

## Alternative Possibilities and Epistemic Modality

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### Abstract

The Principle of Alternative Possibilities (PAP) states that an agent is morally responsible for an action only if she could have done otherwise. Harry Frankfurt provided an argument which, he thinks, shows that the PAP is false. I argue that the PAP-condition can be interpreted such that Frankfurt's argument against the PAP can be rejected. Commonly, the PAP-condition is interpreted using a concept of modality which is *mind-independent*. I rely on an epistemic interpretation of the PAP-condition: The 'bare' epistemic modal in the condition should be interpreted using a version of Contextualism – its semantic content and truth value rigidly referring to a context-specific relevant group. My aim is to show that, on a generic version of Contextualism, Frankfurt's argument against the PAP does not hold: It rests on two possible causal histories. Both result in the agent deciding to perform and performing the same action. In one case, the agent can be morally responsible. In the other, it is plausible to assume that the agent is not morally responsible. This is due to a difference in the relevant groups with respect to which the PAP-condition is interpreted.

### 1. The Principle of Alternative Possibilities

The Principle of Alternative Possibilities (PAP) states that an agent X is morally responsible for an action V only if she *could* have not Ved. Thus, if it is not the case that X could have not Ved, she is not morally responsible for Ving. Harry Frankfurt took issue with this principle. According to him, X *can* be morally responsible for Ving even if it is not

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the case that she could have not Ved (Frankfurt 1969, 829 f.). He provides this example:

Suppose someone – Black, let us say – wants Jones<sub>4</sub> to perform a certain action. Black is prepared to go to considerable lengths to get his way, but he prefers to avoid showing his hand unnecessarily. So he waits until Jones<sub>4</sub> is about to make up his mind what to do, and he does nothing unless it is clear to him (Black is an excellent judge of such things) that Jones<sub>4</sub> is going to decide to do something other than what he wants him to do. If it does become clear that Jones<sub>4</sub> is going to do something else, Black takes effective steps to ensure that Jones<sub>4</sub> decides to do, and that he does do, what he wants him to do. Whatever Jones<sub>4</sub>'s initial preferences and inclinations, then, Black will have his way. (Frankfurt 1969, 835)

The example contains two possible causal histories:

- H<sub>1</sub>: Black did not intervene and Jones<sub>4</sub> chose to V.
- H<sub>2</sub>: Black did intervene and Jones<sub>4</sub> chose to V.

Frankfurt leaves it open if H<sub>1</sub> or H<sub>2</sub> is actual.

He assumes that Jones<sub>4</sub> can be morally responsible for Ving if H<sub>1</sub> is actual, while he is *not* morally responsible for Ving in H<sub>2</sub> (cf. Frankfurt 1969, 836). He argues that the PAP is 'mistaken' since it does not provide these results (Frankfurt 1969, 837). I agree that an analysis of the PAP is correct only if it provides the assessments:

- (1) Jones<sub>4</sub> can be morally responsible for Ving in H<sub>1</sub>.
- (2) Jones<sub>4</sub> is *not* morally responsible for Ving in H<sub>2</sub>.

In section 4, I argue that, on a *mind-dependent*, epistemic, and Contextualist reading of the PAP-condition, the PAP provides the

assessments (1) and (2). This is why, I believe that the PAP can account for Frankfurt's Jones<sub>4</sub>-example.

## 2. Mind-Independent Modality

There have been numerous attempts to interpret the PAP-condition with a concept of modality which refers to *mind-independent* truths.<sup>31</sup> In the following, I argue that an analysis of the PAP with metaphysical (see sec. 2.1) or physical (see sec. 2.2) modality does not provide the assessments (1) and (2).

### 2.1 Metaphysical Modality

According to Timothy Williamson, a proposition  $A$  is metaphysically *necessary* if and only if whatever were the case, it would still be the case (Williamson 2007, 159):  $\Box A \equiv \forall p (p \Box \rightarrow A)$ . In contrast,  $A$  is metaphysically *possible* if and only if it is not the case that it would fail in every eventuality (Williamson 2007, id.):  $\Diamond A \equiv \exists p \neg(p \Box \rightarrow \neg A)$ . For instance: It is metaphysically *necessary* that  $2 + 2 = 4$ , that if  $X$  owns a pair of socks, she owns two socks, or – somewhat controversially – that water is  $H_2O$  (see Kripke 1980). In contrast, it is metaphysically *possible* that  $X$  wins a game of chess which she actually lost: Even if she never played a game before and her opponent was a professional chess player.

