

Indexical Beliefs and Communication: Against Stalnaker on Self-Location

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Beliefs are commonly analyzed as binary relations between subjects and propositions. Perry and Lewis have shown that the standard account has difficulties in handling self-locating beliefs. Robert Stalnaker has recently put forward a version of the standard account that is supposed to overcome this problem. Stalnaker's motivation for defending the propositional account of belief is that it comes with a simple and powerful propositional model of communication. In this paper I argue that Stalnaker's proposal fails. The only way of upholding the propositional account of belief is by abandoning the simple account of communication.

1. Introduction

According to the received view, to have the belief that penguins can't fly is to stand in a binary relation to the proposition that penguins can't fly, where a proposition is conceived of as a set of possible worlds or a related structured entity.¹ Perry (1979) and Lewis (1979) have argued that this account fails, since it cannot accommodate self-locating beliefs. Perry proposed to replace the binary account of belief by a triadic one that adds so-called *belief states* or *propositional guises* as a third relatum. Lewis's simpler suggestion was to keep the binary structure and to replace sets of possible worlds as objects of belief by sets of *centered* possible worlds.

Starting with his John Locke lectures, Robert Stalnaker has developed a variant of the standard theory which is supposed to accommodate self-locating beliefs (Stalnaker, 2008; 2011a). It follows Lewis's proposal in being binary

¹ I will here reserve the term "proposition" for objects of this kind and will not apply it to e.g. sets of centered possible worlds. This is only for conspicuousness—nothing substantial hangs on it.

and using centered possible worlds to model doxastic states. However, like the standard account, it identifies *belief contents* with *ordinary possible worlds propositions* (even for self-locating beliefs).² This assumption is meant to enable us to maintain a simple, propositional model of communication.

The assumption is that, if you don't know where you are in the world, then (in all cases) you also don't know what world you are in. It is this assumption that will allow us to take ordinary impersonal and timeless propositions as the contents of belief, and so to allow for the comparison and communication of the information of different subjects, while at the same time accounting for self-location. (Stalnaker, 2011a, p. 143).

The attractiveness of the propositional account of belief derives largely from the attractiveness of the accompanying propositional account of communication (and belief updating).

In this paper I argue that Stalnaker's defense of the standard account of attitudes does not succeed, because we cannot maintain both the assumption that contents are propositional and the assumption that they are transmitted in communication at the same time. Even the first assumption taken alone is difficult to uphold. In theory, there is a small loophole for the propositionalist to maintain it—she can adopt a certain form of Russellianism. However, this way out is incompatible with the simple model of communication. Therefore, the loophole is closed off for Stalnaker. Finally, I discuss two ways of moving beyond the standard account of belief, neither of which seems promising.

2. Propositionality and Transmissibility

Both Stalnaker and Lewis give *modal* accounts of belief. A subject's belief state is modeled by a set of *doxastic alternatives*, i.e. the possibilities compatible with her beliefs. S's belief state represents p as true iff p is true in all of S's doxastic alternatives. S considers p a doxastic possibility iff p is true in some of S's

² As Stalnaker's account is both binary and propositional, it seems legitimate to classify it as a version of the standard account. A difference is that for Stalnaker, the belief relation is not between subjects and contents, but between centered *base worlds* and contents (Stalnaker, 2008, p. 70), (Stalnaker, 2011a, §3).

doxastic alternatives.³ Even those who understand content in structured or sentential terms should agree that there is, derivatively, an interesting notion of belief in terms of doxastic alternatives. On the standard account, doxastic alternatives are provided by possible worlds. Lewis’s modification is to replace possible worlds by *centered* possible worlds, i.e. <individual, time, world> triples. As centered contents can change their truth-values relative to different times or individuals, they can represent beliefs not only about what the world is like, but also about our location within it.

Formally, Stalnaker’s account is equivalent to Lewis’s—it too represents doxastic states with sets of centered possible worlds (Stalnaker, 2008, Chapter 3; 2011a, §3). The crucial difference is that Stalnaker imposes a certain condition on subjects’ doxastic alternatives. In effect, this condition states that belief *contents* are always identical to standard possible worlds propositions. For Stalnaker the function of centering isn’t to introduce finer-grained objects of belief.⁴ Every centered world uniquely corresponds to an ordinary possible world—no set of doxastic alternatives contains two centered worlds that share their world co-ordinate, but differ in their time or individual element.⁵ Since it entails that belief contents are always propositional, we can label this assumption *Propositionality*.

(*Propositionality*) There is no subject S such that S’s belief state contains two centered worlds with different centers but the same world co-ordinate.

³ Two comments: 1. The semantics of belief ascriptions is more complex and depends e.g. also on the ascriber’s context. 2. On the ordinary, *qualitative* notion of belief it seems possible to have the belief_{qual} that p, while still considering not-p a doxastic possibility by assigning it non-zero credence. We may modify the above clause, such that having the belief_{qual} that p doesn’t require that p holds in *all* doxastic alternatives. Alternatively, one can retain it but distinguish between doxastic_{qual} alternatives and doxastic_{quant} alternatives.

⁴ Stalnaker writes:

The modified account [...] uses exactly the apparatus that Lewis introduced (centered possible worlds) to represent cognitive states, but it will use them in a slightly different way. In particular, I will not appeal to the finer-grained distinction between possibilities that the notion of a centered world permits [...]. (Stalnaker, 2011a, p. 143)

⁵ Stalnaker puts this condition more formally in the following way (where *R* designates the relation of doxastic accessibility, the centered world to the left of *R* specifies a believer and the time/world in which she is in a given belief state, i.e. the base world, while the centered worlds to the right of *R* represent her doxastic alternatives at that time in that world).

(*) For any centers, *c*, *c'* and *c**, and worlds *w* and *x*: if <*c*, *w*> *R* <*c'*, *x*> and <*c*, *w*> *R* <*c**, *x*>, then *c'* = *c**. (Stalnaker, 2008, p. 70).

Why does Stalnaker hold on to *Propositionality*, forgoing the finer-grained contents, even though they are available in the framework and do such a formidable job in modeling self-locating beliefs? The reason lies in the interaction between the propositional theory of belief and complementary theories of communication and belief updating.

