

Problems for Broome's Cognitivist Account of Instrumental Reasoning

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Abstract In this paper, I examine an account of instrumental reasoning recently put forth by John Broome. His key suggestion is that anyone who engages in reasoning about his intentions also believes that he will do what he intends to do and that combined with a belief about necessary means this creates rational pressure towards believing that one will take the necessary means. I argue that Broome's model has three significant problems; his key premise is false—the sincere expression of an intention does not entail the belief that one will successfully execute that intention; his account yields a model of instrumental reasoning that is uncomfortably reflective; he seems unable to explain the rational pressure towards taking necessary means that arises directly from having an end and an instrumental belief. All three problems, I argue, are a consequence of Broome's inadequate position on what it is to intend to do something.

Keywords Practical reasoning · The instrumental principle · Cognitivism · John Broome

1 Introduction

It is commonly accepted that the instrumental principle is a fundamental principle of practical rationality. This principle, basically speaking, tells us that if one has an end, yet one does not do what one takes to be necessary to achieve that end, then one is being irrational. The central question in this article is why this is so: what it is about

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having an end that makes it the case that it is a mistake, rationally speaking, to fail to take the means to that end?

One type of answer to this question is what we might call a cognitivist answer. Jay Wallace, for example, has attempted to show how every time we fail to conform to the instrumental principle, we commit ourselves to four different and mutually inconsistent beliefs and that it is this belief-inconsistency that explains the normativity captured by the instrumental principle.¹ This argument supports the assumption that the instrumental principle actually *is* a requirement of rationality though at bottom one of theoretical rationality.

In “The Unity of Reasoning,” John Broome attempts a new version of the cognitivist account of instrumental rationality.² In that paper, Broome attempts an accurate description of the kind of mental processes that we, as rational agents, engage in when we come to intend to take the means to our ends.³ Whereas Wallace and Harman’s goals were to provide direct cognitivist grounds for the normativity of the instrumental principle, Broome’s aim is to account for the *process* through which we come to satisfy this requirement of rationality. And given that Broome suggest that in order for the principle to be a requirement of rationality, it must be possible for an agent to come to satisfy that requirement through the process of reasoning, an account of how we come to satisfy the instrumental principle is—according to Broome—a way of supporting the suggestion that this principle is indeed a requirement of rationality.⁴

Broome’s suggestion, briefly, is that the way we come to satisfy the instrumental principle is best understood as a kind of side effect from the reasoning that we engage in in order to attain coherence between our beliefs (i.e., to satisfy a requirement of theoretical rationality that Broome refers to as *Modus Ponens*).⁵ His account departs from Wallace’s in accepting that we can fail to satisfy the instrumental principle without being incoherent about our beliefs, because we can have an end without believing that we have that end, and we can fail to intend to take the believed necessary means without believing that we fail to have such an intention. Like me, but unlike Wallace, Broome believes that these second-order beliefs are not guaranteed even for the minimally self-aware.

However, and this is the crux of Broome’s approach, because the instrumental principle is a requirement of rationality, it must be possible for us to come to satisfy the instrumental principle through reasoning. And for us to conduct reasoning about our intentions, we must believe that we have those intentions, and therefore every time we reason about our ends and the potential means for them, certain second-order beliefs are necessarily in play. This is what leads us to a cognitivist Broomean approach, which, if successful, would support the existence of the instrumental

¹ Wallace 2001. Two further insightful arguments for this approach are to be found in Harman 1986 or “Cognitivism About Practical Reason” reprinted in Bratman 1999, and Setiya 2007.

² Broome 2009.

³ Because Broome considers the instrumental principle a wide scope requirement, there are other ways of satisfying it (e.g., by abandoning the goal), but in ‘The Unity of Reasoning’ Broome focuses on this one. For more on the wide scope account of rational requirements; see, for example, Broome 2007; Schroeder 2004.

⁴ Broome 2009, pp. 65, 73, 78, 79.

⁵ Broome 2009, p. 64.

principle and help explain its force. If Broome could show us that the way we come to satisfy the instrumental principle is through reasoning directed at satisfying a requirement of theoretical rationality, then he has gone a long way towards supporting what Wallace et al. have suggested, namely that at bottom the instrumental principle really is best understood as a requirement on the coherence of our beliefs and that the mistake we make when we fail to satisfy the instrumental principle is a mistake of theoretical rationality.

2 Broome on Instrumental Reasoning

Before I discuss the details of Broome's cognitivist account of instrumental reasoning, I should mention a couple of things regarding his general approach to reasoning. Broome thinks of reasoning as a mental process in which we express and operate on the contents of our propositional attitudes.⁶ What I do when I reason is bring to mind (express to myself silently or out loud) the relevant intentional states, the contents of which then influence each other and bring about a conclusion state.⁷

An example: if it matters to me whether q , then I would bring to mind my beliefs that p and that $p \rightarrow q$, and when I do that, I come to believe that q .⁸ The active part of reasoning, then, is the bringing together of the relevant intentional states. The rest of the process will take care of itself, often via unconscious processes.⁹ This kind of reasoning can bring me to satisfy certain requirements of rationality, e.g., the requirement that I believe that q , given that it matters to me whether q , and I believe that the beliefs I already have entail that q .¹⁰

The difference between practical and theoretical reasoning, according to Broome, lies solely in what he calls the conclusion state. Practical reasoning is the kind of reasoning whose conclusion state is an intention (or the abandonment of an intention), and theoretical reasoning is the kind that has beliefs (or the abandonment of a belief) as its conclusion state.¹¹

2.1 The Problem

A difficulty for any account of practical reasoning is the fact that the constitutive aim of intentions is different from that of beliefs. In Broomean terms, when I bring to mind my belief (i.e., express it to myself), what I am contemplating is intuitively the content of my belief, and this is so because beliefs are representational states—when

⁶ Broome 2009.

