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A Linking Belief is Not Essential for Reasoning

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1. Introduction

Reasoning is a mental process through which you acquire a new attitude—the ‘conclusion attitude’—on the basis of attitudes you already have—the ‘premise attitudes’. It is very natural to think that, if a process is to be genuinely reasoning, you must believe that the conclusion attitude is linked to the premise attitude in some way that makes it appropriate to have the conclusion attitude on the basis of the premise attitudes. I adopted this natural view in my book *Rationality Through Reasoning*; I assumed you must have a ‘linking belief’, as I call it.

I now withdraw this view. In this chapter I shall argue it is not true for reasoning in general, though it may be true for the particular case of reasoning whose conclusion attitude is a belief. Moreover, even in cases where a linking belief is a necessary condition for a process to be reasoning, it is not an essential condition. It is not part of what makes a process reasoning.

2. A First-order Linking Belief: The Taking Condition

You wake up in the morning and hear rain, so you believe it is raining. You have a standing belief that, if it is raining, the snow will melt. Bringing these two beliefs together, you conclude that the snow will melt. This latter process (not the perception but the drawing of the conclusion) is a piece of reasoning. What makes it so? What in general makes a process reasoning?

Here are some essential features of a reasoning process. It is a mental process: it takes place in the mind, and it starts and ends with mental states. These mental states

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are, more specifically, propositional attitudes: they are relations you stand in to particular propositions. These propositions are commonly called the ‘contents’ of the attitudes. As convenient terminology, I shall refer to the ‘premise attitudes’ and ‘conclusion attitude’ of the process, and more specifically to a ‘premise belief’, ‘premise intention’, ‘conclusion belief’, or ‘conclusion intention’. The process of reasoning starts from some premise attitudes that you already have, and ends with a conclusion attitude that you acquire in the process.

A further essential feature of a reasoning processes is that it is in some way causal: through reasoning your initial attitudes cause or give rise to your conclusion attitude.

Not every process that satisfies the description I have so far given is reasoning. When some attitudes of yours give rise to another through some mental process, the process is not necessarily reasoning. For example, when you come to believe there is a spider in the room, this belief may cause you to intend to leave the room as quickly as possible. This may be just the causal result of your arachnophobia, and not a process of reasoning at all. So we need to know what distinguishes processes that are reasoning from other mental processes involving propositional attitudes.

I am particularly concerned with active reasoning, which is to say reasoning that is an act—something you do. There may also be a kind of reasoning that is not an act. This would be a process that happens in you or to you, and has features that qualify it as reasoning, but is not something you do. If there is such a thing, I call it ‘passive reasoning’. It would be like digesting your food, whereas active reasoning is like eating your food. I am interested in active reasoning only, and in this chapter ‘reasoning’ refers only to active reasoning. The question I am asking is what makes a process active reasoning, when it is.

Until Section 5 of this chapter, I shall concentrate on ‘belief reasoning’. By this I mean reasoning in which the premise and conclusion attitudes are beliefs. The snow reasoning is an example. In the case of belief reasoning, we may call the contents of the premise beliefs ‘premises’ and the content of the conclusion belief ‘the conclusion’. I shall come to other kinds of reasoning later.

In my book *Rationality Through Reasoning* I asked the question I am asking now: What distinguishes reasoning from other mental processes? When discussing belief reasoning specifically, I offered as a necessary condition for a process to be belief reasoning that you have a ‘first-order linking belief’, which I defined as follows:

This is a belief that links together the contents of your attitudes. In the case of belief reasoning, it is specifically the belief that the premises imply the conclusion. By that I mean simply that you believe a conditional proposition. When the premises are p , q , r and so on, and the conclusion is t , you believe that, if p , q , r and so on, then t .¹

This definition specifies how I use the word ‘imply’. I do not use it for logical implication only, but for any conditional relation.

¹ Broome (2013), p. 229.

I added as a further necessary condition that this linking belief plays a causal role in the reasoning.²

I describe this linking belief as first-order because its content directly links together the contents of the premise attitudes and conclusion attitude—the premises and the conclusion, that is to say. You might also have a second-order linking belief, whose content links together the attitudes themselves. An example is the belief that you ought to believe the conclusion if you believe the premises. I shall mention second-order linking beliefs in Section 7, but until then I shall consider only first-order linking beliefs.

