The Motivational Role of Belief
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Abstract: This paper claims that the standard characterization of the motivational role of belief should be supplemented. Beliefs do not only, jointly with desires, cause and rationalize actions that will satisfy the desires, if the beliefs are true; beliefs are also the *practical ground* of other cognitive attitudes, like imagining, which means beliefs determine whether and when one acts with imaginings as the cognitive inputs into choices and practical reasoning. In addition to arguing for this thesis, I take issue with Velleman's argument that belief and imaginings cannot be distinguished on the basis of motivational role.

1   Motivation for this project and outline of the paper

The standard characterization of the motivational role of belief—the role that beliefs play in the production of action—should be supplemented in order to clarify the distinction between believing that *p* and imagining that *p*. The standard characterization is that beliefs, jointly with desires, cause and rationalize actions that will make the contents of the desires true, if the contents of the beliefs are true.[1] For example, desiring to have a beer and believing there is beer in the fridge cause and rationalize the behavior of going to the fridge.

But *imaginings* also affect behavior in ways that resemble beliefs. For example, young Sally imagines she is standing before Santa Clause and wishes to tell Santa what she wants for Christmas, so she speaks out her Christmas list. The motivational role of this imagining seems to be the same as that of belief: Sally performs the behavior that would make her wish true, if the content of the imagining were true. There are three salient responses to this sort of observation: (1) claim that belief and imagining simply *do* have identical motivational roles (that given by the standard characterization of belief); (2) maintain that imaginings have no direct role in causing actions and that, rather, beliefs with complex contents are responsible for being the direct cognitive inputs into pretense or make-believe behaviors; or (3) identify a more nuanced

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[1] Davidson (1963) is the *locus classicus*. See also Williams (1973).

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characterization of the motivational role of belief (or imagining, or both) that can distinguish belief from other cognitive attitudes[2], like imagining.

David Velleman (2000a)[3] has argued for claim (1) and has gone so far as to suggest that all cognitive attitudes have the same motivational role; I attempt to dismantle his argument for that view in section 3 of this paper. Should we instead pursue strategy (2)?

Shaun Nichols and Steven Stich (2003) have done just that, attempting to explain pretending or 'make-believe' behaviors in a way that excludes imaginings from having a direct role in the production of action; for them, imaginings affect action *only when mediated by conditional beliefs that reflect the contents of imaginings*. Here is the Nichols and Stich explanation of pretense ('PWB' means *possible world box*, their term for the functional space in which imaginings occur):

> . . . we assume that as a possible world description is unfolding in the PWB, the pretender comes to have beliefs of the form:
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> > If it were the case that p, then it would (or might) be the case that $q_1 \& q_2 \ ...q_n$
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> where p is the pretence premises and $q_1 \& q_2 \& \ . . . \ q_n$ are the representations in the PWB. These beliefs, along with the desire to behave in a way that is similar to the way one would behave if p were the case, lead to the pretence behavior in much the same way that Stich's belief that Nichols has just walked around making jerky motions and saying 'Chugga chugga, choo choo' and Stich's desire to behave in a way that is similar to the way in which Nichols behaved will lead Stich to walk around making jerky motions and saying 'Chugga chugga, choo choo'. (2003, pp. 37-38)

So, in short, how things unfold in the PWB causes one to have a conditional belief, and desiring to behave similarly to how one would behave if the antecedent of the conditional belief were true causes the pretending behavior in conjunction with the conditional belief. If this is how pretense behaviors are motivated, then imaginings don't really have a motivational role of their own: they are never the cognitive input into action choice; rather, the unfolding of imaginings brings about

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[2] A cognitive attitude is, roughly, an attitude that treats its content *as* true; the contrast is with conative attitudes, which treat their contents as *to be made* true. (I borrow this formulation from Shah and Velleman (2005).) So beliefs, hypotheses, assumptions, acceptances in a context and the like are cognitive attitudes, while desires and wishes are conative attitudes.

[3] To keep things clear, Velleman (2000a) will refer to the paper 'On the Aim of Belief,' which is a chapter in the collection Velleman (2000).

conditional beliefs, which then motivate (pretense) action whenever the subject desires to behave as if the antecedent were true.

This conditional belief theory of pretense motivation deserves a fuller treatment than I can give it here. But let me offer an example to make one skeptical. Suppose I am pretending that I am a student and a professor gave me a bad grade on a paper. I grab a pen, pretending it is a gun, and pretend to shoot the professor with it. According to the conditional belief account, this requires a belief with the following contents: *if a professor gave me a bad grade, I would (or might) go into his office and shoot him*. Then, desiring to behave similarly to how I would or might behave if the antecedent were true, I perform the relevant make-believe action. So the story goes. Let me affirm, however, that I have never had a belief that I would shoot someone under such conditions. But I have played make-believe in which I pretend to shoot people. Such examples, where the conditional belief account is highly implausible, can be multiplied.[4] But that account is the most prominent account that can be used to defend the view that imaginings have no motivational role, so we should be skeptical of that view. But then, if we go ahead and accord imaginings a motivational role in response to such skepticism, recognizing from the Sally example that this role must at least be similar to that of belief, are we stuck again with claim (1), that there is no difference between the motivational roles of belief and imagining?

