Counterfactuals and ‘Counteractuals’

Counterfactual worlds considered as actual. I develop the idea of a possible world considered as actual (Davies & Humberstone 1980), which I call, following Yablo (2002) a ‘counteractual’ world. I regard counteractual worlds not as epistemic possibilities (Chalmers 2004), but as metaphysical possibilities in which distinct contexts are located. I make use of a double-indexing semantics, according to which expressions of the language and, in particular, sentences have different contents depending on the context in which they are tokened, where a context is a metaphysical, spatio-temporal location where a sentence is tokened (e.g. a context of utterance) (Stalnaker 1978, Lewis 1980, Kaplan 1989), and the content of a sentence tokened is a function from indexes of evaluation to extensions. In turn, an index of evaluation is a set of coordinates which are features of contexts: a possible world – Kaplan’s circumstance of evaluation – a time, a place, an agent. As far as this talk is concerned, it is the world feature of the context and the world coordinate of the index that matter. The notion of counterfactual worlds considered as actual helps understand some recalcitrant puzzles about counterfactuals and, by extension, indicative conditionals. I start by drawing a distinction between counterfactuals, and what I call ‘counteractuals’. Counterfactuals can be represented as $\alpha > \beta$ (where $>$ is Stalnaker’s conditional operator). The addition of the indexical Actually to their antecedent clause, $A\alpha > \beta$, results in a ‘counteractual’ ($A$ stands for Actually).

Stalnaker’s (1984) scenario attributed to Grice. Suppose that on a presidential election day, you have not heard the news yet, but you are certain of the following: (1) Wilson won. (2) If Wilson had not won, Thorpe would have (Thorpe was the second best candidate). Further, there are only three candidates: Wilson, Thorpe and Heath. When you arrive home, you turn the TV on, and see Thorpe give a concession speech, but you don’t know to whom. Still, you can maintain (1) and (2). But in view of the fact that Thorpe is giving a concession speech, you cannot deny (3): (3) If Wilson had not actually won, Heath would have. It might seem that (2) and (3) contradict each other (even more so if the antecedent of (2) contained a non-indexical emphatic actually), but we will see that they are not contradictory. (In the original scenario, (2) is contrasted with the indicative: If Wilson did not win, Heath did. However, someone who is certain of (2) would not consider the proposition that Wilson did not win compatible with his or her presuppositions.)

In the context that is located in the actual actual world (the world that is thought to be real) there are no worlds where Wilson does not actually win, since in the actual actual world it is false that Wilson does not win. In order to find worlds where Wilson does not actually win, one must look into contexts whose actual worlds are worlds where Wilson does not win. It is important that there are worlds in the context where Wilson does not actually win for, if there were no such worlds, the antecedent of the counteractual would only be true at an impossible world, and thus the counteractual would be vacuously true when evaluated at the actual world of the context.

The following axiom of the logic of Actually (Crossley & Humberstone, 1977): $A\alpha \supset \Box A\alpha$ is crucial to understand the following paragraphs. In our example, it just means that if the actual world of a context is a world where Wilson does not win, all the worlds in that context are worlds where Wilson does not actually win, including the actual world. Therefore, the closest world (most similar in the relevant respects, Stalnaker 1968, Lewis 1973) to the actual world where Wilson does not actually win is the actual world itself.
Further, the fact that the actual world where the counteractual is non-vacuously true is a world where Wilson does not win results in a context shift, i.e. the world feature of the context is shifted. The indexical actual is forced to refer to a world which is not the actual actual world, but the actual world of a context other than the context that is located in the actual actual world for, in the actual actual world, Wilson wins.

Stalnaker’s matrices – propositional concepts – are useful to illustrate the foregoing examples. The vertical axis represents worlds as features of contexts. The horizontal axis represents worlds as arguments of propositions: \( w_1 \) is a world where Wilson wins. \( w_2 \) is a world where Wilson does not win. \( c_{w_1} \) is the context whose world feature \( (w_1) \) is the world we think is actual. \( c_{w_2} \) is the context whose world feature \( (w_2) \) is a counterfactual world considered as actual. \( \beta \) is “Heath wins.”

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<th>( \beta )</th>
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In \( c_{w_1} \) at \( w_1 \) Wilson wins. In \( c_{w_1} \) at \( w_2 \) counterfactually Wilson does not win, and Thorpe wins. Although in \( c_{w_1} \) there are counterfactual worlds where Wilson does not win, there are no worlds where he does not actually win for, in the actual world of that context, he wins. Things are different in \( c_{w_2} \). At the actual world of this context, \( w_2 \), Wilson does not win. Thus, Wilson does not actually win at any world of \( c_{w_2} \), and, in particular, he does not actually win at \( w_2 \). Given that Thorpe is giving a concession speech on TV, in \( c_{w_2} \) at \( w_2 \), counteractually Heath wins. The context that fixed the reference of the indexical actually in (3) was located in \( w_2 \), not in \( w_1 \). The counterfactual in (2) comes out true when evaluated at \( w_1 \) in \( c_{w_1} \), whereas the counteractual in (3) does when evaluated at \( w_2 \) in \( c_{w_2} \). Thus the apparent contradiction between (2) and (3) fades away.

The language of conditional logic with Actually consists of a set of propositional letters, the classical connectives, a conditional connective, \( > \), and the actuality operator \( A \). The semantics is given in terms of models, \( \mathcal{M} = \langle W, f, I \rangle \), that consist of a non-empty set of worlds, \( W \), a selection function, \( f \), and an interpretation function, \( I \). \( f : (W \times \mathcal{P}(W)) \rightarrow \mathcal{P}(W) \). Truth definition: \( \mathcal{M} \models_{v} p \) iff \( v \in I(p) \), where \( v, w \in W \) and \( c_w \) is the context that is located in \( w \). \( \mathcal{M} \models_{v} \alpha \rightarrow \beta \) iff \( \mathcal{M} \not\models_{v} \alpha \) or \( \mathcal{M} \models_{v} \beta \). \( \mathcal{M} \models_{w} \alpha > \beta \) iff \( f(w, [\alpha]_{c_w}) \subseteq [\beta]_{c_w} \) (Stalnaker 1968, Lewis 1973). \( \mathcal{M} \models_{v} A\alpha \) iff \( \mathcal{M} \models_{x} \alpha \) (Crossley & Humberstone, 1977; Kaplan 1978; Davies & Humberstone, 1980). Context shift: In order for \( A\alpha > \beta \) not to be vacuously true, the conditional must be evaluated at the actual world of contexts other than \( c_w \), where \( \alpha \) is true. If there are such worlds, let \( x \) be a variable that ranges over them. For any world \( y \) with respect to \( x \) in \( c_x \), \( \mathcal{M} \models_{x} y \). And, in particular, at the world of the context, \( \mathcal{M} \models_{c_x} \alpha \). Thus, the closest \( A\alpha \)-world to \( x \) is itself. Thus: \( \mathcal{M} \models_{x} \alpha > \beta \) iff \( f(x, [\alpha]_{c_x}) \subseteq [\beta]_{c_x} \) iff \( \mathcal{M} \models_{c_x} \beta \).