Paul Boghossian also offers a necessary condition for a process to be belief reasoning. He calls it ‘the taking condition’ and presents it this way:

Inferring necessarily involves the thinker taking his premises to support his conclusion and drawing his conclusion because of that fact.³

I think Boghossian’s condition and mine are effectively the same; the differences are only apparent. Boghossian speaks of inferring where I speak of reasoning, but belief reasoning can equally well be called ‘inferring’. Boghossian speaks of the premises’ *supporting* the conclusion, whereas I speak of their *implying* the conclusion. But I think there is no real difference here. Support may be weak or strong, and I assume that Boghossian has in mind support that is as strong as implication. If you are to believe a conclusion on the basis of premises, you must think that the conclusion is true if the premises are true. It would not be enough to think merely that they give some weaker support to the conclusion—for instance, that they increase the probability of the conclusion.

Finally, Boghossian refers to *taking* rather than *believing*. This is because he means to allow for an attitude that is less than explicit belief. But I shall explain that I also allow the linking belief to be only implicit, so there is no difference here either.

3. What Reasoning Is

In *Rationality Through Reasoning*, I claimed that the existence of a first-order linking belief is necessary for a process to be belief reasoning. I no longer make this claim but I do not deny it either. There is an argument for it that I shall describe in Section 4. I find it plausible but not conclusive.

In any case, this claim is not required by my account of reasoning. I never claimed that a first-order linking belief is essential to belief reasoning. That is to say, I never claimed that a first-order linking belief is part of what makes a process belief reasoning.⁴ If it is necessary for belief reasoning, that is because it is the consequence of a different necessary condition. That different condition is essential to belief reasoning.

² Broome (2013), p. 229.

³ Boghossian (2014), section 3.

⁴ For the difference, see Fine (1994).

The different condition, which is also presented in *Rationality Through Reasoning*, is that you operate on the contents of your attitudes, following a rule.⁵

In the snow example, the contents of your two premise beliefs are the proposition that it is raining and the conditional proposition that if it is raining the snow will melt. The first of these premises is the antecedent of the second. You operate on these contents, following the modus ponens rule, which tells you to derive the proposition that is the consequent of the second premise. You end up believing that proposition. That is, you end up believing that the snow will melt. In general, the modus ponens rule is to derive the proposition that q from the proposition that p and the proposition that if p then q .

Possibly, the rule you follow is not the modus ponens rule. For example, you might instead follow the rule of deriving the proposition that q from the proposition that p and the proposition that if p then q , provided these propositions are about the weather. This rule is narrow but correct. Alternatively, you might follow the rule of deriving the proposition that q from the proposition that p and the proposition that if p then q provided the date is before 2100, and deriving the proposition that not q at later times. This rule is incorrect. My essential condition for reasoning requires you to follow a rule, but it does not specify which rule. Nor does it require the rule to be correct. If you follow an incorrect rule, you reason all the same, though you reason incorrectly. The correctness of reasoning is not an issue in this chapter.

The core of my account of reasoning is that in reasoning you follow a rule. Since the notion of following a rule is difficult, this needs more explanation. It is because you follow a rule that reasoning is something you do. The rule does not merely cause you to behave in a particular way, as a program causes a computer to behave in a particular way. The rule guides you and you actively follow it.

What is this guidance? Part of it is that you behave as you do because of the rule; the rule explains your behaviour. More than that, it explains your behaviour in a particular way. The rule sets up a standard of correctness, and your recognition of this correctness is part of the explanation. When you are guided by a rule, your behaviour seems to you correct relative to the rule or, if it does not, you are disposed to correct your behaviour. A disposition to correct your behaviour is essential to being guided.

To follow a rule is to manifest a particular sort of disposition that has two components.⁶ The first component is a disposition to behave in a particular way. Here I use 'behave' very generally, to include mental processes such as reasoning and coming to have a belief. The second component is a disposition for the behaviour to 'seem right' to you, as I put it.⁷

⁵ Broome (2013), p. 234.

⁶ This dispositional account of following a rule is set out in Broome (2013), section 13.4. It is intended to overcome difficulties raised by Paul Boghossian (2008 and 2014).

⁷ The phrase comes from Wittgenstein's *Philosophical Investigations* (1968), remark 258.

Seeming right is not a phenomenal state, though it may be associated with one. Compare a different example. When a proof seems right to you, you may be in no particular phenomenal state; your state may simply be that you can find no fault with the proof. Seeming right is an attitude towards your behaviour. An essential part of it is being open to the possibility of correcting your behaviour. When a process seems right to you, you are open to the possibility that it may no longer seem right to you if a certain sort of event were to occur. We may call the event ‘checking’.