The reason I thought, and continue to think, that it is important to represent the contents of indexical beliefs as impersonal propositions is that we want our notion of content to help explain persistence and change of belief, agreement and disagreement between believers, and the communication of belief. (Stalnaker, 1999, p. 20)

Systematic accounts of communication or belief update aren't entirely out of reach for the alternative centered worlds framework (there are complementary centered theories of belief updating (Meacham, 2010), (Schwarz, 2012) and of communication and disagreement (Weber, 2013)).⁶ But these theories are more complex than their propositional counterparts. Here, I will concentrate on the interconnection between belief and communication. On the centered account (Weber, 2013), communication involves two pieces of content, one corresponding to the belief expressed by the speaker and a different one corresponding to the belief acquired by the hearer.⁷ In contrast, on the simple propositional picture of communication, there is only a single piece of information that gets transmitted from speaker to hearer. The speaker literally passes on one of her beliefs to the hearer (Stalnaker, 1978). Accordingly, Stalnaker's framework is meant to comply with the following constraint:

(*Transmissibility*) The contents of belief are also the contents transmitted from speaker to hearer in communication.⁸

⁶ There are also attempts to marry the centered account of belief to uncentered accounts of communication or updating (Egan, 2007; Moss, 2010; Titelbaum, 2008).

⁷ At least this is so when *indexical* beliefs are involved; for non-indexical beliefs there is no difference between the centered model of communication and the propositional one.

⁸ Stalnaker explicitly endorses this constraint: "The objects or contents of belief are also the objects or contents of speech acts [...]" (Stalnaker, 1988, p. 151).

In this paper I argue that Stalnaker’s proposal fails, since *Propositionality* and *Transmissibility* are in conflict. *Propositionality* is implausible in itself, since there seem to be clear counterexamples: subjects with so-called *intra-world ignorance*. Stalnaker (2011a) has tried to defend the claim by engaging in a three-pronged attack against these counterexamples. I show that his objections aren’t convincing. But I will also show that it might be upheld. The problem is that by holding on to *Propositionality*, we are sacrificing *Transmissibility*. We can’t have both.

3. Intra-world Ignorance

A subject whose belief system includes alternatives that differ merely in their center, contra *Propositionality*, suffers from what we may call “intra-world ignorance”. Her belief state leaves open different locations *within* a world; it isn’t merely about which world is actual.

(*IWI*) There are subjects such that their belief state contains two centered worlds with different centers but the same world coordinate.

IWI is the negation of *Propositionality*. I will argue that there is a convincing case for *IWI*.⁹

We have an abstract characterization of intra-world ignorance, but we want to get a better grasp of what a concrete case would look like. When does a subject suffer from intra-world ignorance? Let us call everything we believe about ourselves our *self-conception*.¹⁰ Someone has intra-world ignorance just in case according to what she believes there might be several individuals verifying her self-conception.

⁹ It is not entirely clear how strong *Propositionality* (and *IWI* correspondingly) should be interpreted: does it concern only *actual* or also *possible* subjects? It seems plausible that Stalnaker intends the stronger, modal reading of *Propositionality*. It is then enough to show that there are possible subjects with intra-world ignorance to falsify it. However, I aim to show that *IWI* is true even on the more demanding actualist interpretation.

¹⁰ One can, following Lewis (1979), treat all beliefs as beliefs about oneself. The uncentered belief that *p* corresponds to the belief that I’m living in a world in which *p* is the case. So understood, my self-conception encompasses my entire beliefs system. The following distinction can then be made in terms of centered vs. uncentered parts of one’s self-conception.

(*Subjects with iwi*) A subject S suffers from intra-world ignorance iff there is a doxastically accessible world containing several individuals or times matching S's self-conception.

Whether a subject has intra-world ignorance depends on two factors: the worlds which are doxastically accessible to her and her self-conception. Along with these potential sources of intra-world ignorance, we can distinguish two kinds of intra-world ignorance: temporal and individual intra-world ignorance. Different compossible centered worlds can differ either in their individual or their time co-ordinate. My self-conception may single out a unique individual in every belief world, but leave open several temporal locations in the same world: i.e. I suffer from temporal intra-world ignorance. Or it may be specific about my temporal location, but include a world containing several individuals which could be me: i.e. I suffer from individual intra-world ignorance. Of course, I may also suffer from both individual and temporal intra-world ignorance at the same time.

It is important to note that intra-world ignorance isn't the same as indexical ignorance. Even though centered contents make distinctions *within* worlds, the *belief system* of a subject with indexical ignorance does not automatically give rise to intra-world ignorance. Suppose I'm unsure whether I'm in Canberra or Perth. Some individuals matching my self-conception are located Canberra, others in Perth. Still, my entire belief system might not include a doxastically accessible world that contains *both* an individual located in Canberra as well as one located in Perth. *Prima facie*, it might seem unlikely that there are such worlds. My self-conception is rather rich and includes beliefs like *I'm called 'Clas', I'm currently eating a sandwich, having such-and-such sense-experiences and memories, etc.* To suffer from individual intra-world ignorance, there would have to be a doxastically accessible world in which there are at least two persons with my name, both eating a sandwich, having the exact same sense-experiences and memories, etc. one located in Canberra, the other in Perth.

4. Three Objections to Intra-world Ignorance

4.1 Science Fiction

Intra-world ignorance starts to look like a rather peculiar phenomenon. Maybe there are no plausible examples? The claim that there are no realistic cases of intra-world ignorance is Stalnaker's first objection in defense of *Propositionality* (Stalnaker, 2008, p. 52; Stalnaker, 2011a, p. 144). He claims that the cases which supposedly demonstrate the existence of intra-world ignorance are "highly contrived" pieces of "science fiction" (Stalnaker, 2008, p. 52; 2011a, p. 144).¹¹ This worry is misguided. There are plenty mundane examples; arguably, we all suffer from intra-world ignorance.

To assess the plausibility of intra-world ignorance, it is crucial to keep in mind the following two points. Firstly, it is sufficient for being an intra-worldly ignoramus that one's belief system contains *a single* duplication belief world (i.e. a world containing several individuals/times matching one's self-conception). The existence of one such belief world is enough to falsify *Propositionality*. Therefore one doesn't have to outright believe (in a qualitative sense) that one is in a duplication world, one merely has to deem it a *doxastic possibility*, i.e. assign it *non-zero credence*. Conversely, to avoid intra-world ignorance, the existence of duplication worlds must be a *doxastic impossibility*, i.e. one has to exclude *every* duplication alternative. Since believing_{qual} that p is compatible with assigning not-p positive credence, it is not enough to believe_{qual} that one's world isn't a duplication world, one has to be *certain* that this is so.¹²

Secondly, the actual world doesn't have to be a duplication world itself. We have to keep apart a subject's belief worlds, from the world in which she holds those beliefs. Intra-world ignorance doesn't require duplication within the world of the believer, but merely within one of her belief worlds. Stalnaker's assessment of the cases as science fiction seems based on the erroneous presupposition that the relevant cases require duplication within the believer's

¹¹ In the same spirit, Egan complains that the corresponding argument against the standard account is based on "bizarre science-fictional cases" (Egan, 2009, p. 8); Kwon claims the relevant examples are too remote for our intuitions to be reliable and may even be "incoherent" (Kwon, 2010, p. 57).

