# A Semantics for Moral Error Theory

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#### Abstract

Moral error theory has been criticized on formal grounds for lacking a coherent semantics of moral sentences. In this paper, I provide a truthmaker-based semantics of moral sentences that is compatible with moral error theory. The hyperintensional account draws attention to the exact truth- and falsemakers of moral propositions. Error theorists must assume that propositions that have only moral truthmakers have at least one non-moral falsemaker. A central upshot of the discussion is that moral error theory is compatible with a classical logic of moral notions.

**Keywords:** Error Theory • Semantic Challenge • Truthmaker Semantics • Hyperintensionality

## 1 The Semantic Challenge

There is an ongoing debate whether moral error theory can be rejected on purely *formal* grounds.<sup>1</sup> A formal challenge to moral error theory concerns the error theorist's ability to provide a *non-trivial* semantics of moral sentences that is *compatible* with error theory.<sup>2</sup> The challenge results from the combination of two intuitively appealing principles:

<sup>&</sup>lt;sup>1</sup>See, for example, the debate between Streumer and Wodak (2021, ming) and Tiefensee and Wheeler (2021, 2022). See also (Boghossian 2006: 27-28), (Sinnott-Armstrong 2006: 32-37) and (Dworkin 2011: 42-44). <sup>2</sup>See (Tiefensee and Wheeler 2021). I follow the authors in splitting the challenge into two components,

which they call 'the triviality challenge' and 'the consistency challenge'.

Law of Excluded Middle: One of the sentence S and its negation is true.

**SM-Closure:** If a sentence S is about a particular subject matter, its negation is about that subject matter.<sup>3</sup>

Given these principles, for every moral sentence M, its negation is also moral, while one of M and  $\neg M$  is true. This result is incompatible with the error-theoretic claim that no moral sentence is true. Consequently, error theorists are left with two costly options: Either they grant truth-value gaps, thereby giving up on Law of Excluded Middle, or they grant that negations of moral propositions are not moral propositions, thereby giving up on SM-Closure. Some error-theoretic approaches indeed rely on truth-value gaps.<sup>4</sup> However, a semantics that can do without the assumption of truth-value gaps would clearly improve the error theorist's dialectical position.<sup>5</sup> Given that, the second strategy might seem attractive. The claim that a negation of a moral proposition is not a moral propositions, however, is under pressure. Commonly, it is assumed that, for example, the deontic notions of permissibility and obligation are dual. That is,  $O\varphi (P\varphi)$  and  $\neg P \neg \varphi (\neg O \neg \varphi)$  are necessarily equivalent. Given the duality principle, negations of obligations entail permissions, and error theorists are thus committed to denying that propositions about permissions are moral. This casts doubt on the adequacy of their semantic account.<sup>6</sup>

The semantic challenge has yet another dimension. Some moral error theorists assume that moral sentences are not only false, but false *in all* possible worlds.<sup>7</sup> On possible worlds

 $<sup>^{3}</sup>$ This principle gets additional support from formal accounts of subject matter, see (Yablo 2014), (Fine 2017b).

<sup>&</sup>lt;sup>4</sup> Kalf (2018) defends a presuppositional version of moral error theory.

<sup>&</sup>lt;sup>5</sup>There is also a substantive reason against pursuing that strategy. Streumer and Wodak (2021: 256) have persuasively argued that sentences like 'Obama has supernatural powers' are not only not true, but simply false, if supernatural powers do not exist.

<sup>&</sup>lt;sup>6</sup>At this stage, I rely on an intuitive distinction between moral and non-moral propositions. Eventually, I shall argue that the truthmaker-based account provides us with compelling classifications of propositions that improve on extant accounts.

<sup>&</sup>lt;sup>7</sup>Necessary moral error theory contrasts with *contingent* moral error theory, according to which moral sentences are actually false, but might be true in other possible worlds, see (Brown 2013).

semantics, this means that all moral sentences express the same trivial proposition, namely the empty set.<sup>8</sup> This result is particularly unsatisfying for moral error theorists because they grant that moral language is meaningful. In sum, error theorists face the challenge of providing a semantics of moral sentences that does not trivialize moral content and that is compatible with error-theoretic commitments. In what follows, I argue that this challenge can be met by employing the hyperintensional framework of truthmaker semantics developed by Kit Fine (2017a,b,c, 2021).

