# Does Williamson's Suppositional Heuristic Have a Problem with Counterpossibles?

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*Abstract*

Timothy Williamson has defended two hypotheses concerning counterfactual conditionals: that necessity can be defined in counterfactual terms; and that we follow a heuristic to the effect that a counterfactual is assessed by assessing the consequent while counterfactually supposing the antecedent. The two hypotheses form the bedrock for a program aiming to reduce the epistemology of modality to the epistemology of counterfactual thinking. This paper argues that the pair of theses, if construed as Williamson intends it, has the unwanted consequence of trivializing our judgements about necessity and possibility, thus threatening the reductionist program. Trivialization can be avoided if we suitably weaken a background hypothesis concerning the way we assess pairs of mutually inconsistent statements. One important corollary of the proposed solution is that the suppositional heuristic need not yield incorrect judgements about counterpossibles, *pace* Williamson. Moreover, the proposal remains compatible with vacuism, the view that all counterpossibles are true.

*Keywords:* Heuristic, Counterfactual, Modal Epistemology, Necessity, Vacuism.

## 1. Introduction

Timothy Williamson has advanced two central hypotheses about counterfactual conditionals. The first holds that necessity can be defined in counterfactual terms. The second states that we follow a heuristic according to which a counterfactual is assessed by assessing the consequent under the counterfactual supposition of its antecedent. Together, the hypotheses underpin a broader program that seeks to reduce the epistemology of modality to the epistemology of counterfactual reasoning.

This paper contends that, if understood as Williamson intends, the hypotheses jointly trivialize our judgments about necessity and possibility, thereby undermining the reductionist project. The threat of trivialization disappears once we weaken a background assumption concerning how we evaluate pairs of mutually inconsistent

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statements. A notable consequence of the proposed diagnosis is that the suppositional heuristic, contrary to Williamson's view, is not bound to fail when applied to counterpossibles. Furthermore, the solution upholds vacuism, the thesis that all counterpossibles are true.

The structure of the paper is as follows. Section 2 introduces the notion of a heuristic, highlighting its relevance to philosophical methodology. Section 3 introduces the two central hypotheses. Section 4 develops the main argument against conjoining the hypotheses. Finally, section 5 diagnoses the problem and puts forward a solution.

## 2. Heuristics and Metaphilosophy

Philosophers typically render judgments about particular cases by resorting to what appear to be intuitive insights into the nature of things, or into the mechanisms by which things are represented in thought and language. Such judgments are then treated as *explananda* for philosophical theorizing, or wielded as counterexamples to pre-existing theories (or both).

On the worldly side, for example, we are disposed to accept that it is essential for the singleton set {Socrates} to have Socrates as a member, and reject that it is essential for Socrates to be a member of {Socrates} (Dunn, 1990; Fine, 1994a; Nolan, 2014). This and similar intuitions, which are now largely taken for granted within the philosophical community, have led to the abandonment of intensionalist theories of essence (Correia, 2024; Torza, 2024).

On the representational side, we are disposed to accept, once filled in on the relevant historical details, that in pre-classical Greece it was believed that Phosphorus appears in the morning, and reject that in pre-classical Greece it was believed that Hesperus appears in the morning (Cresswell, 1975; Frege, 1892; Hintikka, 1962). Such intuitions have gradually caused intensionalist accounts of propositional attitudes to fall out of fashion, and with them the idea that co-referential names are intersubstitutable in all non-quotational contexts *salva veritate*.

Williamson (2024) has issued a methodological warning about such a way of collecting and interpreting data for philosophical theories. According to him, our intuitions about particular cases are by and large the output of heuristics, which he describes as mechanisms, usually unconscious and hardwired into our cognitive architecture, designed to make unreflective judgements or decisions in a way that is cost-effective and mostly accurate. In other words, heuristics are rules of thumb—reliable in typical circumstances, though prone to failure when applied to fringe scenarios.

The notion of a heuristic has been studied extensively in the scientific literature, most prominently in cognitive psychology and economics—although some (Gigerenzer et al., 2000) do, and others (Tversky and Kahneman, 1974) do not, align with the characterization of heuristics as mostly reliable, and therefore epistemically fruitful. Williamson's novel and important contribution is to call our attention to their relevance to philosophical methodology.