Between the view that imaginings and beliefs have the same motivational role (Velleman) and the view that imaginings have no motivational role (Nichols and Stich) lies my view: beliefs have a farther reaching motivational role than other cognitive attitudes like imagining—one that is not fully captured by the standard characterization—although other cognitive attitudes can be the basis for action choice in specific contexts as well. Thus, I am an advocate of approach (3).

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[4] See Friedman and Leslie (2007) for further reasons to be skeptical of the Nichols and Stich account of pretense.

The main thesis of this paper is that it is part of the motivational role of belief to be the *practical ground* of other cognitive attitudes. Call this *the practical ground thesis*. I explicate the practical ground relation in the next section. The intuitive idea is as follows. Other cognitive attitudes besides beliefs—e.g., imaginings, hypotheses, assumptions for the sake of argument—can figure directly into action choice in a belief-like way jointly with desires (or other conative attitudes), causing and rationalizing actions that would make the desires true, if the cognitive attitudes were true. *But beliefs determine if one is in the right setting for acting on the basis of another cognitive attitude or not*. Thus, imagining motivates action directly in conjunction with desires, when I *believe* I am in the context of make-believe. That means it is part of the motivational role of beliefs to ground the agent's use of other cognitive attitudes in action choice. This of course does not mean that *every single* belief plays a practical grounding role in relation to other cognitive attitudes like imaginings; rather, grounding is among the distinctive practical functions that beliefs can perform, one which distinguishes belief as an attitude type.

I specify the practical ground relation precisely in the next section. After that, in section 3, I consider what is wrong with Velleman's (2000a) argument for the view that belief and imagining have the same motivational role. In section 4, I offer a logically explicit argument for the practical ground thesis. In section 5, I sketch a generalization of the thesis to relate belief to other cognitive attitudes besides imagining—attitudes like hypothesis and assumption for the sake of argument—and consider implications of this generalization for the flexibility of human cognitive architecture.

The thesis advocated here, if it is correct, solves the problem of distinguishing belief from imagining, originally raised by Hume.

> Wherein, therefore, consists the difference between such a fiction and belief? It lies not merely in any peculiar idea, which is annexed to such a conception as commands our assent, and which is wanting to every known fiction. For as the mind has authority over all its ideas, it could voluntarily annex this particular idea to any fiction, and

consequently be able to believe whatever it pleases; contrary to what we find by daily experience.[5]

Hume was well aware that we can take a variety of different attitudes to ideas about how the world is or might be—different cognitive attitudes, in modern terms. Not every representation of how the world or some portion of it is is a belief. How does belief stand out among the cognitive attitudes? It turns out to be no trivial matter to answer this question in a non-question begging way. Let's call the challenge this question poses *Hume's problem*.

2   The practical ground: specification and examples

I'll explain the *practical ground relation* by extending some work of Michael Bratman; then I'll apply it to solve Hume's problem.

Bratman (1992) argues that there is a cognitive attitude distinct from belief that guides action, which he calls *acceptance in a context*. Acceptances in a context, like belief, are cognitive inputs into practical reasoning and deliberation. If I accept in a certain context that the bookstore will have a book and I want that book, I'll act as I would have if I believed the bookstore had it (going to the bookstore) *as long as I'm in the context on account of which the acceptance was made*.

According to Bratman, the different practical contexts that can lead to acceptance in a context include: a need or desire to simplify one's reasoning, asymmetries in the costs of errors, needs of social cooperation, special relations to others, and pre-conditions for practical reasoning at all. In the bookstore example, I may not have a belief about whether the bookstore has the book, but out of a desire for simplicity in planning my day (that's the context) I accept that it does. If I were outside the context in which the acceptance was made—suppose I were asked to write an assessment of the bookstore's philosophy section—then the acceptance that I had made in the other context would *not* guide my actions.

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[5] *An Enquiry Concerning Human Understanding*, Section V, Part II.

So acceptance in a context does *not* have exactly the same role in motivating action as belief. Rather, acceptances in contexts feed into practical reasoning in a belief-like manner *in those contexts in which they are made*. Outside the contexts in which the acceptances occur, they do not feed into practical reasoning, although they may be stored in memory for when the agent is in the relevant context again. To give another example, I, as a builder, may accept in the context of budgeting for the year that we won't be able to get good deals on building materials, even though I suspect we will. But outside the budgeting context (say, casual conversation), I do not act as if I believe we won't be able to get good deals.

Bratman writes:

> An agent's beliefs provide the *default cognitive background* for further deliberation and planning. . . . Most importantly, this cognitive background is, in the sense explained, context independent. But practical reasoning admits adjustments to this default cognitive background, adjustments in what one takes for granted in the specific practical context. . . . To be accepted in a context is to be taken as given in the adjusted cognitive background for that context. (pp. 10-11, Bratman's emphasis)

The idea, in short, is that beliefs can enter into action choice in any sort of context whatsoever, while an acceptance in a context can only determine action choice in its own characteristic context. Thus, Bratman here implicitly defines two kinds of cognitive background that *can* be deployed in practical reasoning in the same way. I say he 'implicitly defines' them, because the understanding of each depends on its contrast with the other.[6]

Let me now add two points Bratman does not mention. (Since we are transitioning to my own views, I will henceforth speak mainly of 'practical setting' instead of 'context.' I keep the phrase 'acceptance in a context' intact, however, since that's clearly Bratman's.)