Checking may consist simply in repeating the process, or it may consist in a different process. If you are asked ‘Three fours?’, you will probably spontaneously answer ‘Twelve’, and this will seem right to you. You may check your conclusion by calling up a spontaneous response once again, or you may count on your fingers.

Your openness to correction is a disposition. You are disposed to lose the attitude of seeming right in particular circumstances—specifically if you check and your checking produces a different result. This is often a counterfactual disposition, since you often do not check. You may not be disposed to check, perhaps because you are confident of your conclusion. Nevertheless, you have the counterfactual disposition to change your attitude if you were to check and if the checking produced a different result.

In sum, in following a rule you manifest a complex disposition to behave in a particular way and for this to seem right. When you follow a rule in reasoning, you manifest a particular rule-following disposition, which I shall call a ‘reasoning disposition’. In the snow reasoning, your reasoning disposition is the disposition to believe the snow will melt on the basis of believing it is raining and believing that if it is raining the snow will melt, and for this to seem right to you.

4. An Implicit Linking Belief

In *Rationality Through Reasoning*, I argued that this reasoning disposition constitutes an implicit belief that, if it is raining and if it is the case that if it is raining the snow will melt, then the snow will melt. My reason was simply that, if you did not have this belief, you would not believe the snow will melt on the basis of your premise beliefs, or if you did, it would not seem right to you. Just because you have the rule-following disposition, it is therefore correct to impute this implicit belief to you.

It is a first-order linking belief. That is why I took a first-order linking belief to be a necessary condition for reasoning. Following a rule is essential to reasoning, and following this particular rule manifests a disposition that is implicitly a linking belief. That was my argument.

A belief is a bundle of dispositions. It typically includes dispositions to behave in particular ways. It also typically includes a disposition to assert the belief’s content in some circumstances. The reasoning disposition includes some but not all of the dispositions that typically constitute a belief. In the example, it includes the disposition to believe the proposition that the snow will melt on the basis of the proposition

that it is raining and the proposition that if it is raining the snow will melt. This makes it plausible to impute to you the linking belief whose content is that, if it is raining and if it is the case that if it is raining the snow will melt, then the snow will melt. For that reason I find the argument plausible.

However, a reasoning disposition does not include a disposition to assert this content. Let us call a belief 'explicit' if you are disposed to assert its content. A reasoning disposition is not an explicit belief. At best, having a reasoning disposition licenses us to impute an implicit belief to you. But it could be said that it does not license us to impute to you any linking belief at all, because a reasoning disposition does not include enough of the dispositions that constitute a typical belief. For that reason I think the argument is not conclusive.

So it may be that you can do belief reasoning without having even an implicit first-order linking belief. That would not matter to me. It would mean that, not only is a linking belief not essential for belief reasoning, it is not even necessary. In any case, a reasoning disposition is essential for reasoning, but a linking belief is not.

If a reasoning disposition is necessarily a linking belief, how can a linking belief fail to be essential for reasoning, given that a reasoning disposition is essential? Because 'is' here denotes predication rather than identity. To say that a reasoning disposition is necessarily a linking belief is to say that anything that has the property of being a reasoning disposition necessarily also has the property of being a linking belief. The presence of something that has the property of being a reasoning disposition contributes to making a process reasoning, but the fact that this thing also has the property of being a linking belief does not. Similarly, having the property of being a human being is essential to having human rights, and anything that has the property of being a human being necessarily has the property of weight. But having weight is not essential to having human rights. It does not contribute to making it the case that something has human rights.

My account of linking beliefs brings in train a useful benefit. Whether or not a reasoning disposition amounts to a linking belief, it is plainly not a premise attitude in the reasoning. Its role in reasoning is quite different; it is a disposition to reason from your premise attitudes in the way you do. Even if a reasoning disposition is implicitly a linking belief, the content of this belief is not a premise.

This is fortunate, because if the content of a first-order linking belief were a premise, we would face an awkward regress. Suppose that, if you are to reason from premises to a conclusion, you must have a linking belief whose content is that the premises imply the conclusion. Suppose also that this content must be a premise in the reasoning. Then, when you reason from two premises to a conclusion, as you do in the snow example, there must be a further premise, which is the content of a linking belief. So you actually reason from three premises, not two. But then, you must have a more complicated linking belief whose content is that all three of these premises imply the conclusion, and this content too would be a premise. So you reason from four premises. Indeed, you must have an even more complicated linking

belief whose content is a premise. So you reason from five premises. And so on. You could not reason without an infinite hierarchy of premises.