The analysis of the PAP-condition with metaphysical modality is called ‘Conditional Analysis’. A notable historical proponent was David Hume who suggested to condition moral responsibility on the truth of counterfactual statements such as “[...] if we chuse to remain rest, we may; if we chuse to move, we also may” (Hume 2007 [1748], 8.23/95):

- (a)  $X$  would have not Ved if she had chosen not to V.

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<sup>31</sup> The term is borrowed from Williamson 2007, 134.

Adopting (a) as the correct reading of the PAP-condition does not provide (1) and (2) in the Jones<sub>4</sub>-example. It is a necessary feature of the example that Jones<sub>4</sub> chooses to V. The counter-factual (a) is true if H<sub>1</sub> or H<sub>2</sub> is actual.<sup>32</sup> Jones<sub>4</sub> could have not Ved and, thus, can be morally responsible in H<sub>1</sub> and H<sub>2</sub>. The PAP does not provide (2).

In the 20<sup>th</sup> century, A. J. Ayer suggested two conditions to accompany (a):

- (b) X would have not Ved if nobody compelled her to choose as she did.
- (c) X would have not Ved if her Ving was not involuntarily in the sense in which the actions of a kleptomaniac are.<sup>33</sup>

Adopting (a), (b), and (c) as the correct reading of the PAP-condition still does not provide (1) and (2) in the example. Frankfurt leaves it purposefully open *how* Black ‘ensures’ that Jones<sub>4</sub> will V (cf. Frankfurt, 1969, 835). Neither (b) nor (c) applies to the example. The PAP does not provide (2): Jones<sub>4</sub> can be morally responsible for Ving in H<sub>2</sub>.<sup>34</sup>

## 2.2 Physical Modality

Others have argued that we need to explain the fact that an agent could have not Ved with reference to *physical* modality: As Roderick Chisholm puts it, “[w]e cannot say, ‘It is causally necessary that, given such and such desires and beliefs, and being subject to such and such stimuli, the agent will do so and so’” (Chisholm 1982, 33). This entails Causal Indeterminism: A history H is indeterministic if and only if it is *not* the case that “[...] given a specified way things are at a time t, the way things go thereafter is fixed as a matter of natural law” (Hoefer 2016, 2). There

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<sup>32</sup> Cf. Lewis 1973, 16

<sup>33</sup> Ayer 1969, 282

<sup>34</sup> I take it that the addition of further conditions will not help the proponent of the Conditional Analysis in the Jones<sub>4</sub>-example (cf. Fischer 2007, 53 ff).

have been various attempts to explain moral responsibility which presuppose Causal Indeterminism: Chisholm argues that X could have not Ved since her mental causation is irreducible to physical causation: “In doing what we do, we cause certain events to happen, and nothing – or no one – causes us to cause those.” (Chisholm 1982, 32) Robert Kane argues that moral responsibility is ensured through a ‘spill-over effect’ from non-causal processes at X’s synapses during important choices (cf. Kane 2002, 228).

Assume that X’s choice to V is important. X could have not Ved if and only if ...

- (d) There is no set of jointly sufficient conditions for X’s choice to V in the actual causal history H.

Adopting (d) as the correct interpretation of the PAP-condition does not provide the assessments (1) and (2) in the Jones<sub>4</sub>-example. (d) faces a problem of Overdetermination. Black’s capacity to intervene *suffices* to ensure that Jones<sub>4</sub> chooses to V. (d) is not satisfied in either H<sub>1</sub> or H<sub>2</sub>: In both histories, there is a set of jointly sufficient conditions for Jones<sub>4</sub>’s choice to V. It is false, in H<sub>1</sub> and in H<sub>2</sub>, that Jones<sub>4</sub> could have not Ved. The PAP does not provide (1): Jones<sub>4</sub> is *not* morally responsible for Ving in H<sub>1</sub>.