¹² In the remainder, I will use both the qualitative and the quantitative notion of belief, without always explicitly distinguishing between the two; the quantitative notion is more fundamental for my argument.

actual world.¹³ This assumption may in turn be explained by too close a focus on the famous two gods example from Lewis (1979). In this example, the gods' doxastic alternatives are in fact located within the gods' actual world. However, this feature is not essential for intra-world ignorance. Rather, it is a consequence of the fact that the gods have knowledge, and that they are objectively omniscient. Because of their objective *omniscience*, their doxastic alternatives are located within a *single* world, and because they have *knowledge*, this world has to be their *actual* one. In general, subjects with intra-world ignorance neither have to have knowledge, nor must they be objectively omniscient.

Some intra-world ignorance arises mainly from a meager self-conception. The poorer a subject's beliefs about herself, the easier it is to find scenarios containing several individuals or times matching them. Corresponding examples are amnesiacs, sensorily deprived subjects, primitive non-human agents, Lewis's two gods, etc. It is obvious that there are *possible* subjects with such poor self-conceptions, and there also seem to be real life examples: amnesiacs do exist, as do people in sensory deprivation tanks, or primitive non-human agents. A general theory of content should be able to handle such agents. Some may still think that these examples are mere exceptions. The real knockdown cases involve certain hypotheses about the world which show that we arguably all suffer from intra-world ignorance.

There are different hypotheses according to which each of us has perfect duplicates. These hypotheses can lead to intra-world ignorance even for subjects with a maximally rich self-conception. For instance, there is the thought that we live in a symmetrical universe, or in one that repeats itself, or that the Everett interpretation of quantum mechanics is true, etc. While these scenarios are themselves rather remote, the fact that we *believe* they have some

¹³ The following passages show that Stalnaker is making this assumption:

Often, to nail the point down, the example will be a case where there are two scenarios within a single possible world involving different people, places or times (two amnesiacs lost in different libraries, or the two omniscient gods). [...] But a story of this kind needs to be highly contrived if it is to work: the internal mental perspectives of the two subjects, or of the subject at the two times, need to be indiscernible from each other. (Stalnaker, 2008, p. 52).

In another passage he notes:

[...] even in the science-fiction stories with two *actual* scenarios that are indiscernible [...] (Stalnaker, 2011a, p. 144).

Others seem, at least implicitly, to also assume that actual duplication is important (Strawson, 1959; Egan, 2009, p. 8; Chalmers, 2011, p. 607; Ninan, 2012, p. 7). In contrast, Lewis's (1986, p. 28) example doesn't involve duplication within the believer's world.

chance of being true isn't at all far-fetched. Suppose I lend some credence to our universe being symmetrical, but have no opinion about which side of the universe I'm located at. There is then a belief world containing two centers, one centered on an individual on the "right" side of the universe, the other centered on an individual on the "left" side, both perfectly matching my self-conception. I suffer from intra-world ignorance. Arguably, we all should and do assign some such hypothesis non-zero credence. That means that for each of us, there are corresponding duplication belief worlds—some such hypotheses we haven't even considered, let alone excluded with certainty. We're all suffering from intra-world ignorance. *IWI* is true and *Propositionality* fails.

4.2 Knowledge from Acting

Stalnaker's next objection against intra-world ignorance is based on interconnections between acting and knowing.¹⁴ The assumption that there is such ignorance, Stalnaker claims, results in an inadequate picture of the interplay between action and knowledge:

[...] one *must* take doxastic and epistemic alternatives to be different possible worlds, even in the fanciful cases, if one is to give a proper account of the role of belief and knowledge in action. Suppose I know that I will be in a similar situation—perhaps an absolutely indiscernible situation—on both Monday and Tuesday without knowing, on either day, which day it is. [...] On each day, I must make a decision [...]. In deciding what to do, I'm making it true that this is what I do in all the possible situations that are epistemically possible for me. Deciding is (at least normally) a way of coming to know. But it would distort the deliberative situation to think that, on Tuesday (or Monday) I was deciding what to do on the other day. I might be giving myself *evidence* about what I will or did do on the other day (if I have reason to think that my situation will be similar enough), but that is different from making a choice that decides it. (Stalnaker, 2011a, p. 145)

¹⁴ For presentational purposes, I have changed the original order of Stalnaker's objections.

Stalnaker's objection seems to be the following *reductio*:

- (1.) The assumption that there is intra-world ignorance entails that our choices determine the actions of our epistemic alternatives.
- (2.) Our choices don't determine the actions of our epistemic alternatives.
- (Conclusion) The assumption that there is intra-world ignorance is false.

The argument is unsound. There is a reading according to which our choices do in fact determine the actions of our epistemic alternatives; on this reading (2.) is false. There is another interpretation, according to which they don't. However, this interpretation is compatible with the existence of intra-world ignorance; on this reading (1.) is false.

Let's grant Stalnaker's assumption that deciding is a way of coming to know. If I decide to ϕ , all my epistemic alternatives will ϕ . There is a sense in which my choices determine my alternatives' actions, in that the following *de dicto* statement is true: *Necessarily, for all x if x is my epistemic alternative, then x will ϕ (given that I ϕ)*. It is a conceptual truth that, given that I know I'll ϕ , only individuals who ϕ are epistemic alternatives for me. Everybody who accepts Stalnaker's initial assumption should accept that there is determination in this sense. There is nothing mysterious or contentious about this. Just as my alternatives' actions are conceptually determined by my decisions, so is their hair color by what I know about my hair.

Importantly, we are not committed to the corresponding contentious *de re* determination claim: *For all x , if x is my epistemic alternative, then necessarily x will ϕ (given that I ϕ)*. My decisions don't impinge on my epistemic alternatives' freedom of action. Each alternative may very well decide not to ϕ . He will then simply cease to count as an alternative. Proponents of intra-world ignorance don't have to endorse the implausible *de re* statement. Stalnaker's reason to think otherwise may once more be driven by the erroneous presupposition that my alternatives have to be part of the actual world (the above quote suggests so). Such a case may lend itself more easily to a *de re* interpretation. 'Here is an actual flesh and blood individual who is allegedly one of my epistemic alternatives. As an epistemic alternative he'd be

determined to ϕ , if I decided to. But how could that be unless there were some magical action at a distance?’