Heuristics are a potential source of error: insofar as they are not necessarily truth-preserving, they are bound to occasionally yield false judgements. Moreover, because they operate in the background, in a way that is both immediate and unreflective, their false outputs will feel just as intuitive as the true ones. Thus, philosophers who rely on intuition unwittingly operate on error-laden data sets, and the apparent explanatory success of their theories is illusory, resting on overfitting.

This methodological *caveat* is directed to a number of key issues in logic, semantics, epistemology and metaphysics. To wit, uncritical reliance on heuristics about relevance has led to hyperintensionalist accounts of essence (Williamson, 2025), whereas uncritical reliance on heuristics about ascription of knowledge, belief, and the like, has led to hyperintensionalist accounts of propositional attitudes (Williamson, 2024: Ch. 4).

## 3. Heuristics and Counterfactuals

Williamson has advocated two key ideas regarding counterfactual conditionals. One is the thesis that metaphysical (a.k.a. absolute) necessity can be defined by means of the counterfactual conditional, in such a way that 'something is necessary if and only if whatever were the case, it would still be the case' (Williamson, 2007: 159). If we allow for quantification into sentence position, the definition is captured in the following way:

NEC$_1$. $\Box A := \forall \mathrm{p}(\mathrm{p} > A)$

Although NEC$_1$ has been advocated before (Lewis, 1986: 23), Williamson has provided an abductive defense of it in terms of the contribution it makes to the epistemology of modality. For as long as we have the ability to assess counterfactuals, the thesis guarantees that 'the epistemology of metaphysically modal thinking is tantamount to a special case of the epistemology of counterfactual thinking' (Williamson, 2007: 158).

The second idea is that we do have the ability to assess counterfactuals. Namely, we accept (reject) a counterfactual just in case we accept (reject) the consequent while counterfactually supposing the antecedent (Williamson, 2007: 152-153; Williamson, 2017: 215; Williamson, 2020: 189-231). In other words, we abide by the following heuristic:

SUP. Assess $A > B$ as you assess $B$ under the counterfactual supposition $A$.

To counterfactually suppose $A$ is tantamount to supposing a situation that makes $A$ true while minimally departing from what one takes actuality to be like.[1]

If the hypothesis is correct, an assessment of 'if Oswald had not killed Kennedy,

[1] I am setting aside two important but orthogonal issues. First, the notion of a minimal departure from our beliefs can be precisified in order to account for the difference between indicative and counterfactual supposition, cf. Berto (forthcoming: 10). Second, Williamson takes the counterfactual conditional not as semantically primitive, *contra* the Stalnaker-Lewis tradition, but as a contextually restricted strict conditional 'would if'.

someone else would have' will proceed as follows. First, suppose a scenario that makes 'Oswald did not kill Kennedy' true while relinquishing as little as possible of what you believe about the way things actually are. If by means of reasoning and imagination you come to accept (reject) that 'someone else killed Kennedy' is true of the envisioned scenario, you will then accept (reject) the truth of the original conditional.

Williamson (2017: 218) argues that SUP entails a further heuristic governing the way we assess pairs of contrary counterfactuals:[2]

$\text{SUP}^*_1$. If $B, C$ are mutually inconsistent, reject $A > B$ if you accept $A > C$.

The argument goes as follows. Assume that we accept $A > C$. It follows from SUP that we accept $C$ under the counterfactual supposition $A$. Insofar as we are disposed to reject mutually inconsistent statements under any counterfactual supposition, we are going to reject $B$ under the counterfactual supposition $A$ and, by SUP, reject $A > B$ *simpliciter*.[3]

According to Williamson (2017; 2024: xv), the suppositional heuristic becomes unreliable whenever we assess counterpossibles, i.e., counterfactuals with impossible antecedents. In order to see that, assume the following system **L**, which is a fragment of the counterfactual logic defended in Williamson (2007: 293-96):

PL. Axioms and rules of classical propositional logic.