### 3. Epistemic Modality

Any attempt to interpret the PAP-condition using a concept of modality which refers to mind-*independent* truths, I assume, is misguided. As Alan White remarks, “[...] to say that it is possible that [agent] X Vs is to stress the possible existence of an actuality, that is, what actuality possibly exists” (White 1975, 6). Accordingly, the modality in the PAP-condition

should be interpreted in a way that depends on a set of *mind*-states (of a person or a group) – not states of affairs. Two *mind-dependent* concepts of modality must be distinguished: Doxastic modals quantify over a domain of possibilities compatible with a set of beliefs (of a person or a group). Epistemic modals quantify over a domain of possibilities compatible with a set of beliefs (of a person or a group) which are *known*.<sup>35</sup>

I will only consider epistemic modality.<sup>36</sup> The concept of modality adequate for the PAP-condition should quantify over a domain of possibilities compatible with ‘some *relevant informational state*’ (see von Fintel/Gillies 2011, 108). Apart from a specific account, I guess it has intuitive appeal to interpret the PAP-condition with epistemic modality. As Kent Bach remarks, epistemic modality is of practical importance:

In everyday conversations we raise, examine, dispute, and ultimately accept or reject epistemic possibilities. The same thing happens in more formal situations, such as investigations, trials, and debates. Some possibilities are left open – they’re ‘live’ possibilities – and some are eliminated or closed. Some are summarily dismissed, some are just overlooked, and some are looked into. (Bach 2011, 23 f.)

In most cases, sentences with epistemic modals do not make any *explicit* reference to the informational state of a person or a group. There are three major accounts of how such ‘bare epistemic modality sentences’

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<sup>35</sup> Minimally, this is taken to imply that the beliefs in this set are *justified* and *true*. Further problems with this analysis of knowledge, e.g. the possibility of Gettier-cases, are ignored.

<sup>36</sup> One could interpret the PAP-condition with doxastic modality: X is morally responsible for Ving only if, according to some set of beliefs (held by X herself or some group) prior to her Ving, it could have been the case that she would not have Ved (cf. sec. 5). I do not think such a view is convincing.

(BEMSs) should be conceptualized: Contextualism, Relativism, and Expressivism. The Contextualist assumes that BEMSs, “[...] though not mentioning any perspective, semantically express a *perspective-involving proposition* [...]” (Bach 2011, 27). This commits the Contextualist to hold that the semantic content of a BEMS *and* its truth value are the *same* relative to any assessors (Weatherson/Egan 2011, 7). The Relativist denies, at least, one of these conjuncts: She might argue that a BEMS can have different semantic *con-tents* (see Egan/ Hawthorne/Weatherson 2005) or that the *truth value* of the semantic content can differ (see MacFarlane 2011), depending on the person or group assessing it. The Ex-pressivist denies that BEMSs are *truth-apt*. For instance, with an epistemic modal, a speaker might just express her uncertainty (see Yalcin 2007).

#### 4. Contextualism

This paper does not aim to argue for ‘the right’ account of how BEMSs should be conceptualized. However, *if* we want to interpret the PAP-condition, using epistemic modality, as a necessary condition for moral responsibility – understood as a ‘thick’ concept –, we need to rely on a version of *Contextualism*. This is because the Contextualist – unlike the Relativist and the Expressivist – assumes that BEMSs have *rigid* semantic contents and truth values. I argue that, on a generic version of Contextualism, the PAP-condition can be interpreted such that Frankfurt’s argument against the PAP can be rejected.

Various truth conditions for BEMSs have been proposed (see Hacking 1967, Teller 1972, De-Rose 1991, von Fintel/Gillies 2011). They all assume a *relevant* group G with respect to which the semantic content of a BEMS is either true or false. They differ in two dimensions:

Firstly, the conditions either depend on *individual* domains of possibilities compatible with the knowledge of each member of G or on a unified domain compatible with the *aggregate* or ‘pooled’ information in G. Ian

Hacking and Keith DeRose require that “[...] no member of the relevant community knows that P is false” (DeRose 1991, 593; Hacking 1967, 148). They hold that, to assess a BEMS, we need to form domains of possibilities compatible with the knowledge of each member of G *respectively* and, then, evaluate if the BEMS’s semantic content is true with respect to each of these individual domains. In contrast, Kai von Fintel and Anthony Gillies argue that a BEMS should be assessed with respect to the domain of possibilities compatible with the ‘pooled’ knowledge of all members of G (von Fintel/Gillies 2011, 113).<sup>37</sup> The second condition is stricter: BEMSs easier wind up false.

Fortunately, the case of Jones<sub>4</sub> is relatively simple. There are only two potential members of the relevant group G: Jones<sub>4</sub> and Black. Plausibly, in H<sub>1</sub> and H<sub>2</sub>, Black knows that Jones<sub>4</sub> will V while Jones<sub>4</sub> does not. Therefore, the difference between versions of Contextualism in the first dimension will *not* be relevant here (see sec. 5).