⁷ Broome 2009, p. 63.

⁸ It might seem odd to introduce a clause about whether it matters to me whether q . I take it that the reason why Broome does this is to avoid the implausible implication that I am rationally required to form all beliefs the truth of which follows from the truth of the beliefs I already have. This implication threatens because Broome here wants to talk about a positive pressure to start believing q , given that you already believe p and $p \rightarrow q$ and not just a weaker (wide scope) requirement to avoid combining the beliefs that p , that $p \rightarrow q$ and that $\neg q$.

⁹ Broome 2009, pp. 63, 66, 70, 80.

¹⁰ Broome refers to this as the *modus ponens* requirement. Broome 2009 p. 63.

¹¹ Broome 2009 pp. 62, 63, 81.

I express a belief, I express its propositional content, the truth of which the belief represents (if it is successful).¹²

This has no obvious parallel in the case of intentions. If I attempt to express my intention (to myself or others) by expressing the propositional content of the intention, then it is not clear that I am expressing my intention. Because unlike beliefs, my intentions do not aim to represent the world as it is. The propositional content of my intentions, it seems, represents the world as I aim to shape it. It denotes the world as I aim for it to be some time in the future. The intuitive difference between beliefs and intentions is thus not their propositional contents, but rather the different attitudes these states are towards that propositional content.

However, as Broome believes that reasoning is an operation on the content of our propositional attitudes, he takes it that the kind of content that intentions have is different from that of beliefs. Otherwise, there would be no difference between reasoning with a belief only and reasoning with belief and intentions. Therefore, the content of the intentional states must be more than just the propositional content, and Broome, following Hare, suggests the following broadening of the concept of content: The content of intentional states must include an extra element, which can help the different kinds of intentional states play different roles in reasoning, and that element, we might think, could be a marker.¹³ The presence of such a marker would indicate that the intentional state is not just the representational one, belief; for desires, the marker could be “nice.” Such markers would make it the case that when in reasoning I express my desire to myself, I express the propositional content and the marker. To express my desire to have an ice cream I would say, “Jeppe is eating an ice cream, nice,” whereas if I were to express my belief that I am eating an ice cream I would simply say “Jeppe is eating an ice cream.” Intentions could also be said to have a marker, which might be “will,” such that I could express my intention to ϕ by saying “Jeppe ϕ ’s, will” to myself.¹⁴ Markers thus differentiate the contents of beliefs and intentions respectively, and because of this it is not obvious how there could be *direct* logical relations between the contents of intentions and beliefs respectively.

2.2 The Solution

As expected, however, Broome has a suggestion for a solution. Though there may not be useful direct logical relations between the contents of one’s intentions and beliefs, normally when one *expresses* one’s intention to ϕ one simply says “I will ϕ .” That is, one says exactly what one would say in order to express the belief that one will ϕ . If one intends to go to the cinema, then in order to express that intention one would simply declare: “I will go to the cinema tonight.” So although there is a difference between the kinds of contents that intentions and beliefs have, the way we express (to ourselves or others) these different states is remarkably similar and often only distinguishable by context.¹⁵

¹² Broome 2009, p. 72.

¹³ Hare 1952.

¹⁴ The expression of markers in standard spoken English is much more subtle and to do with the mood of the expression, according to Broome (Broome 2009). I shall not discuss the issue in any detail here.

¹⁵ Broome 2009, pp. 77, 79.

Broome now tells us that it is no coincidence that the expressions of an intention and a belief are so similar when taken out of context, because the expression of an intention—just like the sincere expression of a belief—simply *is* the assertion of something.¹⁶ It is expressing that something will be the case. The assertions that we use to express our intentions in fact express both our intentions and a belief that we will indeed do as we intend to do (that the intention will be successful, if you will).

Broome writes:

You [...] cannot sincerely express an intention to do something unless you believe you will do it. At the same time as you express your intention, you express your belief.¹⁷

This has useful implications, Broome tells us, because just as I cannot sincerely assert that something is the case without believing that it is so, I cannot express my intention by asserting something without believing that what I am asserting is true. So when I sincerely express (to myself or others) that I intend to ϕ – by saying “I will ϕ ” – then necessarily I also believe that I will in fact ϕ .¹⁸

Broome continues:

The evidence I offer for the existence of this belief-intention link is just that expressing an intention is also expressing a belief; both take the form of saying an indicative sentence. So you cannot express an intention without expressing a belief that you will do what you intend. And you cannot do that sincerely without having the belief.¹⁹

Importantly, this does not indicate that I cannot intend to ϕ without believing that I will ϕ . This is possible, as I may have no beliefs (of mistaken ones) about what I intend to do. It is only once I express my intention to ϕ that I also necessarily believe that I will in fact ϕ .²⁰ This is significant because, as I mentioned earlier, Broome believes that reasoning is inextricably tied to the action of expressing to oneself the contents of one's relevant intentional states. And so when I reason about my intention, I express them to myself – and when I express them to myself, necessarily I also believe that the proposition that I express will come to be true. Thus, every time I reason about my intentions, I believe that I will succeed in doing what I intend to do.