### 2 Truthmaker Semantics

Before turning to the technical details of the account, let me outline the general idea on which the proposal is based. Some moral propositions require the world to be in a particular moral state, while other moral propositions can be true in either a moral or a non-moral way. The semantic approach outlined below shows that for each moral proposition of the first kind, its *negation* is a moral proposition of the second kind. Error theorists, however, can accept truths that are true in a non-moral way. For that reason, error theory is compatible with the semantic account.

I start with a brief introduction into the Finean truthmaker semantics.<sup>9</sup> On the standard possible world approach, the proposition expressed by a sentence S is identified with the set of possible worlds where S is true. Consequently, sentences that are true in the same possible worlds express the same proposition, which entails relatively coarse-grained distinctions between propositions. By contrast, the truthmaker-based approach emphasizes the importance of making finer distinctions by directing attention to specific *aspects* of worlds that are crucial for determining the truth of the proposition in question. I shall

<sup>&</sup>lt;sup>8</sup>See (Tiefensee and Wheeler 2021: 2).

<sup>&</sup>lt;sup>9</sup>For the details of the account, see (Fine 2017a,b,c).

call those aspects of worlds *states*.

Note that, for the purpose of the semantics and in contrast to metaphysical applications of the idea of truthmaking, the term 'state' is treated as a technical term and need not refer to states in any intuitive sense of the term. Everything that could be endowed with the required mereological structure and that can be properly regarded as truthmaker could in principle be a state.<sup>10</sup> The following constraints characterize states: In contrast to worlds, states will often be incomplete, meaning that they do not settle every question. Consider, for example, the state that Joan's act is brave. This state, in contrast to a possible world, does not settle whether it is rainy. In addition, states are required to be non-disjunctive. To see what that means, consider the proposition [It is rainy or sunny].<sup>11</sup> States that make this proposition true include a state to the effect that it is sunny and a state to the effect that it is rainy. However, there are not in addition to that any disjunctive states like it being rainy-or-sunny that make the proposition in question true.

States can be subject to part-whole relations. Consider the complex state that Joan's act is brave and generous. It contains the state that Joan's act is brave as a proper part. The parthood relation, which I shall denote by ' $\sqsubseteq$ ', introduces a partial order on the set of all states.<sup>12</sup> Finally, I assume that any two states s and t have a fusion which I denote by ' $s \sqcup t$ '.  $s \sqcup t$  is the smallest state that contains s and t.<sup>13</sup>

It is important to note that states need not obtain. Suppose that Joan's act is indeed brave. In that case, the state that Joan's act is cowardly will not obtain. Moreover, some states cannot obtain, for example, a state to the effect that the number 3 is even. I shall

<sup>&</sup>lt;sup>10</sup>See, e.g., (Fine 2017c) and (Jago 2020). Fine points out that a similar perspective on possible worlds can be found in Lewis' early work where they are regarded as arbitrary points.

 $<sup>^{11}</sup>$ I shall refer to the proposition expresses by a sentence S by enclosing it in square brackets.

<sup>&</sup>lt;sup>12</sup>That is, for all states s, t, v: i)  $s \sqsubseteq s$ , ii) if  $s \sqsubseteq t$  and  $t \sqsubseteq s$ , then s = t and iii) if  $s \sqsubseteq t$  and  $t \sqsubseteq v$ , then  $s \sqsubseteq v$ .

<sup>&</sup>lt;sup>13</sup>More formally: For some state  $v \ v = s \sqcup t$  iff i)  $s \sqsubseteq v$ , ii)  $t \sqsubseteq v$ , and iii) for all w that satisfy conditions i)-ii)  $v \sqsubseteq w$ .

call states that cannot obtain *impossible* states. Since states need not obtain, the formal framework allows for impossible states. I shall say that two states are incompatible iff their fusion is an impossible state.