Secondly, the versions differ, in Andy Egan’s words, in the ‘epistemic reach’ they attribute to the members of G (cf. Egan 2007, 8): They differ in the extent to which they take potential knowledge that members of G can acquire within the context into account. Hacking requires that no ‘practicable’ investigation would establish that P is false (Hacking 1967, 149).<sup>38</sup> This condition is rather strict: It extends the ‘epistemic reach’ of the members of G beyond what they know they can come to know in the context. DeRose requires that “[...] there is no relevant way by

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<sup>37</sup> Paul Teller suggests a set of conditions which aggregates the information in G in a slightly different way than von Fintel and Gillies (cf. Teller 1972, 310 f.). For the argument here, the difference between Teller’s and von Fintel and Gillies’s aggregation-method is irrelevant.

<sup>38</sup> Von Fintel and Gillies offer interesting alternative proposal: ‘Stores of information’ could, in a loose sense, be *members* of the relevant group G and directly falsify P (von Fintel/Gillies 2011, 112 f.). The same is not possible for ‘plain facts in the world’ (von Fintel/Gillies 2011, id.). I will not discuss this.

which a member of the relevant community can come to know that P is false” (DeRose 1991, 594). This leaves it to the assessor to determine the correct ‘epistemic reach’ of the members of G in the context. The greater the ‘epistemic reach’ of the members of G, the stricter the truth condition for BEMSs. The question what is within the ‘epistemic reach’ of the members of G or what they can come to know in the context is very contentious even among Contextualists (cf. von Fintel/Gillies 2011, 112).

Fortunately, Frankfurt explicitly rules out that Jones<sub>4</sub> *can* come to know – i.e. that there is a way for him to know – in H<sub>1</sub> that he would V in H<sub>2</sub>:

[Black] prefers to avoid showing his hand unnecessarily. So he waits until Jones<sub>4</sub> is about to make up his mind what to do, and he does nothing unless it is clear to him [...] that Jones<sub>4</sub> is going to decide to do something other than what he wants him to do.

(Frankfurt 1969, 835)

In the Jones<sub>4</sub>-example, it is not relevant which ‘epistemic reach’ we attribute to Jones<sub>4</sub> in H<sub>1</sub>. Therefore, the difference between versions of Contextualism in the second dimension will *not* be relevant for the subsequent argument (see sec. 5).

The rejection of Frankfurt’s argument in section 5 does not depend on any particular version of Contextualism: A *generic* version will do.<sup>39</sup> I stipulate this set of truth conditions for BEMSs (cf. DeRose 1991, 593 f.):

‘It could have been the case that p’ is true  
If and only if

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<sup>39</sup> Though, it needs to be a version which keeps the assumption of *rigid* semantic contents and truth values. Thus, the hypothesis of von Fintel and Gillies that BEMSs are ‘ambiguous by design’ (von Fintel/ Gillies 2011, 117 ff.), without being, thereby, *assessment-relative*, is excluded.

- (1) no member of the relevant group G knows that P is false  
and
- (2) there is no relevant way by which a member of G can come to know that P is false.

## 5. Alternative Possibilities and Epistemic Modality

Given this generic version of Contextualism, this set of truth conditions is reached by sub-stituting ‘X will not V’ for ‘P’ and some tense shifts:

‘It could have been the case that X would not have Ved’ is true  
If and only if

- (1) no member of the relevant group G knew that X would V  
and
- (2) there was no relevant way by which a member of G could have come to know that X would V.

The assessor needs to ascertain the relevant group G – in (1) and (2) – and its ‘epistemic reach’ – in (2) – with respect to the context of X’s *action*. Contextualists often assess BEMSs with re-spect to their context of assertion.<sup>40</sup> Instead of G minimally including the speaker (cf. DeRose 1991, 596), assume that, by default, G includes X.

The truth of the PAP-condition depends on (1) and (2): X *could* have not Ved if and only if it could have been the case that she would not have

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<sup>40</sup> I do not think that this is an essential feature of Contextualism about BEMSs. For my purposes here, I assume that the BEMS above is true or false with respect to an informational state in the context of X’s Ving. This is no claim about how BEMSs ‘should’ be interpreted in general.

Ved. I rely on this epistemic-Contextualist analysis of the PAP to reject Frankfurt's argument.