$\forall$E. $\vdash \forall \text{p} A \rightarrow A[B/\text{p}]$

$\forall$I. If $\vdash A \rightarrow B$ then $\vdash A \rightarrow \forall \text{p} B$, for p not free in $A$

REF. $\vdash A > A$

CLOS. If $\vdash (B_1 \wedge \ldots \wedge B_n) \rightarrow C$ then $\vdash ((A > B_1) \wedge \ldots \wedge (A > B_n)) \rightarrow (A > C)$

EQ. If $\vdash A \leftrightarrow B$ then $\vdash (A > C) \leftrightarrow (B > C)$

Conditions PL, $\forall$E and $\forall$I are principles of classical higher-order logic. REF states the reflexivity of counterfactual implication. CLOS tells us that counterfactual implication is closed under entailment. EQ guarantees that logical equivalents counterfactually imply the same things.

It can be shown in **L** that $\text{NEC}_1$ entails *vacuism*, the controversial view that all counterpossibles are true (see appendix for the proof):

VAC. $\Box \neg A \rightarrow \forall \text{p}(A > \text{p})$

[2] Two counterfactuals are said to be *contrary* if they have the same antecedent and mutually inconsistent consequents, i.e., consequents that cannot both be true. Note that mutual inconsistency can be logical (as in 'Socrates was born in Greece' and 'Socrates was not born in Greece') or non-logical (as in 'Socrates was born in Greece' and 'Socrates was born in Egypt').

[3] In section 4, I will return to, and call into doubt, the assumption that we reject mutually inconsistent statements under any counterfactual supposition.

Suppose now that $A$ is impossible. If we accept $A > B$, $\text{SUP}_1^*$ prescribes that we reject $A > \neg B$, and so that we reject some truth, insofar as VAC guarantees every counterpossible to be true. Because $\text{SUP}_1^*$ is derived from SUP, the same conclusion carries over to the latter. The suppositional heuristic is therefore unreliable in the case of counterpossibles, provided that necessity is characterized by $\text{NEC}_1$ and that the counterfactual conditional obeys the logic **L**.

## 4. The Puzzle

Even though the conjunction of suppositional heuristic (SUP) and counterfactual definition of necessity ($\text{NEC}_1$) generates only a local failure in our judgements of counterfactuals, namely when the antecedent is impossible, it leads to a global failure in our judgements of necessity, thus threatening the program to reduce the epistemology of metaphysical modality to the epistemology of counterfactual thinking.

My argument rests on the hypothesis that we follow two simple rules:

$\text{E}_1$. Accept $A$ under the counterfactual supposition $A$.

$\text{E}_2$. Reject $\forall \text{p} A$, if you reject $A[B/\text{p}]$.

The hypothesis has strong credentials. $\text{E}_1$ is an eminently plausible principle about the nature of suppositions (Williamson, 2020: 18). Alternatively, it can be derived from SUP together with the hypothesis that we accept every substitution instance of REF. $\text{E}_2$ is corroborated by the fact that we will reject a universal generalization about states of affairs ('Everything is possible') as soon as we reject one of its instances ('It is possible that $1 = 0$'). Alternatively, $\text{E}_2$ can be derived from the hypothesis that we accept every instance of $\forall$E together with the assumption that, if we accept a conditional of which we reject the consequent, then we will also reject the antecedent.

The argument against conjoining SUP and $\text{NEC}_1$ goes as follows. Consider the necessary statement

(a) Hesperus is Phosphorus.

By $\text{NEC}_1$, the necessity of (a) is definitionally equivalent to the truth of

(b) $\forall \text{p}(\text{p} >$ Hesperus is Phosphorus).

By the lights of Williamson's reductionist program, we assess whether (a) is necessary by assessing (b); and, according to SUP, assessing (b) is tantamount to assessing (a) under arbitrary counterfactual suppositions.

It follows from E1 and SUP that we accept

(c) Hesperus is not Phosphorus $>$ Hesperus is not Phosphorus.

By $\text{SUP}_1^*$, we will therefore reject

(d) Hesperus is not Phosphorus $>$ Hesperus is Phosphorus.