I shall now turn to propositions. For present purposes, an exact notion of truthmaking is relevant. A state is an exact truthmaker of a proposition  $P(s \vdash P)$  iff s brings about P's truth and is wholly relevant to it. That is, s guarantees P's truth, but does not contain any parts that do not help to make it the case that  $P.^{14}$  To get a better grip on that notion, consider the proposition [Joan's act is brave]. A state to the effect that Joan's act is brave brings about the proposition's truth and is wholly relevant to it. By contrast, the more complex state that Joan's act is brave and generous contains a part that does not help to bring about the proposition's truth. Thus, the more complex state is no *exact* truthmaker. For now, we may identify a proposition with the *set* of its exact truthmakers to lay down the semantic clauses for some of the boolean operations. A state that makes a conjunction true is the fusion of states that make the conjuncts true; a state that makes a disjunction true makes at least one of the disjuncts true. For propositions  $P, Q:^{15}$ 

**Conjunction:**  $P \land Q = \{ p \sqcup q : p \vdash P \text{ and } q \vdash Q \},\$ 

**Disjunction:**  $P \lor Q = \{s : s \vdash P \text{ or } s \vdash Q\}.$ 

For the error-theorist, negation plays a crucial role. In the truthmaker framework, negation is defined by employing a notion of falsemaking that is subject to the same exactness conditions as the notion of truthmaking.<sup>16</sup> Intuitively, states that make false [It

<sup>&</sup>lt;sup>14</sup>Note that a truthmaker must obtain to be an actual truthmaker.

<sup>&</sup>lt;sup>15</sup>See (Fine 2017b: 631-632). The semantic clauses given in the main text specify the *truthmakers* of conjunctions and disjunctions. For reasons of space, I omit specifying their *falsemakers*, but see (Fine 2017b: 631-632).

<sup>&</sup>lt;sup>16</sup>The additional notion of falsemaking is required because in some cases [P]'s truthmakers do determine the truthmakers of  $[\neg P]$ , see (Fine 2017a: 633-634). Even if truth- and falsemaking do not come apart, it is often helpful to think about particular cases in both terms.

is rainy] make true its negation [It is not rainy] and vice versa. Accordingly, a propositions P is identified with the pair  $(P^+, P^-)$  where  $P^+$  is the set of P's truthmakers and  $P^-$  is the set of P's falsemakers. Formally, P's negation is defined as:

Negation: 
$$\neg P = (\neg P^+, \neg P^-) = (P^-, P^+).^{17}$$

To exclude that a proposition can be both true and false, it is required that states that make a proposition true exclude each state that makes the proposition false.

### **3** Non-Triviality: Hyperintensional Distinctions

On an intensional approach, *necessary* moral error theorists, according to whom moral sentences are false in all possible worlds, have to assign trivial content to all moral sentences. By contrast, on the state-based approach, a proposition is a tuple of sets comprising its truth- and falsemakers. To see that the semantic clauses outlined above entail distinctions between propositions expressed by necessarily equivalent sentences, consider two unrelated sentences P and Q. Let p make [P] true and likewise for q and [Q]. Compare  $P \lor (P \land Q)$ and P, which are necessarily equivalent.  $[P \lor (P \land Q)]$  is made true by the state  $p \sqcup q$ because  $p \sqcup q$  makes the second disjunct true. However,  $p \sqcup q$  is no exact truthmaker of [P]because it contains a part that does not help to bring about [P]'s truth. The propositions are distinct because they do not share all of their truthmakers.