Actually, according to Broome, there are two steps here: if I express to myself that I intend to ϕ , then this implies that I believe that I intend to ϕ . And if I believe that I intend to ϕ then because of that I also believe that I will, in fact, ϕ . These connections yield what Broome labels the belief-intention link:

Belief-intention link: If N believes that she intends that p , then, because of that, N believes that p .²¹

¹⁶ Broome 2009, p. 78.

¹⁷ Broome 2009, p. 78.

¹⁸ Broome 2009, p. 78.

¹⁹ Broome 2009, p. 79.

²⁰ Broome 2009, p. 79.

²¹ Broome 2009, p. 79.

In summary, we can express Broome's argument on this point as follows:

1. When A conducts reasoning, A expresses to himself the intentional states that he already has.
2. Means–ends reasoning is reasoning with intentions and beliefs.
3. When A conducts means–ends reasoning, A expresses intentions and beliefs to himself.
4. When A expresses intentions to himself, A believes that he has the intentions that he expresses.
5. When A believes that he intends to φ , A also believes that he will φ . (Belief-intention link)

The belief-intention link is key for Broome, because the crux of his cognitivist account is the suggestion that *in reasoning* intentions play a role that is almost exactly like the role beliefs play. When we bring to mind our intentions, what we also “see” are predictions/assertions (to which we are committed) about the future, because in expressing our intention to ourselves we are also expressing the belief that we will succeed in doing what we intend to do.

This yields the following picture of instrumental reasoning. Say I intend to go to Paris and that I believe that to do so, I will have to get tickets at Air France's office. If I start reasoning about how to succeed in my intention, according to Broome I begin by expressing my intention to myself. I say to myself “I will go to Paris,” and once I express this, we can be sure that I also believe that I will go to France. So now I have two beliefs:

1. B (Jeppe will go to Paris)
2. B (Jeppe will go to Paris only if Jeppe will get tickets at Air France's office)

And if these two beliefs are true, then it will also be true that Jeppe will get tickets at Air France's office. And since it matters to me whether I will get tickets at Air France's office, there is rational pressure on me to form a third belief:²²

3. B (Jeppe will get tickets at Air France's office)

But normally, Broome tells us, I can only form belief (3) if I believe:

4. B (Jeppe intends to get tickets at Air France's office)

And normally I can only form belief (4) if I do in fact have the following intention:

5. I (Jeppe will get a tickets at Air France's office)

In other words, a requirement of theoretical rationality (which, as I mentioned, Broome calls *modus ponens*) explains why there is rational pressure on me to form belief (3). But given that (normally) I can only form such a belief via the formation of belief (4) and intention (5), there is rational pressure on me (because of *modus*

²² By saying that there is rational pressure on you to X, I mean to suggest that if you fail to do X, then the case for you being irrational becomes stronger. Whether you are in fact irrational for not doing X will depend on the circumstances and your other intentional states. For a helpful model on how exactly your intentions are to be weighed against each other, see Scanlon 2004, p. 235ff.

ponens) to engage in the process towards having belief (3) via the formation of (4) and (5).

And intention (5) is exactly the intention that I must form to honor the instrumental principle, given that I intend to go to Paris and believe that I will go to Paris only if I get tickets at Air France's office. So the rational pressure towards forming belief (3) is pressure on me to conduct reasoning that will bring me to form an intention to get tickets at Air France's office. The formation of the intention that is required to honor the instrumental principle is, as it were, instrumental to honoring a principle of instrumental rationality, *modus ponens*.²³

According to Broome, the requirement to get one's cognitive states to cohere thus explains the pressure to form the intention required to honor the instrumental principle. This does not make Broome a cognitivist in the traditional way that Harman was cognitivist, because unlike Harman Broome does not subscribe to the idea that intending to ϕ necessarily involves believing that one will ϕ .²⁴ Broome's cognitivist model gets a grip only once the agent expresses her intentions to herself, but from there his model has the same structure as Harman's, and as we have seen it clearly suggests that the theoretical reasoning and the requirements of theoretical rationality are what is driving instrumental reasoning. I therefore find it reasonable to call Broome's account cognitivist.

3 Does Broome's Account Support the Instrumental Principle?

It seems plausible that in order for something to be a requirement of practical rationality, it must be a requirement that we can come to satisfy by reasoning in the right way. And if Broome is right in his account of reasoning, then the way we would come to satisfy the instrumental principle is through the formation of an intention which looks more like a side effect of theoretical reasoning than the result of independent practical reasoning. And if the way we come to satisfy the instrumental principle is via theoretical reasoning, then the cognitivist account of instrumental rationality—which sees the instrumental principle at bottom as closely tied to and dependent on a requirement of theoretical rationality—begins to look plausible.

To put it another way, if it is true that when I am instrumentally irrational, this is because I have not reasoned well about the beliefs that are implied by the awareness of the relevant intention, and that the way out of this fix is to get my beliefs in order, then certainly theoretical reasoning seems to be playing the dominant role that Wallace and Broome suggest it does.

So if Broome's account of instrumental reasoning is convincing, we have strong reasons to be cognitivists about instrumental reasoning. A cognitivist approach offers the possibility of showing that every time we flout the instrumental principle we are being irrational about our beliefs—flouting the instrumental principle is therefore indeed irrational. And as Wallace suggested, it is irrational *as a result of the problematic relations between your beliefs*—and not because of what we took to

²³ Broome 2009, pp. 75–80.