This problem of regress is well known from Lewis Carroll's 'What the tortoise said to Achilles'. It does not arise from the mere existence of a linking belief; it arises only if a linking belief is necessarily a premise belief. Moreover, it does not rule out your having a linking belief that is a premise belief. In the snow example, you may believe explicitly that if it is raining and if it is the case that if it is raining the snow will melt then the snow will melt, and this could be a premise. All we know is that, as we work up the hierarchy to more and more complicated linking beliefs, we must come to one that is not a premise belief. That stops the regress.

If an explicit linking belief were necessary for belief reasoning, it would be difficult to explain how it differs from a premise belief, and the regress would be a problem. But an implicit linking belief of the sort I have described is plainly not a premise belief, so there is no problem of regress.

5. Intention Reasoning

Now I turn to reasoning of other kinds than belief reasoning. Some reasoning concludes in an intention. I call this 'intention reasoning'; it is a sort of practical reasoning. Instrumental reasoning is a specific sort of intention reasoning.

Here is an example of instrumental reasoning. You intend to raise money for famine relief and believe that running a sponsored marathon is the best means of doing so. You reason from these two premise attitudes to a conclusion attitude, which is the intention to run a sponsored marathon.

If this reasoning is an act, it meets most of the conditions for active reasoning I set out in Section 2. It is a causal mental process that starts with some premise attitudes and arrives at a conclusion attitude. Because it is an act, it is a conscious process involving conscious attitudes. But it does not exactly meet the condition that you operate on the contents of your attitudes, following a rule. Now we come to reasoning with other attitudes besides beliefs, this condition needs to be generalized.

This is because attitudes of different sorts can have the same content. The content of your intention to raise money for famine relief is the proposition that you will raise money for famine relief. If instead you merely believed that you would raise money for famine relief, the content of your belief would be the same proposition that you will raise money for famine relief. In reasoning, the nature of your attitudes as well as their contents makes a difference. In the example, your reasoning brings you to intend to run a sponsored marathon only because you intend to raise money for famine relief. If you had merely believed you would raise money for famine relief, you would not have reasoned your way to an intention to run a sponsored marathon.

So your reasoning must register the kinds of the attitudes you reason with, as well as their contents. I recognize this in my account of reasoning by adopting the notion of the *marked* content of an attitude. The marked content of an attitude is a pair,

consisting of the attitude's content, which is a proposition, together with the kind of attitude it is. In the example, the marked contents of your premise attitudes are the pairs <You raise money for famine relief; intention> and <Running a sponsored marathon is the best means of raising money for famine relief; belief>. The marked content of your conclusion attitude is the pair <You run a sponsored marathon; intention>. For clarity, I shall sometimes use the term 'bare content' for the proposition that is the content of an attitude. In the example, the bare contents of your attitudes are, respectively, that you raise money for famine relief, that running a sponsored marathon is the best means of raising money for famine relief, and that you run a sponsored marathon.

In Section 3 I presented an essential condition for belief reasoning, which is that you operate on the contents of your attitudes, following a rule. Now I can extend this condition to reasoning in general. The extended condition is that you operate on the marked contents of your attitudes, following a rule.

In the example, the rule you follow might be the rule of deriving < q ; intention> from < p ; intention> and < q is the best means for p ; belief>.

6. An Implicit First-order Linking Belief?

When you do intention reasoning, to follow a rule is to manifest a particular complex disposition, just as it is when you do belief reasoning. I continue to call it a reasoning disposition. It has two components. One is a disposition to behave in a particular way. The other is a disposition for your behaviour to seem right to you. In the example, you are disposed, first, to form the intention of running a sponsored marathon on the basis of your intention to raise money for famine relief and your belief that running a sponsored marathon is the best means of doing so. Second, you are disposed to see this behaviour as right.

In Section 4, I presented an argument intended to show that the reasoning disposition you manifest in belief reasoning is an implicit first-order linking belief. Specifically, it is the belief that the bare contents of the premise attitudes imply the bare content of the conclusion attitude. More briefly: the premises imply the conclusion. Does this argument extend to intention reasoning? Could it be that a reasoning disposition manifested in intention reasoning is also an implicit first-order linking belief?