Similar reasoning applies when we consider necessary falsehoods. By the semantic clause for conjunction, a state s makes  $[P \land \neg P]$  true if it is the fusion of a truthmaker of [P] and a truthmaker of  $[\neg P]$ . If P and Q are unrelated, this relation will not hold between s and  $[Q \land \neg Q]$ . While s is an impossible state, it does not bear the truthmaking relation to all necessary falsehoods. The approach thereby accounts for the intuitive assessment  $\overline{}^{17}$ (Fine 2017b: 632).

that not all necessary falsehoods mean the same. Let me explain how this serves the error theorist's purpose. In general, states that bear the exact truthmaking relation to, for example, [Joan ought to help] do not bear the same relation to, for example, [Sam is blameworthy]. The pertinent truthmakers might be impossible states, but that does not exclude that the propositions are made true by different states. To the contrary, what explains that moral sentences can be seen to differ in meaning is that they differ in what matters to their truth.<sup>18</sup>

Note that error theorists do not incur any commitment to moral truths by acknowledging moral truthmakers. Consider [The number 4 is prime] which is made true by an impossible state to the effect that the number 4 is prime. Yet, since this state cannot obtain, the proposition is always false. Consequently, error theory is compatible with a semantics that distinguishes between moral sentences based on the states that qualify as their exact truthmakers.

### 4 Semantic Clauses for O and P

Error theorists have difficulty in providing a semantics of moral sentences that is compatible with their view. In what follows, I show how they can avoid those difficulties by employing truthmaker semantics. I focus on the deontic notions of obligation (O) and permissibility (P) because they provide a particularly hard case due to their duality, but the strategy carries over to other moral notions. Before I start, one caveat is in order: I shall not provide a fully specified semantics of O and P.<sup>19</sup> For present purposes, it only matters which *kinds* of states make  $[O\varphi]$  and  $[P\varphi]$  true or false, respectively. This allows me to stay neutral on several other semantic questions.

<sup>&</sup>lt;sup>18</sup>Note that this result is due to hyperintensional distinctions and not unique to a truthmaker-based account. <sup>19</sup>For truthmaker-based semantics of O and P, see (Anglberger et al. 2016), (Fine 2018a,b).

In a first step, I turn to  $O\varphi$  and its truth- and falsemakers.<sup>20</sup> Consider [It is obligatory to keep a promise X] and its truthmakers. A state to the effect that an obligation to keep X is present makes that proposition true. That state is arguably a moral state.<sup>21</sup> States are used to model an independently plausible distinction between moral and non-moral propositions. Roughly, we may think of basic moral states as corresponding to paradigmatic atomic moral sentences and introduce constraints for complex states so that having a moral part is necessary and sufficient to be a moral state. Given that, the following assumption seems plausible: All states that make true  $O\varphi$  are moral. For ease of presentation, I shall assume that  $O\varphi$  has a single truthmaker denoted by ' $o_{\varphi}$ '.

Next, I turn to  $O\varphi$ 's falsemakers. Which states render [It is obligatory to keep X] false? In light of the duality principle, the state that a permission to break X is present would do the job. This state is a moral state. After all, this intuitive assessment motivates the semantic challenge in the first place. I denote a state to the effect that it is permissible not to  $\varphi$  by ' $p_{\tilde{\varphi}}$ '. Note that, given standard assumptions,  $o_{\varphi} \sqcup p_{\tilde{\varphi}}$  is an impossible state. Error theorists want to say that  $O\varphi$  is false. In the state-based framework, a proposition is false iff at least one of its falsemakers *actually* obtains. Error theorists, however, deny that *moral* states actually obtain. Thus, error theorists need to postulate in addition a *non-moral* falsemaker of  $O\varphi$ .

Such a postulate raises a number of questions. Isn't that postulate ad hoc? What should such a non-moral state look like? A thorough discussion of those questions would go beyond the scope of this paper. My aim is to lay down a coherent semantics that provides the resources to account for error-theoretic commitments. That said, let me briefly sketch

 $<sup>^{20}</sup>$  For ease of readability, I will sometimes use ' $O\varphi$ ' to refer to the proposition expressed by the corresponding sentence. Context will disambiguate.