²⁴ Harman 1999, 46–74.

be the original psychological tension. So, if persuasive, Broome's argument would support a cognitivist construal of the force of the instrumental principle. Below I will, however, suggest that there are significant reasons to doubt that his account is convincing.

4 Broome's Account is Either Implausible or Too Narrow

In the following sections I will argue that Broome's account of instrumental reasoning has significant problems. Central to each of these problems is that they leave us with an unpleasant choice between either concluding that a number of his key assumptions are implausible for a general account of instrumental reasoning or accepting the assumptions on pain of limiting the scope of his account very significantly. I conclude that either choice is unacceptable.

4.1 The Strength of Intentions and the Possibility of Doubt

In order for Broome's account to work, it must be the case that I cannot truly intend to ϕ , believe that I intend to ϕ yet not believe that I will in fact ϕ . If I believe that I intend to ϕ , but believe that chances are that I will not actually ϕ , then my intention to ϕ is at most a weak intention, Broome tells us.²⁵ Such weak intentions are not fully intentions, and because of that they do not make agents subject to the kind of rational criticism that flouting the instrumental principle does. The instrumental principle, then, applies only to strong intentions, and strong intentions are the only ones Broome means to address in "The Unity of Reasoning."²⁶

But is this true? Can I not intend to do something that I do not believe that I will in fact do? It seems to me that I can. Oftentimes when I sit down in front of my computer in the morning I truly believe that it is possible for me to finish the paper that I am working on by the end of the day. And I intend to finish it, and I know what I must do to finish it. But I also believe that today is not significantly different from most other days where I sit down in front of my computer, and I know that at the end of most days, I have accomplished far less than I intended to at the outset of the day. And because of this, I believe that chances are that I will not have finished the essay by the end of the day, even though I believe it to be possible and that I now intend to finish it.²⁷

If this is the case, is my believed intention to finish my paper not really an intention? Is it not the kind of practical commitment to which the instrumental

²⁵ Broome 2009, p. 80.

²⁶ Broome 2009, p. 80.

²⁷ This example is inspired by Bratman's bookstore example in his 'Intention, Belief, Practical, Theoretical' paper presented at the Unity of Reason Conference at St. Andrews, June 2005. (That example is a version of another example of his in Bratman 1987, p. 37). My example, though, is stronger than either of Bratman's, as I suggest that we might be able to believe that we intend to ϕ although we believe that we will in fact not ϕ . Bratman's weaker point is the weaker negative one that when we believe that we intend to ϕ , we might not believe that we will ϕ .

principle applies? To answer this it would perhaps be helpful to look at what I take to be platitudes about intending. When I intend to achieve a certain end:

1. I have some plan for achieving this end E—that is, I have some idea (belief) about how to go about achieving E. This can be very vague: e.g., I know whom to ask for advice.
2. I believe that there is a chance that I will achieve that end E.
3. I am to some extent motivated to doing what is necessary to achieve this end E.
4. I believe that I will attempt to achieve that end E.
5. I believe that I might not achieve that end E if I did not try to achieve it.

Are any of these platitudes about intending not true of me in the case where I sit down at my computer? It seems to me that they all are true of me, and though this does not imply that I have the intention (remember that they were platitudes about intending, i.e., necessary but not sufficient conditions for having an intention), it at least suggests that Broome should tell us more about why my intention to finish the paper is not truly an intention. He provides no such explanation.²⁸

Also, there are some further considerations that might indicate that I do in fact intend to finish the paper, e.g., things that I do at the beginning of the day, such as suggest to my colleague that we meet the day after and talk about the paper, considering which new essay to start the next day, etc. All of these things suggest to me that I do indeed fully intend to finish my paper by the end of the day.²⁹

Furthermore, it seems to me that I am open to rational criticism if I fail to honor the instrumental principle, even when my intention is flanked by the belief that I will most likely fail to achieve my goal. In other words, the instrumental principle seems to apply just as clearly in these cases as it does in the cases where the belief-intention link holds.

If I sit down in the morning and notice that my computer will run out of battery power before the end of the day, I come to believe that I will not be able to finish the paper unless I get Phil to bring the charger back from Dave's house. If that happens, failing to call Phil seems to be the same kind of mistake in the case where I predict that I will not in fact keep writing and finish the paper as it is in the cases where I believe that I will succeed. That is, failing to take the believed necessary means to my end is also irrational in the case where I believe that I will fail to achieve the end in the same way that it is in the cases where I am confident about achieving the end.

This is a problem for Broome, because the pattern of reasoning that he describes in his cognitivist account will not be able to bring me to satisfy the instrumental principle in this situation. For the starting point for that reasoning was the expression of the proposition (and thus the belief) that I will finish the paper. In my case, I have no such belief to express, and so it is not clear how the Broome-type reasoning could get going at all.

²⁸ Philip Stratton-Lake suggested to me that people who decide (once again) to quit smoking provide another example of people who truly intend to do something yet doubt that they will succeed. That seems very plausible to me.

²⁹ It might seem paradoxical that I would do all of these things if I don't believe that I will finish the paper. However, I believe that it is quite common to make commitments to help oneself achieve goals that one considers it unlikely that one will in fact achieve.