Because (d) is an instance of (b), $\text{E}_2$ guarantees that we will reject (b) itself, and so the necessity of (a).

The argument straightforwardly generalizes to the assessment of every necessary statement. We must conclude that the conjunction of $\text{NEC}_1$ and SUP leads to systematic misjudgments about statements of necessity. Moreover, insofar as possibility is definable from necessity in the standard fashion, the problem involves our judgements of possibility, as well.

The moral extends to alternative candidate definitions of necessity in counterfactual terms, such as the following two:

$\text{NEC}_2$. $\Box A := (\neg A > A)$

$\text{NEC}_3$. $\Box A := (\neg A > (A \wedge \neg A))$

$\text{NEC}_2$ says that something is necessary just in case it is counterfactually implied by its negation. According to $\text{NEC}_3$, something is necessary just in case its negation counterfactually implies a contradiction.[4]

If necessity is defined via $\text{NEC}_2$, the reductionist program tells us that assessing whether (a) is necessary amounts to assessing (d). As we already know, the conjunction of REF and SUP leads to the rejection of (d) and, therefore, to the wrong conclusion that (a) is not necessary.

If necessity is defined via $\text{NEC}_3$, the reductionist program tells us that assessing the necessity of (a) amounts to assessing

(e) Hesperus is not Phosphorus $>$ (Hesperus is Phosphorus and Hesperus is not Phosphorus).

By SUP, we assess (e) as we assess

(f) Hesperus is Phosphorus and Hesperus is not Phosphorus

under the counterfactual supposition 'Hesperus is not Phosphorus'. But if we are disposed to reject mutually inconsistent statements under any supposition, as was assumed in the derivation of $\text{SUP}_1^*$, we will be likewise disposed to reject the conjunction of such statements under any counterfactual supposition. Consequently, we are going to reject (f) under the counterfactual supposition 'Hesperus is not Phosphorus', hence to reject (e) *simpliciter*. We will then wrongly judge against the necessity of (a).

To recapitulate, if the suppositional heuristic is conjoined with any of the aforementioned definitions of necessity, every statement will be assessed as contingent. Since in

[4] The three candidate definitions are equivalent in Williamson's counterfactual logic, which is obtained from **L** by adding the axiom schema $\vdash (\neg A > A) \rightarrow (B > A)$, see Williamson (2007: 297).

fact we do not assess all statements as contingent, the argument amounts to a *reductio* of the conjunction of SUP and $\text{NEC}_{1/2/3}$.

One might be tempted to diagnose the puzzle along the following lines. Based on the counterfactual definition of necessity, assessing a true statement $\Box A$ involves assessing some counterpossible—either $\neg A > A$, whether directly as per $\text{NEC}_2$ or via $\forall \text{p}(\text{p} > A)$ as per $\text{NEC}_1$, or else $\neg A > (A \wedge \neg A)$ as per $\text{NEC}_3$. Insofar as the suppositional heuristic fails for counterpossibles, it will then fail for $\Box A$, as well.

The diagnosis is incorrect. The suppositional heuristic was shown to be fallible given vacuism, which we derived in the logic **L**.[5] But the argument of the present section against conjoining the suppositional heuristic and the counterfactual definition of necessity is independent of **L**. In particular, the argument does not appeal to CLOS or EQ, which are the more controversial principles of **L** concerning counterfactuals.[6] Likewise, the argument is independent of the truth of vacuism.[7] So, one cannot hope to meet the challenge just by tweaking the logic of counterfactuals.

On the other hand, relinquishing either the suppositional heuristic or the counterfactual definition of necessity would strike at the heart of Williamson's reductionist program. In the following section I am going to sketch a diagnosis that exonerates both hypotheses, and locates the culprit in the claim that the suppositional heuristic commits us to the heuristic $\text{SUP}_1^*$.

## 5. Heuristics and Inconsistency

The argument purporting to show that $\text{SUP}_1^*$ can be recovered from SUP (section 3) implicitly relies on the following heuristic:

$\text{MIS}_1$. Reject a pair of mutually inconsistent statements under any counterfactual supposition.