As pointed out before, intra-world ignorance doesn’t entail that one’s epistemic alternatives are part of the actual world. Still, even these exotic cases are compatible with the falsity of the problematic *de re* claim. Imagine that S knows that she lives in a universe which is symmetrical throughout its entire history. S knows that she has a “twin”, S_{twin} , on the other side of the universe, mirroring all her actions. She knows that whenever she decides to ϕ , S_{twin} will likewise ϕ . Do we have to say that S is deciding S_{twin} ’s actions? I don’t see why. The fact that S_{twin} will ϕ doesn’t entail that she’s bound to ϕ . Neither does the fact that S can predict S_{twin} ’s actions by reflecting on her own decisions. Her predictive powers can be explained by her knowledge that the universe is and will always be symmetrical. If, on the other hand, S doesn’t know that the universe will be symmetrical in the future, she will likewise fail to know whether S_{twin} will still be her twin after she decides to ϕ . In case S_{twin} doesn’t ϕ , she will simply cease to be one of S’s epistemic alternatives.¹⁵ Stalnaker’s second objection is not convincing either. The assumption that there is intra-world ignorance doesn’t commit us to any implausible claims about the connection between action and knowledge.

4.3 Token-reflexive Propositions

Stalnaker’s last point in defense of *Propositionality* is that the cases which look like examples of intra-world ignorance don’t really conclusively establish its existence. Every supposed case of intra-world ignorance can be re-described as a case of *inter*-world ignorance:

[...] one *can* assume that distinct epistemically possible scenarios are always different possible worlds without excluding the fanciful

¹⁵ Is the fact that S is losing an epistemic alternative problematic? Typically not, because S will, as in the above case, also gain new alternatives. What if, as in the two gods case, the relevant alternative is, and will be, the only alternative? Wouldn’t the gods then, implausibly, become omniscient *simpliciter*? Yes, but this is actually plausible. Assume that the god on the tallest mountain decides to ϕ . He knows that the god on the tallest mountain will ϕ , but that the god on the coldest won’t ϕ . Then, assuming that he has introspective access to his decision, he can plausibly come to know that he lives on the tallest mountain and thereby become omniscient *simpliciter*.

As Stalnaker (2008, p. 56) has pointed out, there may be a problem for Lewis’s original example: is the fact that the gods are agents compatible with their partial ignorance? This issue will likely turn on whether agency requires introspective, or otherwise privileged, access to one’s own decisions; Lewis’s original case arguably denies the gods such privileged access.

cases. (Stalnaker, 2011a, p. 144).

How is that possible? Reference to one's own thought tokens is supposed to do the trick:

[...] even in the science-fiction stories with two *actual* scenarios that are indiscernible, one can still assume that different epistemic alternatives are scenarios in different possible worlds. [...] Since I don't know whether it is now Monday or Tuesday, I don't know whether *this* token thought is taking place on Monday, or on Tuesday, but I do know that, whichever it is, the (token) thought that I'm having on the other day (yesterday or tomorrow) is a different one. (Stalnaker, 2011a, p. 144).

Assuming, as seems plausible, that thought tokens occur only once in a world; no two compossible centers (with thinking center-individuals) contain the same token. However, the relevant question is not whether there is in fact this objective difference between the centers. The real question is whether it is reflected in our beliefs. It would be insufficient to merely assume that everyone can cognitively exploit this difference. The claim has to be that *everyone always believes with certainty that she is the unique thinker of her present thought token*. This would guarantee that we have a unique center in every belief world.

The proposal seems psychologically unrealistic. It seems clear that there may be doxastic agents who lack corresponding beliefs about their thought tokens (at least some of the time), or who do not even have the concept of a thought token to begin with. Let us put this problem aside. The token-reflexive analysis will only help if the relevant contents are *singular* propositions about our thought tokens; corresponding qualitative propositions wouldn't exclude any duplicates, as each duplicate has a qualitatively identical thought. These singular contents show that the case for *IWI* is not completely watertight. Certain singular beliefs may get us around intra-world ignorance—there is some hope for a singular proposition analysis of self-location.

(*Singular Self-Location*) Self-locating beliefs are nothing but binary relations to singular propositions.

Even though the singular analysis may work in general, the token-reflexive proposal doesn't seem to be the most promising version of it. The worry is that singular propositions about thought-tokens are unapt to play a role in communication. What seems to enable me to make singular reference to my present thought token, if anything, is that I'm presently thinking it. It is doubtful whether other subjects can entertain singular beliefs involving that very token as well. Hence, these propositions may not be suited to also figure as utterance contents.¹⁶ Even if the above obstacles can be overcome, I will argue in the remainder that there are general difficulties for any singular proposition analysis of self-location.

5. Intra-world Ignorance and Singular Propositions

Do singular beliefs offer a response to the argument from intra-world ignorance? An initial thought may be to simply take recourse to ordinary singular beliefs about objects in one's environment. My twin on the other side of the universe may be a perfect copy of mine, he won't be related to *this* chair. If singular propositions involving the chair are part of my self-conception, it will exclude the problematic duplication worlds. This proposal doesn't go far enough. It doesn't always work for temporal ignorance: subjects with *temporal* ignorance are often related to the exact same objects at different times (unless we presuppose a perdurance ontology).

There is a way to *secure* that intra-world ignorance cannot arise. Different centers within a world always differ either with respect to their individual or their time co-ordinate.¹⁷ Assume first that our *nunc*-beliefs are analyzed as singular beliefs about the present moment and our *ego*-beliefs as singular beliefs about ourselves. Other self-locating beliefs get analyzed as complex *ego*- or *nunc*-beliefs; e.g. *hic*-beliefs are beliefs about *the place where I'm located*. Assume further that every thinker *S* at all times *t* believes with certainty that she is *S* and that *t* is the present time. This would guarantee that

¹⁶ One may hold that the demands on grasping singular propositions are rather low, such that a mediated causal connection with the thought token is sufficient (e.g. by encountering it expressed by an utterance). In §6 I will show that such an account of singular belief conflicts with the singular proposition analysis of self-location.

¹⁷ At least this will be so as long as we're ignoring unusual cases such as time travel.

there could be no intra-world ignorance. Everyone would have a unique center in each belief world. We cannot allow that one acquires this information at some point in one's life, i.e. that there are times where one doesn't possess it. Otherwise, there is the possibility for intra-world ignorance at those times. And we must have it with certainty, as otherwise, there may still be *some* doxastic possibilities leading to intra-world ignorance.¹⁸

This proposal faces a number of problems. Firstly, can't we be uncertain about who we are, or about what time it is? On the above proposal everybody has to always be certain about this. Perhaps, there is a response to this worry. Granted, there is a sense in which we are certain about who we are and what time it is (the sense in which we know the corresponding singular propositions). But there may also be a sense in which we aren't, e.g. when we're unsure about some of our or the present time's properties.