<sup>&</sup>lt;sup>21</sup>It is crucial to bear in mind that, for semantic purposes, the distinction between moral and non-moral states may be understood in a rather superficial sense; the semantics does not commit us to the controversial assumption that moral propositions are ultimately made true by moral *facts*. However, moral error-theorists would probably accept that view.

some possible responses. First, it is noteworthy that most of us, not only error theorists, are presumably willing to accept non-moral falsemakers of moral propositions. If ought implies can, propositions expressed by sentences of the form  $O\varphi$  are plausibly made false by states to the effect that  $\varphi$ -ing cannot be done, which are non-moral states. Second, it is natural to think of the absence of an obligation to  $\varphi$  as a falsemaker of  $O\varphi$ . To fit the error theorist's bill, states to the effect that obligations (permissions) are absent must be non-moral. To argue for that claim, error-theorists can rely on familiar strategies according to which we should only classify as moral in the relevant sense what commits us to morality.<sup>22</sup> Absences of obligations do not commit us to morality any more than absences of supernatural powers commit us to supernaturalism. That is not to say that this postulate is unproblematic. It is worth recalling, however, that the semantic account also allows for impossible states. We shall denote absences of obligations (permissions) to  $\varphi$  by  $|o_{\varphi}|'$   $(|p_{\varphi}|')$ . Note that by definition,  $o_{\varphi} \sqcup |o_{\varphi}|$  is an impossible state. By taking absences into account, the set of  $O\varphi$ 's falsemakers contains at least one *moral* and one non-moral falsemaker. By the semantic clause for negation, we get the following clauses for O:

#### **Obligation:**

$$O\varphi = (O\varphi^+, O\varphi^-) = (\{o_\varphi\}, \{p_{\tilde{\varphi}}, |o_\varphi|\});$$
$$\neg O\varphi = (O\varphi^-, O\varphi^+) = (\{p_{\tilde{\varphi}}, |o_\varphi|\}, \{o_\varphi\}).$$

I shall now turn to the dual notion of permissibility. In a hyperintensional framework, the duality principle as introduced above does not entail that  $O\varphi$  and  $\neg P \neg \varphi$  express the same proposition. However, I take the duality principle to state exactly that because Oand P are taken to be *interdefinable*. The semantic clauses for O thus entail:

<sup>&</sup>lt;sup>22</sup>See, e.g., (Streumer 2017: 108). However, this criterion is arguably too narrow to characterize all propositions that matter in the error-theoretic context.

#### **Permissibility:**

$$P\varphi = (\neg O \neg \varphi^+, \neg O \neg \varphi^-) = (\{p_{\varphi}, |o_{\tilde{\varphi}}|\}, \{o_{\tilde{\varphi}}\});$$
$$\neg P\varphi = (O \neg \varphi^+, O \neg \varphi^-) = (\{o_{\tilde{\varphi}}\}, \{p_{\varphi}, |o_{\tilde{\varphi}}|\}).$$

To see that the semantic clauses are compatible with error theory, suppose that no moral state actually obtains. The semantic clauses for O entail that  $O\varphi$  is false because one of its falsemakers, a state to the effect that obligations to  $\varphi$  are absent  $(|o_{\varphi}|)$  obtains.  $|o_{\varphi}|$  makes  $\neg O\varphi$  and thereby  $P \neg \varphi$  true. At this point, the fine-grained tools of truthmaker semantics pay off. We can give a precise classification of propositions by distinguishing between strictly moral propositions, i.e., propositions that have only moral truthmakers, and weakly moral propositions, i.e., propositions that have moral *and* non-moral truthmakers.<sup>23</sup> Error-theorists are committed to denying strictly moral truths. They can accept weakly moral truths like [It is rainy or Sam is blameworthy], but only if they are true in virtue of non-moral content. Hence, error theorists can accept  $P \neg \varphi$  (which is a weakly moral truth), if its non-moral truthmaker obtains.

One might find the disanalogy between  $O\varphi$  and  $P\varphi$  unsatisfying and argue that the claims 'Ann ought to help' and 'Ann is permitted not to help' incur a similar moral commitment. The outlined semantic clauses, however, do not yet align with that intuitive assessment. The need to distinguish between strong and weak permissibility, where the latter is the mere absence of obligations to do otherwise, has been emphasized in the context of formal objections to error theory.<sup>24</sup> Importantly, the truthmaker-based account explains and makes formally precise the distinction, allowing for a systematic assessment

 $<sup>^{23}</sup>$ A thorough discussion of the account would go beyond the scope of this paper, but it reveals that error theorists cannot in general be indifferent about weakly moral truths.