That we indeed abide by $\text{MIS}_1$ is doubtful, however. If acceptance is closed under conjunction elimination and *modus ponens*, we accept the inconsistent pair $A, \neg A$ under the counterfactual supposition $A \wedge (A \rightarrow \neg A)$.

If acceptance is closed under conjunction elimination, we accept $A$ under the counterfactual supposition $A \wedge \neg A$, and we accept $\neg A$ under the counterfactual supposition $A \wedge \neg A$. Therefore, we accept the inconsistent pair $A, \neg A$ under the counterfactual supposition $A \wedge \neg A$.

If acceptance is closed under $\text{E}_1$, we accept $A \wedge \neg A$ under the counterfactual supposition $A \wedge \neg A$. Therefore, we accept the inconsistent pair $A \wedge \neg A, A \wedge \neg A$ under the counterfactual supposition $A \wedge \neg A$.

[5] To be precise, it was shown in **L** that vacuism follows from $\text{NEC}_1$. It can also be shown in **L** that vacuism follows from $\text{NEC}_2$, as well as from $\text{NEC}_3$. The proofs can be found in the appendix.
[6] See Berto and Jago (2019: 272-273) and Fine (1994b) for objections to those principles.
[7] Indeed, Berto et al. (2018) have defended a non-vacuist semantics for counterfactuals validating $\text{NEC}_3$.

In the scope of suitable suppositions, we also accept statements whose mutual inconsistency is not logical in character. Indeed, within the counterfactual supposition 'Figure $f$ is a round square' we accept both 'Figure $f$ is round' and 'Figure $f$ is square', provided that acceptance is closed under conjunction elimination. We may conclude that, in general, we seem to accept pairs of mutually inconsistent statements under some suppositions.

If we do not abide by $\text{MIS}_1$, we must follow some rule or other in that vicinity if the suppositional heuristic is to be viable. For were we not disposed to avoid inconsistencies when reasoning suppositionally, SUP would easily lead us into absurdity. What the above discussion seems to suggest is that we are disposed to avoid inconsistencies under any counterfactual supposition, unless the supposition is itself inconsistent. If this hypothesis is correct, the relevant heuristic is as follows:

$\text{MIS}_2$. Reject a pair of mutually inconsistent statements under any consistent counterfactual supposition.

We may now return to the main point. When arguing against the conjunction of suppositional heuristic and counterfactual definition of necessity I appealed to $\text{SUP}_1^*$, the derivation of which involves $\text{MIS}_1$. If the way we assess pairs of mutually inconsistent statements follows the weaker $\text{MIS}_2$ instead, the argument will not go through, and the program of reducing the epistemology of modality to the epistemology of counterfactuals appears to be back on track. We will reach the same conclusion if $\text{NEC}_1$ is replaced with $\text{NEC}_2$ or $\text{NEC}_3$.

The hypothesis that the way we assess mutually inconsistent statements is not governed by $\text{MIS}_1$ can also shed light on the accuracy of our judgments about counterfactuals. As we saw, Williamson takes SUP to be fallible in that it delivers incorrect judgements about counterpossibles. Yet, this conclusion can be resisted. There exist indeed two routes to make room for the view that the suppositional heuristic is a reliable method for reasoning about the impossible.

The first strategy consists in blocking the derivation of vacuism from the counterfactual definition of necessity by weakening **L**. In particular, one can drop either the *ex absurdo quodlibet* (and so PL) or the thesis that counterfactual implication is closed under entailment (CLOS)—both of which are involved in the proof of VAC from each of $\text{NEC}_1$, $\text{NEC}_2$, and $\text{NEC}_3$ (see the proofs in the appendix). The non-vacuist could then consistently maintain that the suppositional heuristic for counterfactuals need not output incorrect results when applied to counterpossibles because not all counterpossibles are true.

The second strategy leaves **L** as is, and rejects instead the hypothesis that we assess mutually inconsistent statements in accordance with $\text{MIS}_1$. This option makes room for the view that the suppositional heuristic need not output incorrect results when applied to counterpossibles because it does not require us to reject every pair of contrary counterfactuals.