The answer is 'No'. There is nothing that could be the content of this first-order linking belief. First, the content could not be that the bare contents of the premise attitudes imply the bare contents of the conclusion attitude, as it is in belief reasoning. Take the example again. The bare contents of its premise attitudes are that you raise money for famine relief, which is the content of an intention, and that running a sponsored marathon is the best means of raising money for famine relief, which is the content of a belief. The bare content of the conclusion attitude, which is an intention, is that you run a sponsored marathon. The content of the linking belief would be that,

if you raise money for famine relief, and if running a sponsored marathon is the best means of raising money for famine relief, then you run a sponsored marathon. But you might not have this belief—at least not until you have completed your intention reasoning. You might doubt that you will take the best means to your end, or you might simply not have formed any belief about it. The absence of this belief would not stop you forming, through reasoning, the intention to run a sponsored marathon.

Instead, could the content of the first-order linking belief link the marked contents of your attitudes rather than their bare contents? In the example, the content of this linking belief would be that, if <You will raise money for famine relief; intention> and if <Running a sponsored marathon is the best means of raising money for famine relief; belief>, then <You will run a sponsored marathon; intention>. But this is just nonsense. Marked contents are not propositions, and they cannot be embedded under propositional connectives in sentences. Trying to embed them is a dead end; it leads to the well-known Frege-Geach problem.⁸

I conclude that, although belief reasoning plausibly requires a first-order linking belief, intention reasoning does not. A first-order linking belief is not even possible, since there is nothing that could be its content. In *Rationality Through Reasoning* I suggested that having a first-order linking belief is a necessary condition for reasoning in general, but that was a mistake.⁹

7. An Implicit Second-order Linking Belief?

Could it be that a different sort of linking belief is a necessary condition for intention reasoning? Could a second-order linking belief be necessary? A second-order linking belief directly links the conclusion attitude to the premise attitudes, rather than linking the content of the conclusion attitude to the content of the premise attitudes. It is the belief that the premise attitudes support the conclusion attitude in some way. The support will have to be in some way normative or rational. For example, a second-order linking belief might be the belief that it is permissible for you to have the conclusion attitude on the basis of the premise attitudes. Or it might be the belief that rationality requires of you that, if you have the premise attitudes, you have the conclusion attitude. In the example, a second-order linking belief might be the belief that rationality requires of you that, if you intend to raise money for famine relief and you believe that running a sponsored marathon is the best means of raising money for famine relief, then you intend to run a sponsored marathon. Could such a belief be a necessary condition for reasoning?

At first the answer 'Yes' may seem plausible. Why would you acquire the conclusion attitude by reasoning from the premise attitudes if you did not think the premise

⁸ See Broome (2013), pp. 260–1 and Geach (1960 and 1965).

⁹ Broome (2013), p. 229. Nadeem Hussain reveals the mistake in his 'Practical reasoning and linking beliefs' (2015).

attitudes support the conclusion attitude in some way? So it seems we are entitled to impute a second-order linking belief to you if you reason.

But actually this answer loses its plausibility when we probe further. A second-order linking belief is sophisticated; its contents involve sophisticated concepts. The content of the belief I gave as an example involves the concepts of rationality, of requirement, of belief and of intention. A child can do instrumental reasoning before she has concepts like those, which means that second-order beliefs are still beyond her capacity. True, we sometimes impute an implicit belief to a person even if she does not have the concepts that would allow her to express it explicitly.¹⁰ But it is not plausible to do so here. In reasoning, you think about the contents of your attitudes; you do not think about the attitudes themselves. So we have no reason to impute to you any belief about the attitudes themselves.

I am not saying that you cannot have a second-order linking belief. If you are a sophisticated reasoner, you have the concepts that are needed. I am saying that we are not plausibly entitled to impute a second-order linking belief to you just because you reason, because unsophisticated people can reason. So a second-order linking belief is not plausibly a necessary condition for reasoning.

Does this claim conflict with the claim I made in Section 5 that in reasoning you must register the nature of the attitudes your reason with? No. It is true that you must in some sense be aware of the nature of the attitudes you reason with. But your awareness need not constitute even an implicit belief that you have these attitudes, and it does not require you to have the concept of a belief or the concept of an intention.