The Jones<sub>4</sub>-example contains two possible causal histories H<sub>1</sub> and H<sub>2</sub>; either of them is *actual* (see sec. 1). We need to assess the PAP in H<sub>1</sub> and H<sub>2</sub> respectively:

a. Assessing the PAP in H<sub>1</sub>

Assume the actual causal history is H<sub>1</sub>: Black did not intervene and Jones<sub>4</sub> Ved. Is it true that Jones<sub>4</sub> could have not Ved in H<sub>1</sub>?

We need to determine the truth value of the BEMS 'It could have been the case that Jones<sub>4</sub> would not have Ved' according to (1) and (2). This requires us, in a first step, to ascertain who is a member of the *relevant* group G in H<sub>1</sub>.

The context of the BEMS is Jones<sub>4</sub>'s Ving: Thus, by default, Jones<sub>4</sub> is a member of G. However, if we consider the *minimal* demarcation of the account of Contextualism, I think that, also by default, Black is *not*. The 'common ground' of all versions of Contextualism is: BEMSs are true with respect to the informational state of a *relevant* group G. Frankfurt specifies nothing to suggest that Black is relevant to Jones<sub>4</sub>'s Ving in H<sub>1</sub>. Jones<sub>4</sub> considers whether to V, chooses to V, and subsequently Vs. Black is not relevant to Jones<sub>4</sub>'s Ving in H<sub>1</sub>. Where we to give up the restriction on relevance, we would need to accept this condition:

- (e) If an agent Y knew that X would V, then Y is a member of G.

Yet, (e) is unacceptable: It would make the assessment of our BEMS 'humanly' impossible and set the standard for moral responsibility implausibly high. The truth of a BEMS must depend on the informational state of a contextually *relevant* group G (cf. DeRose 1991, 583). As Frank-furt describes the example, in H<sub>1</sub>, there is *no* reason for

the assessor to include Black in G.<sup>41</sup> G consists of one member: Jones<sub>4</sub>. Plausibly, he would not bother to consider whether he should V if he *knew* that he would V. Thus, (1) is satisfied in H<sub>1</sub>.

Secondly, we need to assess which ways by which a member of G could have come to know that Jones<sub>4</sub> would V are relevant in H<sub>1</sub>. Jones<sub>4</sub> is the only member of G. As stated in section 4, there is *no* way by which Jones<sub>4</sub> can come to know in H<sub>1</sub> that he would V in H<sub>2</sub> – i.e. if he was inclined *not* to V. Black does not ‘show his hand’. Thus, (2) is satisfied in H<sub>1</sub>.

Given H<sub>1</sub> is actual, it is true that, on the epistemic-Contextualist analysis of the PAP, Jones<sub>4</sub> *could* have not Ved: He can be morally responsible for Ving.

### b. Assessing the PAP in H<sub>2</sub>

Assume the actual causal history is H<sub>2</sub>: Black needed to intervene and Jones<sub>4</sub> Ved. Is it true that Jones<sub>4</sub> could have not Ved in H<sub>2</sub>?

As in section 5.1, we need to determine the truth value of the BEMS ‘It could have been the case that Jones<sub>4</sub> would not have Ved’ according to (1) and (2). This requires us, in a first step, to ascertain who is a member of G in H<sub>2</sub>.

In H<sub>2</sub>, it seems that Jones<sub>4</sub> *and* Black are members of G. Black’s intervention was necessary to ensure that Jones<sub>4</sub> Ved. Assume this minimal condition:

- (f) If it is salient in the context of X’s Ving that X would not have Ved if an agent Y had not Wed, then Y is a member of G.

In H<sub>2</sub>, Black’s intervention satisfies (f): Black is a member of G. It is plausible to conjecture that Black *knew* that Jones<sub>4</sub> would V. Firstly, Black

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<sup>41</sup> It has been suggested to me that an assessor needs a reason *against* including Black in G. This cannot be the case: ‘Relevance’ entails that there is a reason which explains *why* Y is in G.

had to intend to W before Jones<sub>4</sub> chose to V: We can conjecture that he *believed* that Jones<sub>4</sub> would V. Secondly, Frankfurt supposes that Black can take ‘effective steps’ to ensure that Jones<sub>4</sub> will V: We can conjecture that his belief is *justi-fied*. Thirdly, Jones<sub>4</sub> Ved in H<sub>2</sub>: Black’s belief is *true*. Given this conjecture, since – given (f) – Black is a member of G, (1) is violated in H<sub>2</sub>.