Secondly, the proponent of the singular proposition analysis seems to help herself to some primitive pieces of self-location: the belief that *I'm S* and *now is t*. It seems that she can't analyze these in the same way as other self-locating beliefs. Or can she? Couldn't she stick to her guns and claim that they are the trivial beliefs that *S is identical with S* and *t identical with t*?

Thirdly, there is a general problem for ascribing singular beliefs to ordinary thinkers (Lewis, 1981).¹⁹ Holding true a singular proposition about an object *a* is to have extremely strong beliefs about *a*. Having the singular belief that *a is F* means that in all doxastic alternatives *a* has property *F*. *A fortiori*, *a* will exist in all alternatives and instantiate its essential properties. Having a singular belief about an object entails having true beliefs about its essence. That is implausible—we don't typically have this kind of knowledge. On the proposed analysis of self-location, we have to know our own and the present time's essential properties. That is equally implausible. Often, we even hold beliefs that entail the absence of some of our essential properties (e.g. I may believe that Danny DeVito and Angela Merkel are my parents). Perhaps one

¹⁸ This proposal seems to conflict with Stalnaker's actual account. He seems to allow that we don't always have the above certainty and that our *nunc*- and *ego*-thoughts may pick out different things in different belief worlds, e.g. when we are confused about our temporal location or our own identity: "My temporal location (or the location of the person I take myself to be) will be different in different doxastically possible worlds." (Stalnaker, 2011b, p. 472, see also 2008, p. 74).

¹⁹ Ninan (2012) considers this problem to be the downfall of the singular proposition analysis of self-location.

could reject the assumption that things have non-trivial essential properties.²⁰ This is in conflict with our modal judgments, but there are ways to make anti-essentialism sound less offensive (Lewis, 1986, §4.4).

The problems for *Singular Self-Location* seem already severe, and there is further trouble ahead. It faces a dilemma. On the one hand, one may assume that access to singular propositions is easy. This assumption turns out to be inconsistent with *Singular Self-Location*. Alternatively, one may hold that access to singular contents is hard. This will force us to abandon *Transmissibility*. In the next section, we will look at the first horn of this dilemma.

6. Easy Access and Singular Self-Location

Philosophical orthodoxy has it that we believe countless singular propositions. Moreover, it is commonly assumed that it isn't hard to gain access to these propositions (Jeshion, 2010). A certain sort of causal connection with its object, typically through perception (or testimony), is taken to be sufficient for grasping a singular proposition. I will call theories that share this picture of singular belief *easy access theories*.

(Easy Access) There are ordinary, 3rd personal ways of acquiring singular propositions about other subjects (e.g. through perception, testimony, etc.).

In contrast, there is the *Russellian* perspective, which combines the claim that genuinely singular attitudes require *acquaintance* with their objects, with the thought that acquaintance is an extremely demanding relation. There are few entities with which we are truly acquainted: universals, the data of the outer and inner senses, and we ourselves (Russell, 1912, Chapter 5). We can add the present moment as a further object of acquaintance. According to Russellianism, we're unable to grasp singular propositions about others:

(Private Access) Only the subject can grasp singular propositions

²⁰ Another reply is to separate epistemic from metaphysical possibility (Soames, 2006). However, this response is not available to Stalnaker (2003).

about herself.

Combining, the singular proposition analysis of self-location with the claim that access to singular propositions is easy results in an unhappy marriage. In fact, the two seem incompatible. According to *Easy Access*, there are ordinary, 3rd personal ways of acquiring singular beliefs. If others can come to have beliefs about me in such a way, so can I—nothing prevents me from acquiring singular propositions about myself in a 3rd personal manner.

(3rd personal Self-Access) There are ordinary, 3rd personal ways of acquiring singular propositions about oneself (e.g. through perception, testimony, etc.).

Further, if one can acquire singular beliefs about oneself in 3rd personal ways, it seems also possible to have a singular belief about oneself, while lacking the corresponding self-locating belief. Here's an example:²¹ I'm looking at the reflection of a guy with a hat, not realizing that it's me. I come to believe the singular proposition that *NN is wearing a hat*. That notwithstanding, I lack the corresponding self-locating belief that *I'm wearing a hat*, since I've forgotten putting it on in the morning.

The problem is that such a scenario is incompatible with the singular proposition analysis of self-location.

(3rd personal Self-Access vs. Singular Self-Location)

(1.) *3rd personal Self-Access* entails that it is possible to believe a singular proposition about oneself without having the corresponding self-locating belief.

(2.) *Singular Self-Location* entails that it is impossible to believe a singular proposition about oneself without having the corresponding self-locating belief.

(Conclusion) *Singular Self-Location* and *3rd personal Self-Access* are incompatible.

²¹ There are many similar examples in the literature; perhaps the most famous ones are Perry's messy shopper and Kaplan's burning pants (Perry, 1979; Kaplan, 1989).

The first premise is supported by straightforward conceivability considerations. Given *3rd personal Self-Access*, it is clearly conceivable that one may believe a singular proposition without having the corresponding 1st personal attitude. Unless something funny is going on, what is conceivable is also possible.²²

The second premise seems undeniable as well. According to the binary propositional account, there is nothing more to having a certain belief than being belief-related to a particular content. According to *Singular Self-Location*, the contents of self-locating beliefs are singular propositions. Hence, the analysis entails that whenever I'm belief-related to an appropriate singular proposition, I will thereby have the corresponding self-locating belief.

There is a closely related problem. According to easy access theories, different subjects can grasp the same singular proposition.

(Shared Access) Several thinkers have access to the same singular proposition.

In particular, both A and B can grasp the singular contents of A's self-locating beliefs. Assume that A believes in a 1st personal manner *I'm F*, while B has the 3rd personal belief *A is F*. Since both are belief-related to the same singular proposition, they both have the same belief according to the singular proposition analysis of self-location. That in turn suggests that if A has a self-locating belief, so does B.²³ But that's not the case—B's belief isn't self-locating.

(Shared Access vs. Singular Self-Location)

- (1.) *Shared Access* entails that it is possible that A and B are belief-related to the same singular proposition.
- (2.) *Singular Self-Location* entails that if A has a self-locating belief, then B also has a self-locating belief.
- (3.) A has a self-locating belief.

²² The link from conceivability to possibility can sometimes be questioned, when the counterfactual profile of the involved terms differs from their epistemic profile (Chalmers, 2002). No such terms seem to play a role here.