Two things should be noted about the latter strategy. First, it is compatible with vacuism, which it entails given the counterfactual definition of necessity. Second, it is compatible with the hypothesis that pairs of inconsistent statements are assessed in accordance with $\textsc{mis}_2$. For this and SUP jointly license the following heuristic for the evaluation of pairs of contrary counterfactuals:

$\textsc{sup}^*_2$. If $B, C$ are mutually inconsistent and $A$ is consistent, reject $A > B$ if you accept $A > C$.

Unlike $\textsc{sup}^*_1$, the weaker $\textsc{sup}^*_2$ allows us to accept both $A > B$ and $A > \neg B$, whenever $A$ is impossible. In general, the combination of **L**, SUP and $\textsc{mis}_2$ does not require us to reject every pair of contrary counterfactuals. In fact, if '[$\textsc{sup}^*_1$] fails only for counterpossibles' (Williamson, 2024: xv), $\textsc{sup}^*_2$ will be failproof.

Crucially, the second strategy is an immediate corollary of the proposed solution to the puzzle from section 4. Thus, as we searched for a way out of the *reductio*, we stumbled upon evidence that the suppositional heuristic for counterfactuals does not have a special problem with counterpossibles.[8]

## Appendix

Let us rehearse the three candidate definitions of necessity:

$\textsc{nec}_1$. $\Box A := \forall \mathrm{p}(\mathrm{p} > A)$

$\textsc{nec}_2$. $\Box A := (\neg A > A)$

$\textsc{nec}_3$. $\Box A := (\neg A > (A \wedge \neg A))$

Given the logic **L** from section 3, each of the above conditions entails vacuism, the thesis that all counterpossibles are true:

VAC. $\Box \neg A \to \forall \mathrm{p}(A > \mathrm{p})$

The three proofs proceed as follows:

| | | |
|---|---|---|
| 1. | $\Box\neg A \to \forall \mathrm{p}(\mathrm{p} > \neg A)$ | $\textsc{nec}_1$ |
| 2. | $\forall \mathrm{p}(\mathrm{p} > \neg A) \to (A > \neg A)$ | $\forall$E |
| 3. | $\Box\neg A \to (A > \neg A)$ | PL: 1, 2 |
| 4. | $A > A$ | REF |
| 5. | $(A \wedge \neg A) \to B$ | PL |
| 6. | $((A > A) \wedge (A > \neg A)) \to (A > B)$ | CLOS: 5 |
| 7. | $(A > A) \to (\Box\neg A \to (A > A))$ | PL |
| 8. | $\Box\neg A \to (A > A)$ | PL: 4, 7 |
| 9. | $\Box\neg A \to (A > B)$ | PL: 3, 6, 8 |
| 10. | $\Box\neg A \to \forall \mathrm{p}(A > \mathrm{p})$ | $\forall$I: 9 |

[8] I would like to thank Andrea Bianchi and colleagues at the University of Parma, as well as the anonymous referees for *Argumenta*, for their valuable and generous comments.

| | | |
|---|---|---|
| 1. | $\Box\neg A \to (\neg\neg A > \neg A)$ | NEC$_2$ |
| 2. | $\neg\neg A > \neg\neg A$ | REF |
| 3. | $A \leftrightarrow \neg\neg A$ | PL |
| 4. | $\neg\neg A > \neg\neg A \to (\Box\neg A \to (\neg\neg A > \neg\neg A))$ | PL |
| 5. | $\Box\neg A \to (\neg\neg A > \neg\neg A)$ | PL: 2, 4 |
| 6. | $(\neg\neg A \wedge \neg A) \to B$ | PL |
| 7. | $((\neg\neg A > \neg\neg A) \wedge (\neg\neg A > \neg A) \to (\neg\neg A > B)$ | CLOS: 7 |
| 8. | $\Box\neg A \to (\neg\neg A > B)$ | PL: 1, 5, 7 |
| 9. | $(A > B) \leftrightarrow (\neg\neg A > B)$ | EQ: 3 |
| 10. | $\Box\neg A \to (A > B)$ | PL: 8, 9 |
| 11. | $\Box\neg A \to \forall \mathrm{p}(A > \mathrm{p})$ | $\forall$I: 10 |