It follows that, if H<sub>2</sub> is actual, on the epistemic-Contextualist analysis of the PAP, it is not the case Jones<sub>4</sub> *could* have not Ved: He is *not* morally responsible for Ving.

## 6. Conclusion

The epistemic-Contextualist analysis of the PAP can provide (1) *and* (2) in the Jones<sub>4</sub>-example. Frankfurt’s argument against the PAP can be rejected. Yet, even the sceptic of the PAP might analyse the PAP epistemically: She can argue that the PAP-condition has a *non-rigid* semantic content or truth values, relative to the assessor, (Relativism) or that the condition is not *truth-apt* altogether (Expressivism). Accordingly, the PAP would not provide a necessary condition for – a ‘thick’ concept of – moral responsibility. In any case, I take Frankfurt’s example to showcase that *mind-independent* concepts of modality are often unfit to analyse problems, concepts, and conditions related to agency.

## 7. Bibliography

- Ayer, Alfred J. 1969: “Freedom and Necessity”. In: *Philosophical Essays*. London et al.: Macmillan.
- Bach, Kent 2011: “Perspectives on Possibilities: Contextualism, Relativism, or What?” In: Egan, Andy/Weatherson, Brian (ed.): *Epistemic Modality*. Oxford et al.: UP.

- Chisholm, Roderick 1982: "Human Freedom and the Self". In: Watson, Gary (ed.): *Free Will*. Oxford et al.: UP.
- DeRose, Keith 1991: "Epistemic Possibilities". In: *The Philosophical Review*, Vol. 100, No. 4, pp. 581-605.
- Egan, Andy/Hawthorne, John/Weatherson, Brian 2005: "Epistemic Modals in Context". In: Preyer, Gerhard/Peter, Georg (ed.): *Contextualism in Philosophy: Knowledge, Meaning, and Truth*. Oxford et al.: UP.
- Egan, Andy 2007: "Epistemic Modals, Relativism, and Assertion". In: *Philosophical Studies*, Vol. 133, No. 1, pp. 1-22.
- Fischer, John M. 2007: "Compatibilism". In: Fischer, John M. et al. (ed.): *Four Views on Free Will*. Malden/Oxford: Blackwell.
- Frankfurt, Harry G. 1969: "Alternate Possibilities and Moral Responsibility". In: *Journal of Philosophy*, Vol. 66, No. 23, pp. 829-839.
- Hacking, Ian 1967: "Possibility". In: *Philosophical Review*, Vol. 76, No. 2, pp. 143-168.
- Hoefer, Carl 2016: "Causal Determinism". In: Zalta, Edward N. (ed.): *The Stanford Encyclopedia of Philosophy*, <https://plato.stanford.edu/archives/spr2016/entries/determinism-causal/>.
- Hume, David 2007 [1748]: *An Enquiry Concerning Human Understanding*. Millican, Peter (ed.). Oxford et al.: UP.
- Kane, Robert 2002: "Free Will: New Directions for an Ancient Problem". In: Kane, Robert (ed.): *Free Will*. Malden/Oxford: Blackwell.
- Kripke, Saul A. 1980: *Naming and Necessity*. Malden/Oxford: Blackwell.
- Lewis, David K. 1973: *Counterfactuals*. Malden/Oxford: Blackwell.
- MacFarlane, John 2011: "Epistemic Modals Are Assessment-Sensitive". In: Egan, Andy/ Weatherson, Brian (ed.): *Epistemic Modality*. Oxford et al.: UP.

- Teller, Paul 1972: “Epistemic Possibility”. In: *Philosophia*, Vol. 2, No.4, pp. 303-320
- von Fintel, Kai/Gillies Anthony S. 2011: “‘Might’ Made Right”. In: Egan, Andy/Weatherson, Brian (ed.): *Epistemic Modality*. Oxford et al.: UP.
- Weatherson, Brian/Egan, Andy 2011: “Epistemic Modals and Epistemic Modality”. In: Egan, Andy/Weatherson, Brian (ed.): *Epistemic Modality*. Oxford et al.: UP.
- White, Alan R. 1975: *Modal Thinking*. Oxford: Blackwell.
- Williamson, Timothy 2007: *The Philosophy of Philosophy*. Malden/Oxford: Blackwell.
- Yalcin, Seth 2007: “Epistemic Modals”. In: *Mind*, Vol. 116, Iss. 464, pp. 983–1026.