However, it seems uncontroversial that I can come to intend to call Phil (intend to take the means) via reasoning about my intentions and instrumental beliefs. But since the kind of reasoning that Broome describes is not open to me (as I do not expect to be successful), there must be another form of reasoning that can get me to intend to take the means. And since the kind of reasoning would not obviously be less explicit or less genuine than the kind of reasoning that I would do in cases where I believe that I will achieve my end, Broome's cognitivist account of practical reasoning looks less satisfying.

Of course, Broome could simply insist that his account is meant to deal only with cases where intentions are combined with the belief that one will in fact do what one intends to do. This would suggest that the examples above are not counterexamples as much as they are simply examples of a kind of situation his account is not meant to deal with. But as I shall elaborate on below, the problem with this answer is that it narrows very significantly the scope of Broome's account, making it unable to explain the normative force of the instrumental principle—a principle with a much wider scope.

4.2 When We Intend, What are We Settled On?

By focusing on how we express our intentions to ourselves, Broome takes a step away from what I think is a central element in the nature of intentions. The key to his account is the suggestion that expressing your intention to do something is also always asserting that you will succeed—i.e., that things will be as you intend them to be. If you intend to be at a conference next week, then you express that intention by saying that you will in fact be at the conference next week.³⁰

It is true that when we are confident that we will succeed in our ventures, we often express our intentions by saying how things will be once we have succeeded. But as I think the example above shows, confidence about my chances of success is not a necessary part of (nor a necessary companion of) the kind of practical commitment that intending is.

This is not to say that we can intend to do things we know to be impossible or that we can be certain that we will not in the end do what we now intend to do—there are belief constraints on practical commitment.³¹ They are just not as strong as Broome suggests.

It is important to keep in mind that it is not exactly that Broome sets the bar too high regarding belief constraints in intending. He expressly denies that intending requires the belief that one will do what one intends to do, but I think he does so for the wrong reasons; he talks of agents whose commitments have slipped their minds as an example of cases where agents do not believe that they will do what they intend to do. Such examples, however, do not really explain why we can doubt that our practical commitments will be successful.

³⁰ Of course, such future tense statements can also be used to express beliefs only. According to Broome, context alone will enable the listener to know whether you are expressing a belief or an intention (Broome 2009 p. 12). For an insightful discussion on the difference between intentions and predictions (and the expression of both), see Anscombe 1957, p 1-15.

³¹ One helpful way to understand why there are belief constraints on intending is to understand intending as a way of being settled on a plan. See, for example, Bratman 1987.

The reason why I can intend to do something while doubting that I will in fact manage to do what I intend to do is this: Intending to do something is not primarily a way of being settled on a particular future for oneself, rather it is being settled on *taking the necessary steps* towards that future. The commitment that lies at the center of intending and having a goal is to do with *doing* something—bringing something about—rather than with mentally locking onto at prospective states of affairs. Intending to do something is to do with giving a certain status in one's future reasoning to the fact that ϕ 'ing would help one (be a means to) succeeding in that intention. And one can assign special status to such facts and know that there are other factors (cravings for a cigarette) that might prevent one from doing what one now intends to do (quit). Just as I can express my intention to you and add a disclaimer, saying that I often do not succeed in doing what I now fully intend to do, I can, it seems to me, sincerely express to myself the intention to ϕ , but not believe that I will ϕ .³²

This is what the example above about finishing the paper shows us. While the expression of the intention to finish the paper by saying "I intend to finish the paper" on the face of it also looks like the expression of the belief that I will finish the paper, I can easily make clear to the listener that it is not. I can express this simply by stating that I believe that chances are that I will not succeed and explain why (I have failed in similar attempts before, say).³³

Agents who are explicitly aware of what they intend to do can believe that chances are that they will not make it (as in the example above). And it explains why agents can express their intentions to themselves or others while being doubtful about success, because if I express an intention to ϕ , what I am expressing is not that certain things will come to be. What I am expressing is something about me *right now*—i.e., that I have taken on a practical commitment. Saying that I am committed to ϕ 'ing is first and foremost saying something about my current psychology—i.e., that I have decided to give special status to certain instrumental facts in my future practical reasoning.³⁴

As I see it, Broome tries to get more than he reasonably can from the fact that we sometimes use one and the same declarative sentence to express both an intention and a belief that we will succeed in doing what we intend to do. Of course, if I tell you that I intend to ϕ , then you can often reasonably infer from this that I will ϕ . (In fact, expressing my intention to others is something that I often do in order to provide them with grounds for such an inference.) But the fact that there often is a close relation between expressing an intention to ϕ and expressing the belief that one will ϕ does not suggest that the two cannot come apart. As I have argued above, when an agent expresses an intention to do something, she first and foremost

³² I sometimes reiterate to myself that I have a certain intention in order to increase the chance of my actually doing what I intend to do. But why would I ever do that if the fact that I believe that I intend to do something implies that I already believe that I will do what I intend to do? I wouldn't. This again suggests that I can intend to ϕ , express this intention to myself and, contra Broome, still believe that chances are that I will not do it.

³³ Importantly, this does not imply that I intend to X while believing that it is impossible that I will X or be absolutely certain that I will not X.

³⁴ Philip Stratton-Lake reminded me that Sidgwick, Price and Ross have made this point about promising: If I say that I intend to ϕ , I am representing my *present* mental state. If I say that I will ϕ , I am reporting the future. See Sidgwick 1874, p. 304; Price 1969; Ross 1939, p. 77.

expresses something about her current mental state and I believe that it is the nature of that current state (the intention) that explains why there is rational pressure toward taking the means—i.e., why the instrumental principle applies. With his strong focus on how the expression of an intention sounds like (and *sometimes* is) the expression of a predictive belief, Broome fails to capture—or even to examine—the nature of the current intentional state.