²³ One may try to resist this assumption by pointing to the differences in the subject positions of the two belief-relations. However, in §8.1 I'll argue that easy access theorists can't avail themselves of this response.

(4.) B does not have a self-locating belief.

(Conclusion) *Singular Self-Location* and *Shared Access* are incompatible.

These arguments show that on the standard account of singular belief, the singular proposition analysis of self-locations fails. We cannot explain the nature of self-locating beliefs in terms of their content, if we also assume that access to these contents is easy. Let us therefore turn towards the Russellian conception of singular belief.

7. Private Access and Transmissibility

Can a private access theory avoid the above difficulties? The first problem hinges on there being 3rd personal pathways to singular propositions about oneself. In principle, one could try to merely deny this, while maintaining that we do have access to singular beliefs about others. That is an unstable middle ground. If others can come to acquire singular beliefs about me through perception and testimony, why can't I gain beliefs about myself in the same way? Moreover, the response doesn't help with the second problem, i.e. the argument from *Shared Access*. We also have to restrict the scope of singular beliefs about other subjects. Again, one might attempt a minimal fix and hold that we can grasp singular proposition about other individuals, as long as these propositions aren't also the contents of their self-locating beliefs. However, such a restriction seems arbitrary. Why should my cognitive capacities be limited by what others believe about themselves? The only reasonable position here is to endorse full-blown Russellianism, i.e. to claim that we have access to singular proposition only in 1st personal ways. Assuming that all singular beliefs are self-locating and *vice versa*, we can simply identify a subject's self-locating beliefs with her singular beliefs.

Private access theories run into a different problem: *they violate the Transmissibility constraint!* Consider my belief that *I'm F*. *Singular Self-Location* assigns it the singular proposition that *Clas is F*. We would expect that my utterance of "I'm F" likewise expresses this proposition. However, according to the private access account, this proposition cannot be what my audience learns from the assertion, as only I can grasp it. The private access

theory has to abandon the simple model of communication: the content of the belief the speaker expresses cannot be the same as the content the hearer acquires.

Is there a way to reconcile the private access theory with the simple model of communication? Can we identify the contents of self-locating *utterances*, unlike that of self-locating *beliefs*, with singular propositions graspable both by speaker and hearer? This proposal won't work. Which object other than the speaker should "I" pick out; which entity other than the present moment should "now" refer to? There don't seem to be good candidates. Furthermore, we have seen that there is considerable pressure to endorse the Russellian account, on which self-locating contents are the *only* singular propositions we have access to.

What about qualitative propositions? One might suggest that, while self-locating *beliefs* are relations to singular propositions, self-locating *utterances*, surprisingly, express qualitative propositions instead. For instance, the pronoun "I" might stand for a certain qualitative description of the speaker *the D*. When uttering, "I'm F", I'm expressing the qualitative proposition that *the D is F*.

The first problem with the proposal is that it is psychologically unrealistic. It requires that speaker and hearer have objective, identifying descriptive information about the speaker. Both speaker and hearer may very well lack such information and still be able to communicate successfully. Secondly, the proposed qualitative content will often be too weak. This becomes clear by focusing once more on duplication scenarios. Imagine that I believe we're in a recurring universe and am unsure about which epoch we're in. I ask you. You respond, "I'm living in the 17th epoch". It seems that I can easily infer from your utterance that we're both living in the 17th epoch. But I couldn't have learned this from the information that *the D is living in the 17th epoch*, as the description the D applies equally to all your duplicates in the other epochs.²⁴

We cannot combine the standard propositional account of belief with the simple propositional model of communication. To escape the existence intra-world ignorance, the binary propositional account has to analyze the content of

²⁴ The centered worlds framework can avoid these difficulties, since the corresponding centered model of communication allows that the content expressed by indexical utterances is itself indexical (Weber, 2013).

self-locating beliefs in terms of singular propositions. This gives rise to a dilemma. Either access to singular propositions is easy or it is hard. Easy access to singular propositions is incompatible with the singular proposition analysis of self-location, while hard access is incompatible with the simple model of communication.

In the next section I'm going to consider two ways of moving beyond the standard account. There is textual evidence that Stalnaker has sympathies for both; unfortunately, he doesn't spell them out in detail. Both are attempts to maintain the assignment of propositional contents to self-locating beliefs, while avoiding a commitment to Russellianism.

8. Beyond the Standard Account

8.1 Content and Relations to Content

In formulating *Singular Self-Location*, we have assumed a certain interpretation of the standard account. According to this interpretation, for S to have a belief is *nothing but* for her to stand in the belief-relation to a proposition. This suggests that the characteristic feature of self-locating beliefs is to be found in their content.²⁵ This led to the downfall of easy access accounts, on which indexical and non-indexical beliefs can share the same singular content.

Maybe our interpretation of the standard account is too rigid. Perhaps the account, or a close cousin thereof, has richer resources in explaining self-locating beliefs than just their content. Some of Stalnaker's remarks point in this direction:

In general, two questions need to [be] distinguished: (1) what is the content of belief? (2) what is the nature of the relation between the believer and the content that constitutes its being the content of his or her belief? *I think one should locate the essential indexical element in the answer to the second question.* (Stalnaker, 1999, p. 21, my emphasis)

²⁵ This is the case on Lewis's binary account: the content of self-locating beliefs, unlike that of objective beliefs, distinguishes between world-mates.

Stalnaker doesn't develop this line of thought further.²⁶ The general idea is that the difference between self-locating and objective beliefs is grounded not in a difference in content, but in a difference in our relation to content.

According to this proposal, easy access theories may prove compatible with *Singular Self-Location* (or a slightly modified version thereof). Perhaps this gives us a response to the argument from *Shared Access*: even though A and B are both related to the same singular content, only A's belief is self-locating. That's because A and B stand in *different relations to this content*. What does this difference consist in? An obvious proposal is that the belief that *A is F* is self-locating for A, since the proposition is about A herself, while for B it isn't. Self-locating beliefs, so the thought, are singular beliefs which are about the believer herself. However, this explanation doesn't work. According to easy access theory, one may believe a singular proposition about oneself in a 3rd personal way without having the corresponding self-locating belief (as seen in *3rd personal Self-Access vs. Singular Self-Location*).

A comprehensive explanation of self-location seems then driven to distinguish between 1st personal and 3rd personal ways of believing a proposition. While such an explanation may be successful, it crucially relies on *ways of believing a proposition*, or *propositional guises*. This is the mark of Perry's triadic framework. Our account of self-location seems to collapse into Perry's theory. A commitment to propositional guises would seem particularly discomfoting for Stalnaker, as he has been one of their most vocal critics. He seems to endorse the following argument against such an account.²⁷

(Propositional guises and self-location)

- (1.) Different self-locating beliefs differ in cognitive significance.