<sup>&</sup>lt;sup>24</sup>For example, Streumer and Wodak (ming) argue that the duality principle construed in terms of strong permissibility is not metaethically neutral, but a substantial claim. The distinction can be traced back to (von Wright 1981: 6).

of relations between these notions.<sup>25</sup>

The strategy is to treat strong permissibility  $P^*$  and O analogously. While  $P\varphi$  is already true, if obligations to do otherwise are absent (i.e.,  $|o_{\varphi}|$  obtains),  $P^*\varphi$  is true only if a permission to  $\varphi$  is present (i.e.,  $p_{\varphi}$  obtains). That is, in the absence of a permission to  $\varphi$  ( $|p_{\varphi}|$ ),  $P^*\varphi$  is false, while  $P\varphi$  is true. For  $P^*$  we define:

#### **Strong Permissibility:**

$$P^*\varphi = (P^*\varphi^+, P^*\varphi^-) = (\{p_\varphi\}, \{o_{\tilde{\varphi}}, |p_\varphi|\});$$
$$\neg P^*\varphi = (\neg P^*\varphi^+, \neg P^*\varphi^-) = (\{o_{\tilde{\varphi}}, |p_\varphi|\}, \{p_\varphi\})$$

The semantic clauses entail that  $P^*\varphi$  is a strictly moral proposition. Consequently, error theorists are committed to denying  $P^*\varphi$ . Importantly, accepting  $\neg P^*\varphi$  does not lead to any inconsistencies because only *weak* permissibility and obligation are dual notions. Notably, the account need not posit truth-value gaps to achieve that result. Error theorists just need to assume that the state  $|p_{\tilde{\varphi}}| \sqcup |o_{\varphi}|$  is a possible state so that  $\neg O\varphi$  does not entail  $P^*\neg\varphi$ .

## 5 Deontic Logic and Other Moral Notions

Let me close by emphasizing some advantages of this account. The semantic clauses allow for a formal treatment of the deontic operators. The account neither relies on truth-value gaps nor on pragmatics in form of conversational implicatures to avoid inconsistencies.<sup>26</sup>

<sup>&</sup>lt;sup>25</sup>One might ask whether the same strategy could be extended to any hyperintensional semantic framework. I lack the space to discuss other accounts in detail, but natural candidates are impossible world semantics, see, e.g., (Berto and Jago 2019). While an impossible worlds approach can be derived from the state-based analysis, the state-based account provides classificatory resources and fine-grained tools that world-based accounts lack which I take to be an important advantage of the outlined account.

<sup>&</sup>lt;sup>26</sup>For the latter strategy, see (Streumer 2017: 108).

This enables the following formal results where ' $\rightarrow$ ' denotes classical entailment and '<' denotes grounding.<sup>27</sup>

**Duality:**  $O\varphi \leftrightarrow \neg P \neg \varphi, P\varphi \leftrightarrow \neg O \neg \varphi,$ 

**P-Strengthening:**  $P^*\varphi \to P\varphi$ ,

 $\mathbf{O} \to \mathbf{P}: \ O\varphi \to P\varphi, \ O\varphi \to P^*\varphi,$ 

**P-Priority:**  $P^*\varphi < P\varphi$ .

The semantic approach straightforwardly carries over to other normative and evaluative notions. The results fit nicely with a claim argued for in (Faroldi 2014): We should distinguish between internal and external negations of normative sentences.<sup>28</sup> Internal negations like 'Abortion is not wrong' keep normative sentences normatively binding, while external negations like 'It is not the case that abortion is wrong' cancel their normatively binding nature. On my account, an external negation (generated by the clause for negation) is a weakly moral proposition, while an internal negation can be modeled by restricting external negations to moral states. The truthmaker-based account provides error theorists with a semantics of moral sentences that is compatible with their theory.