Again, Broome could accept that we have practical commitments to which the belief-intention link does not apply, but just insist that his account only deals with intentions that are sufficiently strong—that is, intentions the expression of which imply a belief that one will do what one intends to do.³⁵ This kind of move may save Broome from local trouble, i.e., counterexamples like the one I described above, but at a significant cost. If we were to accept that one cannot know that one intends to ϕ (in a sufficiently strong sense) if one does not also believe that one will actually ϕ , Broome's model would become unattractively narrow. For certainly it is possible to have as your goal to ϕ (and be aware of this) even if one believes that one will not in the end ϕ . And your having a goal, your having intentions, is enough to make it the case that the instrumental principle applies to you. In other words, if Broome narrows the attitudes in relation to which his model applies, then his model would not help us understand the force of the instrumental principle, because that principle clearly applies to a much wider set of attitudes than the narrowly construed Broomean intentions.

4.3 An Odd Sort of Reasoning

In the last section I suggested that Broome fails to capture accurately what kind of intentional state an intention is and that in his account of instrumental reasoning he puts too much emphasis on what I take to be elements that are related to rather than constitutive of intending. In this section I will argue that his imprecise understanding of what it is to intend leads Broome to an awkward account of how we conduct practical reasoning.

4.3.1 An Awkward Starting Point

As we have seen, Wallace and Broome focus on the close connections among what one intends to do, what one expects that one will do and what it is possible that one will do. And they are right, it seems to me, to insist that there are close connections between intentions and beliefs about the future, because it is a constitutive part of intending that the agent is settled on a certain practical path, which leads the agent towards a future situation.

For Broome in particular, the focus on strong intention as a way of being settled on a certain prospective state of affairs is clear on the surface; he uses expressions such as "...this belief might first bring you to form the intention of *being* in that state,"³⁶ (my italics) and "*N intends that e.*"³⁷ "*If N believes that she intends that p,*

³⁵ Broome 2009, p. 80.

³⁶ Broome 2009, p. 68.

³⁷ Broome 2009, pp. 64, 76.

then.....”³⁸ (my italics), when he discusses agents who intend. Expressions like these, and other similar ones, seem to suggest a picture according to which intentions are attitudes through which an agent can commit himself to prospective states of affairs; agents intend *that* things are a certain way.³⁹

As I mentioned in the previous section, aiming for a certain outcome is certainly part of what intentions are—but it is not all they are. Intending is not just the way agents settle themselves on future states of affairs, but importantly and primarily also a way of being committed to getting oneself there. Intending to be in Paris by Friday is a practical commitment and is most helpfully understood as a commitment to doing what it takes to make it the case that one is in Paris on Friday. Intending is always a commitment to taking the means, rather than just an attitude towards a certain prospective states of affairs. This practical characteristic of intending is what sets it so radically apart from predictive beliefs about oneself, as well as from other conative attitudes towards prospective states of affairs such as desires, hopes, wishes.

It seems to me that Broome's model fails to acknowledge this practical core of intentions and that his somewhat static view of intending, because he describes intending as an attitude towards a future states of affairs and not a commitment to bringing those states of affairs about.⁴⁰ This leads to a strange model of how we reason from having ends to committing ourselves to specific means. He makes it sound as if we start off being aware of a goal (which is a future states of affairs) that we have and that ϕ 'ing is a necessary means to achieving the goal, and then we to some extent discover that we will ϕ . I shall use one of Broome's examples to illustrate this point.

4.3.2 An Awkward Process

According to Broome, practical reasoning proceeds as follows. The agent expresses to himself three sentences:

1. 'I shall visit Venice'
2. 'I shall not visit Venice if I do not buy a ticket to Venice'
3. 'I shall buy a ticket to Venice'⁴¹

Because the third proposition follows from the two first ones—the truth of which you are already committed to—you form the belief that you will buy the ticket to Venice. But, Broome tells us, you do so by way of forming an intention to buy a ticket to Venice.

This explanation seems to me to give the agent a strange backseat position in his own practical reasoning. It is as if the agent finds himself forming an intention to

³⁸ Broome 2009, p. 80.

³⁹ The way Broome formalizes his descriptions of practical reasoning supports my suggestion here. See, for example, Broome 2002.

⁴⁰ I do not mean to suggest that Broome entirely overlooks the active practical essence of intending. Of course he talks of intending to do x and he talks of intending as 'being set to make true' (Broome 2002). What I mean to say is just that in his account of means-end reasoning, he downplays this active characteristic very significantly.

⁴¹ Broome 2009, p. 82.

take the means because forming such an intention is a step on the way to forming a belief, which he comes to form as a consequence of two other beliefs he already has (1 and 2). With this picture of practical reasoning, it is as if the practical part of the reasoning disappears—I do not decide to take the means so much as set up a situation where an appropriate intention to take the means is formed merely as a step necessary for my theoretical reasoning. This does not sound like practical reasoning at all.