²⁶ In the same spirit, Stalnaker (2008; 2011a) states that the crucial characteristic of self-locating beliefs is to be found in "the links between the believer's actual situation and the possible worlds that are compatible with his beliefs" (Stalnaker, 2011a, p. 141). In Stalnaker's framework, the function of centered worlds is to establish these "links", rather than to provide more fine-grained contents. Again, Stalnaker doesn't give us a further explanation as to what kind of "link" is distinctive of self-locating beliefs.

²⁷ The core of the argument can already be found in Stalnaker's original discussion of Perry:

The problem, I will argue, is that neither a belief state nor a belief content, in Perry's sense, is an adequate representation of [...] *informational content* [...] (Stalnaker, 1981, p. 147)

The following remarks from a more recent discussion show that Stalnaker still seems to accept this objection:

[...] differences in perspective—in where the agents locate themselves in the world as they take it to be—[...] seem to be cognitive differences [...] (Stalnaker, 2006, p. 286)

I think this way of distinguishing content of belief from manner of believing distorts the phenomena, locating an aspect of Ralph's conception of what the world is like on the wrong side of the line. (Stalnaker, 2006, p. 287)

- (2.) Beliefs that differ in cognitive significance also differ in content.
 - (3.) The propositional guises account identifies the contents of some self-locating beliefs that differ in cognitive significance.
- (Conclusion): The propositional guises account is flawed.

It is the defining theoretical role of *content* to reflect differences in cognitive significance. Beliefs that represent things differently should be assigned different contents. The fundamental problem with the propositional guises framework is that the notion of *content* operative within this framework cannot play this theoretical role—cognitive differences between beliefs are not always reflected in their contents.

Even if we could avoid a commitment to full-blown propositional guises, the same argument can be leveled against an attempt to locate the essential feature of self-locating beliefs in our relation to content (or in the “links” between our situation and content). This proposal, too, inadequately identifies the contents of self-locating beliefs that differ in cognitive significance. Consider Lewis’s two gods after they have learned where they are—when they are omniscient *simpliciter*. The propositionalist will claim that they are related to the same content, i.e. the singleton of their world $\{w_{\text{gods}}\}$, (though maybe in different ways). In spite of this identity in content, their cognitive perspectives are rather different: one self-locates on the tallest mountain, the other on the coldest. Just as in Perry’s account, these cognitive differences are no longer reflected in content. On the Lewisian account in contrast, the omniscient gods are related to different contents, i.e. the singletons of different centered worlds $\{\langle \text{god}_{\text{TM}}, t_1, w_{\text{gods}} \rangle\}$ and $\{\langle \text{god}_{\text{CM}}, t_1, w_{\text{gods}} \rangle\}$. Centered content does, while propositional content doesn’t, capture these cognitive differences.

8.2 Deep Contextualism

A last attempt to uphold the propositional analysis of self-location is based on Stalnaker’s *deep contextualism* about content (Stalnaker, 1999, Introduction; 2008, Chapter 5 & 6). According to this perspective on intentionality, content is ascribed from an external, theorist’s point of view and fundamentally depends

on the ascriber's explanatory purposes—*there are no objective, ascriber-independent facts about the content of a subject's belief state*.²⁸

It may then seem as if the dilemma between easy access and private access accounts rests on a false presupposition, since it assumes that there are objective facts about the accessibility of singular propositions. Rather, we're ascribing singular contents to subjects when doing so is helpful in rationalizing their behavior and making sense of their cognitive states. When such ascriptions lead to problems, as they do in Frege cases, we should instead turn to *descriptive surrogate contents* which better suit our explanatory project.

We've encountered two general challenges for non-Russellian accounts. Firstly, it seems possible to believe a singular proposition about oneself without having the corresponding self-locating belief. Secondly, it seems possible that A and B believe the same singular proposition, such that only A's belief is self-locating. In response to the first challenge, a contextualist could argue that in the relevant cases S doesn't acquire a singular content through the 3rd personal channel, but only a descriptive surrogate. Since she's in an indexical Frege case, assigning a singular content would represent her as irrational. It is much harder to motivate a parallel response to the second challenge. The contextualist has to claim that whether A has a singular belief about herself, depends on facts about B's cognitive state or *vice versa*. However, neither A's nor B's rationality seem affected by what the other person believes (we can imagine that A and B are completely unrelated). In this case, the contextualist's proposal looks like an *ad hoc* attempt of salvaging the propositional analysis. Let us put this worry to the side and focus on the first challenge.

In general, there are two of ways of spelling out the descriptive surrogate strategy: we can opt for *non-indexical* or *indexical* descriptive surrogates. Non-indexical descriptivism fails, since it cannot deal with the problematic duplication scenarios. That leaves indexical descriptivism. Psychologically, the proposal is plausible: often, we are unable to refer to objects in an objective, context-independent way; we have to rely on egocentric relations. The problem is that the propositionalist has to analyze these indexical

²⁸ Stalnaker doesn't give an explicit definition of "deep contextualism". The above may therefore not be exactly the position he is referring to with that label; nonetheless, it seems to capture an important element of his conception of intentionality. See (Magidor, 2010) for an interesting critical discussion of Stalnaker's (2008) deep contextualism.

contents once again in singular terms. And this leads once more to the failure of the simple model of communication! Typically, subjects will use 1st personal indexical relations to establish reference. But two subjects who use the same egocentric relation to refer to an object will be related to different singular contents. For instance, if both S and T use the perceptual relation *the person I'm seeing through the window*, the corresponding singular propositions will be *the person S is seeing through the window is F* for subject S and *the person that T is seeing through the window is F* for T. When communicating, S's and T's respective beliefs will differ accordingly. As a result, the belief S expresses is different from the one T acquires, and *Transmissibility* fails. Like the Russellian, the deep contextualist is forced to abandon the simple model of communication.

Beyond the question of whether the contextualist strategy is feasible, there is the further question of whether it would be worth the price. The answer seems again negative. The principles which govern the deep contextualist's ascription of belief content will most likely be highly complex. In comparison, the complication incurred by Lewis's centered worlds framework seems rather mild. Moreover, the deep contextualist's anti-realism incurs further costs. There is considerable pressure to also reject the objectivity of facts about our confidence in various assertions. As Chalmers (2011) has pointed out, facts about belief contents are intimately related to facts about credences concerning assertions. For instance, S's assigning high credence to the proposition that Obama is president is correlated with S's assigning high credence to an assertion of "Obama is president". In principle, the contextualist could combine her rejection of objective content facts with an acceptance of objective facts about credences in the relevant assertions. But these credence facts would then be "free-standing" in a peculiar way, unsupported by underlying facts about our attitudes towards the corresponding propositions. The resulting picture looks unattractive. It is more harmonious to deny the objectivity of both kinds of fact. Denying the existence of objective credence facts may then lead the deep contextualist to also reject the existence of context-independent facts about certain betting dispositions, as the credence facts may in turn be seen as grounded in these dispositions. The Lewisian framework avoids these difficulties.

