluating the conclusion in that same context, the conclusion is vacuously true. If, on the other hand, the relevant closest worlds include worlds in which the match has been soaked and struck, then the premiss is false. For the match fails to light in these worlds. Either way, the putative counter-example to (Wet Match) is not a counter-example.

Likewise, if our evaluation of (Hoover) fixes a context for determining closeness for all three of its subjunctives, then the argument comes out valid. There are two natural cases to consider. First, suppose that the closest worlds where Hoover is a communist he is also the American born director of the FBI. Then there are no closest worlds where the American born director of the FBI is born in Russia. Hence, the second premiss and the conclusion are vacuously true, and (Hoover) is not a counter-example to hypothetical syllogism. Alternatively, suppose that the closest worlds where Hoover is born in Russia are worlds where Hoover is a typical Russian citizen. Then the first premiss is false, since not all of the closest worlds where Hoover is a communist and a typical Russian citizen is he also a traitor. But then (Hoover) is not a counter-example to hypothetical syllogism. Either way, (Hoover) is not a counter-example.

⁸ As Lewis (1979: 246) puts it, the accessibility relation just is 'the boundary between the relevant possibilities and the ignored ones'. If there is no accessible A-world, there is no possible A-world.

The upshot is that none of the putative counter-examples succeeds.

An objection to our harsh verdict is that we contradict the pre-theoretical intuitions concerning the cases. But we can explain the pre-theoretical intuitions. Recall that the epistemic contextualist believes in the validity of (Hands), and she explains the apparent invalidity that arises from the apparent conflict between our ordinary knowledge intuition (i.e. the first premiss of (Hands)) and the sceptical intuition (i.e. the negation of the conclusion of (Hands)). She does this by appealing to an illicit shift in the context (which determines the range of relevant error-possibilities). Analogously, we explain the pretheoretical intuitions about (Reliable John), (Wet Match) and (Hoover) by appealing to an illicit shift in the context (which determines the range of closest worlds).

But suppose we are wrong about this. Suppose shifting context mid-inference is no fallacy at all. Then a rather surprising consequence follows. Modus ponens – which many possible world accountants love and cherish – fails too.⁹ In fact, Vann McGee's (1985) counter-examples to modus ponens for the indicative conditional can be turned into counter-examples to modus ponens for the subjunctive. Here is a modified case.

It is right before the election in 1980. Republican Reagan is first in the polls, Democrat Carter second, and Republican Anderson third. Someone reasons as follows:

If a Republican were to win, then if Reagan were not to win,
Anderson would win.

A Republican will win.

So, if Reagan were not to win, Anderson would win.

To evaluate the first premiss we go to the nearest worlds in which a Republican wins. As Reagan was first in the polls and indeed won, the actual world is the only closest world in which a Republican wins.¹⁰ But the Reagan-loser worlds closest to the actual world are still worlds in which a Republican wins. That is because the context holds fixed that a Republican wins. And so, the Reagan-loser world closest to the actual world must be an Anderson-winner world. The first premiss comes out true. Further, since a Republican actually won, the second premiss is true as well. However, if we allow the context to shift from a range of worlds in which a Republican won to a range of worlds in which the outcome of the election mimics the outcome of the polls, then the conclusion comes

⁹ An exception is Lycan (2001: 66).

¹⁰ As Reagan won, the closest world(s) may be just the actual world, as Lewis argued, or if one prefers it may involve the actual and nearby worlds.

out false. If we do not require that context remains fixed when arguments involving subjunctives are evaluated for validity, modus ponens for subjunctives fails.

In conclusion: it would be very odd if arguments with subjunctives were an exception to the rule that context remains fixed when determining validity. If it remains fixed, then contrary to what is commonly believed, contraposition, antecedent strengthening and hypothetical syllogism for subjunctive conditionals are valid inference rules after all. If context does not remain fixed, we lose what we love and cherish.¹¹

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