| | | |
|---|---|---|
| 1. | $\Box\neg A \to (\neg\neg A > (\neg A \wedge \neg\neg A))$ | NEC$_3$ |
| 2. | $(\neg A \wedge \neg\neg A) \to B$ | PL |
| 3. | $(\neg\neg A > (\neg A \wedge \neg\neg A)) \to (\neg\neg A > B)$ | CLOS: 2 |
| 4. | $\Box\neg A \to (\neg\neg A > B)$ | PL: 1, 3 |
| 5. | $A \leftrightarrow \neg\neg A$ | PL |
| 6. | $(A > B) \leftrightarrow (\neg\neg A > B)$ | EQ: 5 |
| 7. | $\Box\neg A \to (A > B)$ | PL: 4, 6 |
| 8. | $\Box\neg A \to \forall \mathrm{p}(A > \mathrm{p})$ | $\forall$I: 7 |

## References


Berto, F., forthcoming. “The Ramsey test for counterfactuals is a consistent heuristic”, *Ergo*.

Berto, F., French, R., Priest, G., and Ripley, D., 2018. “Williamson on counterpossibles”, *Journal of Philosophical Logic*, 17(4), 693-713.

Berto, F., and Jago, M., 2019. *Impossible Worlds*. Oxford: Oxford University Press.

Correia, F., 2024. “Non-modal conceptions of essence”, *In*: K. Koslicki and M.J. Raven (eds.), *The Routledge Handbook of Essence in Philosophy*. Routledge.

Cresswell, M.J., 1975. “Hyperintensional logic”, *Studia Logica*, 34(1), 25-38.

Dunn, J.M., 1990. “Relevant predication 3: Essential properties”, *In*: J. Dunn and A. Gupta (eds.), *Truth or Consequences*. Kluwer Academic Publishers.

Fine, K., 1994a. “Essence and modality”, *Philosophical Perspectives*, 8, 1-16.

Fine, K., 1994b. “Counterfactuals without possible worlds”, *Journal of Philosophy*, 109, 221-46.

Frege, G., 1892. “Über Sinn und Bedeutung”, *Zeitschrift für Philosophie und philosophische Kritik*, 100(1), 25-50.

Gigerenzer, G., Todd, P.M., and ABC Research Group, 2000. *Simple Heuristics That Make Us Smart*. Oxford University Press.

Hintikka, J., 1962. *Knowledge and Belief: An Introduction to the Logic of the Two Notions*. Cornell University Press.

Lewis, D.K., 1986. *On the Plurality of Worlds*. Blackwell.

Nolan, D., 2014. "Hyperintensional metaphysics", *Philosophical Studies*, 171(1), 149-60.

Stalnaker, R.C., 1968. "A theory of conditionals", *In*: N. Rescher (ed.), *American Philosophical Quarterly, Monographs 2 (Studies in Logical Theory)*, 98-112.

Torza, A., 2024. "Modal conceptions of essence", *In*: K. Koslicki and M.J. Raven (eds.), *The Routledge Handbook of Essence in Philosophy*. Routledge.

Tversky, A., and Kahneman, D., 1974. "Judgment under uncertainty: Heuristics and biases: Biases in judgments reveal some heuristics of thinking under uncertainty", *Science*, 185(4157), 1124-31.

Williamson, T., 2007. *The Philosophy of Philosophy*. Wiley-Blackwell.

Williamson, T., 2017. "Counterpossibles in semantics and metaphysics", *Argumenta*, 2(2), 195-226.

Williamson, T., 2020. *Suppose and Tell: The Semantics and Heuristics of Conditionals*. Oxford University Press.

Williamson, T., 2024. *Overfitting and Heuristics in Philosophy*. Oxford University Press.

Williamson, T., 2025. "Essences, heuristics, and metaphysical illusions", *Metaphysics*, 8(2), 47-60.