Neither way of moving past the standard account seems to provide a promising way out for Stalnaker. The attempt of locating the special feature of self-locating beliefs in our relation to content faces the same objection he raised against Perry's framework. Deep contextualism seems costly in comparison to Lewis's centered worlds account and to lead once more to the abandonment of the simple model of communication.

9. Conclusion

Stalnaker's attempt of combining a propositional account of belief with a simple propositional model of communication fails. It is feasible to give a propositional account of self-location: a certain form of indexical Russellianism. However, the Russellian has to abandon the simple model of communication. For the centered worlds framework, there is already an alternative model of communication for self-locating beliefs (Weber, 2013). On the other hand, there is as yet no corresponding Russellian model. Neither do we yet have a comprehensive account of self-locating communication for Perry's framework. Here, an adequate explanation needs to go beyond specifying which content (in Perry's sense) is transmitted; we also need an account of how the speaker's and the hearer's *belief states* are related. For both frameworks, a promising strategy is to mimic the centered model (Weber, 2013). On a Russellian version of this model, when S makes an utterance involving the 1st person pronoun, S expresses a singular belief about herself: *S is such-and-such*, whereas the hearer H acquires a different singular belief about herself: *the person talking to H is such-and-such*. Similarly for the conversational dynamics of *belief states* in Perry's framework: the hearer has to acquire the content *S is such-and-such* under the guise *the person talking to me is such-and-such*.

It was the propositionalist's alleged superiority in explaining communication that motivated Stalnaker's reluctance to take advantage of the entire resources of Lewis's centered worlds framework. We can now see that this motivation is misguided—there is no reason not to exploit the framework's full potential.²⁹

²⁹ For helpful comments and discussion I would like to thank Edward Elliott, Jonathan Farrell, Frank Jackson, Leon Leontyev, Daniel Nolan, Jonathan Schaffer, Daniel Stoljar, and an anonymous referee; I am particularly indebted to David Chalmers and Wolfgang Schwarz.

References

- Chalmers, D. (2002). Does conceivability entail possibility? In T. S. Gendler and J. Hawthorne (Eds.), *Conceivability and Possibility*, pp. 145–200. Oxford University Press.
- Chalmers, D. (2011). Frege’s puzzle and the objects of credence. *Mind* 120, 587–635.
- Egan, A. (2007). Epistemic modals, relativism and assertion. *Philosophical Studies* 133, 1–22.
- Egan, A. (2009). Three grades of self-involvement. Unpublished manuscript.
- Jeshion, R. (Ed.) (2010). *New Essays on Singular Thought*. Oxford University Press.
- Kaplan, D. (1989). Demonstratives. In J. Almog, J. Perry, and H. Wettstein (Eds.), *Themes from Kaplan*, pp. 481–614. Boston: Oxford University Press.
- Kwon, H. (2010). Self-Identification and Self-Knowledge. PhD thesis, MIT.
- Lewis, D. (1979). Attitudes De Dicto and De Se. *Philosophical Review* 88, 513–43.
- Lewis, D. (1981). What puzzling Pierre does not believe. *Australasian Journal of Philosophy* 59, 283–89.
- Lewis, D. (1986). *On the Plurality of Worlds*. Oxford: Basil Blackwell.
- Magidor, O. (2010). Review of: Robert Stalnaker *Our Knowledge of the Internal World*. *Philosophical Review* 119, 384–391.
- Meacham, C. (2010). Unravelling the tangled web: Continuity, internalism, non-uniqueness and self-locating beliefs. In T. Szabó-Gendler and J. Hawthorne (Eds.), *Oxford Studies in Epistemology*, Volume 3. Oxford: Oxford University Press.
- Moss, S. (2012). Updating as communication. *Philosophical and Phenomenological Research* 85, 225–248
- Ninan, D. (2012). Counterfactual attitudes and multi-centered worlds. *Semantics and Pragmatics* 5, 1–57.
- Perry, J. (1979). The problem of the essential indexical. *Nous* 13, 3–21.
- Russell, B. (1912). *The problems of philosophy*. London: Williams and

- Norgate. 9th impression, with appendix, published Oxford: OUP 1980.
- Schwarz, W. (2012). Changing minds in a changing world. *Philosophical Studies* 159, 219–239.
- Soames, S. (2006). Philosophical implications of the Kripkean necessary aposteriori. *Philosophical Issues* 16, 288–309.
- Stalnaker, R. C. (1978). Assertion. In P. Cole (Ed.), *Syntax and Semantics Vol. 9: Pragmatics*. Boston: Academic Press.
- Stalnaker, R. C. (1981). Indexical belief. *Synthese* 49, 129–151.
- Stalnaker, R. C. (1988). Belief attribution and context. In R. Grimm and D. Merrill (Eds.), *Contents of Thought*, pp. 140–56. Tucson: University of Arizona Press.
- Stalnaker, R. C. (1999). *Context and Content*. Oxford Cognitive Science. Oxford: Oxford University Press.
- Stalnaker, R. C. (2003). Conceptual truth and metaphysical necessity. In *Ways a World Might Be*, pp. 201–15. Oxford: Oxford University Press.
- Stalnaker, R. C. (2006). Responses. In J. J. Thomson and A. Byrne (Eds.), *Content and Modality: Themes from the Philosophy of Robert Stalnaker*. Oxford University Press.
- Stalnaker, R. C. (2008). *Our Knowledge of the Internal World*. Boston: Oxford University Press.
- Stalnaker, R. C. (2011a). The essential contextual. In J. Brown and H. Cappelen (Eds.), *Assertion: New Philosophical Essays*. Oxford University Press.
- Stalnaker, R. C. (2011b). Responses to Stoljar, Weatherson and Boghossian. *Philosophical Studies* 155, 467–479.
- Strawson, P. F. (1959). *Individuals: An Essay in Descriptive Metaphysics*. London: Methuen.
- Titelbaum, M. G. (2008). The relevance of self-locating beliefs. *The Philosophical Review* 117, 555–606.
- Weber, C. (2013). Centered Communication. *Philosophical Studies* 166, 205–223.