Broome's model reminds me of the kind of reasoning you would do if you found out that your wife secretly had arranged a trip to Paris for the two of you. With the knowledge of that "goal" of yours and the belief that you could only get to Paris by plane from Heathrow, you could deduce the conclusion and form the belief: "I am going to Heathrow" (and possibly a related intention). Broome's model of reasoning leaves the agent quite close to such a position; like the ignorant husband, an agent can, according to Broome, be ignorant of his own ends, and it is only once he forms beliefs about them (discovers them) that practical reasoning begins—much along the line of the reasoning of the formerly ignorant husband.⁴²

I do not mean to suggest that this kind of reasoning does not happen; it surely does. And when agents reason this way, the theoretical pressure toward believing that they will take the means to some extent arises as Broome says. However, the fact that reasoning on Broome's model is so explicit and reflective may ensure the existence of the beliefs, which generate the relevant cognitive pressure, but it does so at quite a high cost; it fails to capture a large part of what we normally think of as practical and/or instrumental reasoning. We often do practical reasoning without bringing to mind (in the sense of expressing to ourselves) the intentions and relevant beliefs; I might intend to get a present for my girlfriend and therefore I am alert to the relevant shops at the airport. And perhaps I see one and go in. This, I take it, would be a standard case of practical reasoning (and subsequent action), but not one that requires expressing one's goal or one's means-end belief to oneself. This kind of situation is one in which the instrumental principle seems relevant (given my intention, there is rational pressure on me to enter the shop), but Broome's model does not capture that situation at all. So again it seems that the scope of the instrumental principle is much wider than that of Broome's model.

4.4 Time Problems

A further group of problems that Broome's cognitive account seems to face is to do with the temporal dimension of practical reasoning and the related normative pressure. First, it seems a disadvantage for the Broomean model of reasoning that it fails to capture the rational pressure there sometimes is on agents to *start* reasoning about taking the means to their ends. In the example above, the pressure towards forming an intention to take the means is generated only once the agent expresses (to himself or others) the first two sentences. Only then can we be sure that he believes that he has the intention he has and the cognitive rational pressure that Broome describes is established.⁴³ But a common understanding of the instrumental principle

⁴² Broome 2009, p. 77.

⁴³ We remember that Broome admits that we can intend to ϕ , even if we do not believe that we have such an intention.

would suggest that the rational pressure to form an intention to take the means exists as soon as the agent has the intention and the means-end belief. Broome's model seems unable to capture such "early" rational pressure, and if one believes as I do that such early rational pressure exists, then Broome's model seems less attractive for not being able to explain it.⁴⁴

Secondly, not only does Broome's model only apply at the very last minute.⁴⁵ This is an example of Broomean reasoning:

1. "I will go to Paris." (*Intention*)
2. "In order to go to Paris I must go to Air France's office." (*Means-end belief*)
3. a) "I shall not go to Air France's office." (*Lack of intention to take necessary means/negative intention*)
 - b) "I shall go to Air France's office." (*Intention to take necessary means*)

If an agent sincerely expresses 1, 2 and 3a to himself, then according to Broome, he would be holding inconsistent beliefs and thus be theoretically irrational—and he would be instrumentally irrational in not intending to take what he considers necessary means to an end of his.

Again, according to Broome, the pressure to avoid combining 1, 2 and 3a derives from the pressure not to hold inconsistent beliefs, and this pressure would (often via unconscious processes) bring him to hold 1, 2 and 3b instead.⁴⁶ He would arrive at that combination of intentional states via the formation of an intention to go to Air France's office, because only once he has formed such an intention can he form the belief that gets him out of the primary trouble that he is in: holding inconsistent beliefs (or being on his way to that).⁴⁷

However, the relevant inconsistency only threatens because we do not mention time. Practical reasoning, however, does take place over time and seems to me to look more like this:

1. "My plan is to go to Paris on Friday." (*Primary intention*)
2. "In order to do that I must get a ticket at Air France's office on Thursday afternoon, i.e., by tomorrow afternoon." (*Means-end belief*)
3. "But my ex-girlfriend works there and I really don't want to see her." (*Desire not to go*)
4. "Oh well, I have to go to Paris—I'll stick with the plan." (*Retaining the end*)
5. At 2 p.m. Wednesday: "Shall I go now as I have nothing else to do? No." (*Does not form intention to take means*)
6. At 4 p.m. Wednesday: "Shall I go now as I have nothing else to do? No." (*Does not form intention to take means*)

⁴⁴ For another example of someone who believes that such early rational pressure exists, see, for example, Scanlon 2004, p. 243ff.

⁴⁵ In this section, I suggest that Broome might have trouble once we introduce a distinction between not taking the means and not taking the means *right now*. As I see it, this is a distinction between not taking the necessary means and not taking the sufficient means (ϕ 'ing at some point is necessary to achieve one's goal - ϕ 'ing *right now* is sufficient to achieve my goal). This section therefore might just as well have argued that Broome's account has trouble dealing with sufficient rather than necessary means.

⁴⁶ Broome 2009, pp. 67, 70, 80.

⁴⁷ Or failing to have a (relevant to him) belief, the truth of which is implied by the truth of other beliefs that he has.