## 6 Conclusion

I have argued that truthmaker semantics allows error theorists to meet the semantic challenge. First, the hyperintensional framework allows them to assign non-trivial content to moral sentences, even if they are necessarily false. Second, error theorists can provide a semantics of moral sentences that does justice to their claim that no moral sentence is

<sup>&</sup>lt;sup>27</sup>Necessary moral error theorists can non-trivially accept P-Priority; they can non-trivially accept Duality and  $O \rightarrow P$ , if ' $\rightarrow$ ' is read in terms of content containment.

<sup>&</sup>lt;sup>28</sup>Faroldi (2014: 86) takes the distinction to concern pragmatics, while I model it in the semantics.

true. On that account, propositions that have only moral truthmakers have at least one non-moral falsemaker. Error theorists can thus accept the negation of those propositions because the pertinent non-moral state makes the negation true. Consequently, there is a non-moral way for it to be true. An important advantage of the semantics is that it can account for logical relations between moral notions.<sup>29</sup>

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# References

- Anglberger, A. J. J., J. Korbmacher, and F. L. G. Faroldi. 2016. An exact truthmaker semantics for permission and obligation. In O. Roy, A. Tamminga, and M. Willer (Eds.), *Deontic Logic* and Normative Systems, 16–31. College Publications.
- Berto, F. and M. Jago. 2019. Impossible Worlds. Oxford: Oxford University Press.
- Boghossian, P.. 2006. What is relativism? In P. Greenough and M. P. Lynch (Eds.), Truth and Relativism, 13–37. Clarendon Press.
- Brown, P. 2013. The possibility of morality. *Philosophical Studies* 163(3), 627–36.
- Dworkin, R.. 2011. Justice for Hedgehogs. Belknap Press of Harvard University Press.
- Faroldi, F. 2014. Denial of responsibility and normative negation. In F. Cariani, D. Grossi, J. Meheus, and X. Parent (Eds.), *Deontic Logic and Normative Systems*. Springer.
- Fine, K. 2017a. A theory of truthmaker content I: Conjunction, disjunction and negation. Journal of Philosophical Logic 46(6), 625–74.
- Fine, K. 2017b. A theory of truthmaker content II: Subject-matter, common content, remainder and ground. Journal of Philosophical Logic 46(6), 675–702.
- Fine, K.. 2017c. Truthmaker semantics. In B. Hale, C. Wright, and A. Miller (Eds.), A Companion to the Philosophy of Language, Chapter 22, 556–77. John Wiley and Sons Ltd.
- Fine, K. 2018a. Compliance and command I, categorical imperatives. Review of Symbolic Logic 11(4), 609–33.
- Fine, K. 2018b. Compliance and command II, imperatives and deontics. Review of Symbolic Logic 11(4), 634–64.
- Fine, K. 2021. Truthmaking and the is-ought gap. Synthese 198(2), 887–914.
- Jago, M. 2020. Truthmaker semantics for relevant logic. Journal of Philosophical Logic 49, 681–702.
- Kalf, W. F. 2018. Moral Error Theory. Londen, Verenigd Koninkrijk: Palgrave Macmillan.
- Sinnott-Armstrong, W. 2006. Moral Skepticisms. Oxford University Press.
- Streumer, B. 2017. Unbelievable Errors: An Error Theory About All Normative Judgments. Oxford, United Kingdom: Oxford University Press.
- Streumer, B. and D. Wodak. 2021. Why formal objections to the error theory fail. Analysis 81(2), 254–62.
- Streumer, B. and D. Wodak. forthcoming. Do formal objections to the error theory overgeneralize? Analysis, 1–13.

Tiefensee, C. and G. Wheeler. 2021. Error, consistency and triviality. Noûs (3), 602–18.

Tiefensee, C. and G. Wheeler. 2022. Why formal objections to the error theory are sound. Analysis.

von Wright, G. H..1981. A new system of deontic logic. In R. Hilpinen (Ed.), *Deontic Logic: Introductory and Systematic Readings.* Sold and Distributed in the USA And Canada by Kluwer Boston.

Yablo, S. 2014. Aboutness. Princeton University Press.