Believing you will raise money for famine relief and intending to raise money for famine relief are quite different attitudes. Some philosophers think that an intention is a sort of belief, but even they do not think that intending to raise money for famine relief is the same attitude as simply believing that you will raise money for famine relief.¹¹ Other philosophers including me think that believing you will raise money for famine relief and intending to raise money for famine relief have one thing in common: they share the same bare content, which is a proposition. But this does not mean that, in being aware of your attitude, you are aware of the bare content and separately aware of the nature of your attitude to it. You simply have a believing attitude or, quite differently, an intending attitude towards the bare content. You view the bare content in a believing way or an intending way. Because the attitudes are quite different, in having a belief or an intention, you could not fail to register the sort of attitude it is. You could not mistake one for the other. This is the sense in which you are aware of the nature of the attitude. It does not require you to have the concept of the attitude. The nature of your attitude can register in your reasoning without your believing you have the attitude. A child can do it.

¹⁰ My thanks to Krisztina Orban for raising this point.

¹¹ For example, Velleman (1989), p. 109.

For comparison: a first-order linking belief is less sophisticated. A first-order linking belief in the snow example is the belief that if it is raining and if it is the case that if it is raining the snow will melt, then the snow will melt. The concepts involved in it are, first, the concepts involved in the propositions you reason about, such as the concepts of snow and rain, and, second, the concept that is expressed by 'if... then'. Call this latter the 'consequence concept'. In order to reason you have to understand the propositions you are reasoning about, so you must have all the concepts in the first group. Also you must have the consequence concept in order to reason; if you do not have the concept of one thing's following from another we could not understand you as reasoning from premises to a conclusion. So you must have the concepts involved in a first-order belief. It is therefore plausible to impute a first-order linking belief to you when you do belief reasoning.

But I have explained that for intention reasoning, there is no first-order linking belief that could be imputed to you. And it is not plausible to impute a second-order linking belief to you just because you do intention reasoning. I conclude that no linking belief is necessary for intention reasoning.

My argument is that there is nothing that can plausibly be the content of this necessary linking belief. This argument might leave you still uneasy. If a person is to reason from premise attitudes to a conclusion attitude, surely she must have some sort of a belief that she should do so. Surely, at least, she must believe the premise attitudes normatively support the conclusion attitude in some way. If we cannot identify a content for this belief, perhaps we should try harder.

Remember I do not deny that a reasoner may have a second-order linking belief. If she is sufficiently sophisticated, she may well believe the premise attitudes support the conclusion attitude. But I deny that this is a necessary condition for her to reason.

I deny it because you can follow a rule without believing that doing so has any normative merit. Take this trivial example. Occasionally, as I walk down a street, I find myself following the child's rule of not treading on the lines. I am genuinely following a rule. I am guided by the standard of correctness the rule sets up; when necessary I slightly adjust my pace in order to comply with it. But even as I do this, I do not believe I should or that I have any reason to or that my doing so has any normative merit. Indeed, I sometimes think the opposite: I should not be so childish. In reasoning from premise attitudes to a conclusion attitude, you follow a rule, and you can follow this rule without believing that your doing so has any normative merit.

You might still be uneasy. You might ask how I could be guided by a rule unless I see some reason to comply with it. The answer is that the guidance is intentional rather than normative. I may intend to do something without believing that I have any reason to do it, and even so my intention guides me to do it. The function of an intention is to guide you to do what you intend. When I follow a rule I intend to comply with it, even if my intention is fleeting and not deliberate.

Your uneasiness may not yet be quelled. But I cannot pursue this worry any further here; I have done so in another paper.¹² I believe my argument has been sufficient. It cannot be necessary for you to have a linking belief when you reason, because there is nothing that can be the content of a linking belief that you necessarily have.

8. Conclusion

A first-order linking belief may be necessary for belief reasoning. In other words, Boghossian's taking condition may be true for this special sort of reasoning. However, in this chapter I have shown that no first-order linking belief is necessary (or even possible) for intention reasoning. I have also shown it is implausible that a second-order linking belief is necessary for intention reasoning. I think my arguments would generalize to other sorts of reasoning too.

An essential condition for reasoning is that you operate on the marked contents of your attitudes, following a rule. That is to say: if a mental process is to be reasoning, it must satisfy this condition, and this condition contributes to making the process reasoning. In the special case of belief reasoning, this essential condition may entail that you have a first-order linking belief. But even in this case, the linking belief is not essential for reasoning; it does not contribute to making a process reasoning. In general, a linking belief is not essential for reasoning. This conclusion is reinforced by the fact that no linking belief is even necessary for sorts of reasoning other than belief reasoning.

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¹² Broome (2014).