7. At 2 p.m. Thursday: “Shall I go now as I have nothing else to do? No.” (*Does not form intention to take means*)
8. At 4 p.m. Thursday (Last chance): “Shall I go now as I have nothing else to do? No.” (*Does not form intention to means*)
9. At 5 p.m.: “I missed my chance.” (*Belief*)

This agent seems to display instrumental irrationality as he fails to be guided by the goals he has set for himself; and not just at 4 p.m. on Thursday, but from the time he starts wondering about when to get the tickets. Now, perhaps we are too quick if we label him instrumentally irrational at 2 p.m. on Wednesday (after all he might still make it later), but it seems clear that the rational pressure, which the instrumental principle captures, does not arise only at the last minute. There is rational pressure on him to go to the Air France offices from the time he realizes that doing so is necessary to get to France; from the time that he forms the intention to go to Paris, if he is faced with a choice between doing X or going to Air France’s offices, he must take the fact that going to Air France’s offices is a necessary means to achieving a goal of his to count in favor of going to Air France’s offices.⁴⁸

Broome’s model seems incapable of capturing this rational pressure, because until it is his last chance, at 4 p.m. on Thursday, even an agent who intends not to go and get the ticket at that time can have such an intention without being committed to the belief that he will not achieve his goal. The principles of logic cannot deliver pressure towards forming a belief (“I will take the means”) the road to which would go through the formation of an intention to take the means—for there is no threat of inconsistent beliefs.

The central problem is that as long as Broome wants the rational pressure of the instrumental principle to be grounded in the threat of inconsistent beliefs—and he wants those beliefs to be about whether the agent will actually do what he intends to do—his model only works at the last minute. The agent who intends to achieve a particular end but does not intend to take the necessary means to his end at a particular time (before his last chance to take the necessary means)—no matter how aware of his own intentions—is not committed to the belief that he will not achieve his end. He is merely committed to the belief that he will not achieve his end at that particular time. And that belief is not inconsistent with the belief that he will (at some point) achieve his end.

One answer to this worry would be for Broome to insist that he is only out to describe the pressure on agents who at the last possible chance fail to form the intention to take the means to their end.⁴⁹ This, combined with explicit model of practical reasoning, guarantees the cognitive inconsistency along with the instrumental irrationality. With this answer, though, the scope of his model would again narrow significantly, as only a small fraction of the set of instances that we usually think of as cases of instrumental irrationality would be covered by his model.⁵⁰

⁴⁸ Spelling out exactly what it means to let a fact count in favor of acting in a certain way is of course not easy (nor, I believe, is it necessary for the point I am making). However, a helpful discussion on this can be found in Raz 2005.

⁴⁹ This seems to be the answer that Broome would give, see Broome 2005, footnote 5.

⁵⁰ With regards to the parallel issue about sufficient vs. necessary means, this answer from Broome amounts to saying that his model is meant to fit only cases where agents fail to take necessary means. Again this seems to limit the scope of his account very significantly.

5 Conclusion

In the sections above, I have described what I think are three major difficulties for Broome's account of instrumental reasoning. First I argued that the beliefs, which according to Broome ground the rational pressure of the instrumental principle, do not in fact seem available whenever the instrumental principle applies (Sect. 4.1). I argued that the reason why Broome takes it for granted that they are available is his somewhat awkward take on what kind of attitude (commitment) and intention is (Sect. 4.2). Second, I argued that the awkward view of what intending is leads Broome to a model of reasoning that is strangely third personal and, again, one that is not available to agents in all the circumstances where the instrumental principle applies (Sect. 4.4). Third, I argued that even when agents meet all the criteria necessary for Broome's model to apply, the rational pressure that it explains arrives too late.

All of these problems arise, it seems to me, because of an exaggerated focus on the cognitive states that (sometimes) come with having an intention. Like Wallace, Broome is right to recognize that the cognitive states that (sometimes) come with intending to generate a kind of rational pressure: agents who believe that they intend to ϕ are under rational pressure to intend to take the means they believe are necessary to succeed in doing what they believe they intend to do—and the explanation for why this rational pressure exists is that if they do not form such an intention, cognitive incoherence threatens.

It is, however, worth noticing that this kind of rational pressure arises whether or not the agent actually intends to do what he believes that he intends to do: even an agent who (like the one in Bratman's examples) misidentifies his own intentions is under rational pressure to intend to take what he believes are necessary means. While this seems a little odd, it does ring true that even such mistaken beliefs can generate rational pressure: an agent who believes that ϕ 'ing is an end of his and that ψ 'ing is a necessary means to ϕ 'ing does seem to be doing something right (rationally speaking) when he forms an intention to ψ .

The problem with this Broomean account is that when he uses the rational pressure generated by such surrounding cognitive states to explain the rational force of the instrumental principle, no explanatory role is left for the agent's intention to ϕ . On Broome's account, the intention itself has no role in the explanation of why an agent is under rational pressure to form an intention to take what he takes to be necessary means. Broome does explain how the intention actually plays a role in your reasoning,⁵¹ but not how the intention (together with the instrumental belief) creates the rational pressure captured by the instrumental principle. As I have tried to show, his account provides an excessively cognitive explanation of the normative force of a principle of practical rationality; it is the origin of all of the three major difficulties discussed above:

- The reason why Broome's model has a narrower scope than the instrumental principle is that the instrumental principle applies whenever the agent has an intention (and a means-end belief), whereas Broome's model only applies when the related cognitive states are in place.

⁵¹ Broome 2009, section 11.

- The reason why Broome's account of instrumental reasoning is awkwardly third personal is that it starts from the agent's belief about his own intentions and not from his intending.
- The reason why the rational pressure explained by Broome's model sometimes arrives too late is that it is explained by the related cognitive states and not (even in part) by the intention itself.

I conclude from this that in his account, Broome does not investigate closely enough the nature of intending, but gets preoccupied with the rational relations between related beliefs. To understand the force of a principle of practical rationality, such as the instrumental principle, I believe that we must examine more carefully the nature of the practical attitudes.

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