First, we must ask: how is *practical setting* represented in an agent's mind for the sake of making acceptances in a context? The answer is that *beliefs* represent practical setting. If I *believe*

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[6] Might acceptances in a context be eliminated in favor of beliefs with conditional or modal contents? Acceptances in a context are conceptually distinct from beliefs, so it is an empirical question whether humans deploy them or not. I think it is likely that we do. In any case, imagining has no chance of being eliminated.

I am budgeting—not when I imagine or suppose it—then I'll act on acceptances relative to that practical setting.

Second, acting on an acceptance in a context is a choice one makes with beliefs as the cognitive inputs into the choice. In other words, how and whether one acts on such adjustments is dependent on what one believes in the first place. I accept overestimated costs while budgeting because I *believe* the practice of doing so will lead to better results; thus beliefs feed into my choice to act on the acceptance in a context that costs will be high. Note that choices to act on adjusted cognitive backgrounds are often not even consciously made—they happen quite automatically. The idea I'm trying to capture is that beliefs consciously or unconsciously cause and rationalize acting on adjusted cognitive backgrounds in the same way they consciously or unconsciously cause and rationalize other acts.[7]

To formalize these points, let's define three relations that can hold between classes of cognitive attitudes, where X and Y are variables for such classes. The conjunction of 1-3 defines what I call the *practical ground relation*.

1. Attitudes of type X are available for motivating actions across all practical settings, while attitudes of type Y depend on the agent's being in a certain practical setting to be effective in influencing action.[8]
2. Attitudes of type X represent the *practical setting* one is in such that one acts on attitudes of type Y on account of being in that setting.
3. Attitudes of type X are the cognitive input into *choosing* to act with attitudes of type Y as input into practical reasoning, when one does so choose.

It should be clear from the discussion so far that the ordered pair <Belief, Acceptance in a Context> satisfies these definitions, while the ordered pair <Acceptance in a Context, Belief> does not. So since the defined relations are asymmetric—acceptance in a context does *not* bear the same relations to belief—we have now identified precisely the practical difference between belief and acceptance in a context. I say X is the *practical ground* of Y whenever all three relations obtain, e.g., belief is the practical ground of acceptance in a context. Note that 3 is

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[7] There are various notions of 'choice' are advocated in the literature. I'm using the word 'choice' in a broad sense not limited to what we might think of as *reflective* choices.
[8] I use 'psychomechanical efficacy' to refer to the property of being effective in influencing action.

dependent on 2, but not solely, since other beliefs aside from those concerning practical setting

can figure into the choice to act on an adjusted cognitive background. It is a critical point that

beliefs represent what practical setting one is in. Practical settings, as external situations, do not

activate adjusted cognitive backgrounds in the mind magically; one must have appropriate

beliefs.

Now I claim that other ordered pairs aside from <Belief, Acceptance in a Context>

satisfy the definition of the practical ground relation. Importantly, beliefs are also the practical

ground of *imaginings*; i.e., <Belief, Imagining> ∈ practical ground relation.

Imaginings in certain practical settings can provide the cognitive background for

choosing actions. But the contextual basis is different from the bases for Bratman's acceptances

in a context. Imaginings provide the cognitive background for choosing actions when an agent is

in the setting of imaginative play, or 'make-believe.'[9] Let me now flesh out this picture by

discussing a vivid example of imaginative play and identifying how beliefs and imaginings are

involved in motivating behavior.

When I was in third grade, my friend Chris and I went outside on a misty day after it had

been raining to pretend to be two heroes on an adventure in a magical kingdom. We had sticks for

swords, powers to do magic that we made up largely on the fly, and monsters to fight. Imagining

a monster in front of me, I stabbed it with my stick/sword. This behavior *seems* to have the same

form of practical reason behind it as the action I would have performed had I believed there was a

monster in front of me and believed my stick to be a sword. I desire to escape; this desire will be

satisfied in worlds in which (a) there is a monster before me, (b) I have a sword in my hand, and

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[9] Since I am not defining 'imagination' here, but only distinguishing it from belief, there is no problem of circularity here. Defining imagining from scratch would require an independent characterization of *imaginative play*. This will involve characterizing the function of play, which is mimetic and fosters learning, as Aristotle points out in the *Poetics*, 1448b4-8.

(c) I stab the monster with my sword; as I result I execute a stabbing motion.[10] Thus far, the imaginings seem to be playing the practical cognitive role that beliefs would have.

Later in our play, however, Chris, who was walking through a large field of mud cried out, 'I'm stuck!' My response was that he should use his magical powers to release himself. Then he said, 'No, I'm *really* stuck.' When I realized he wasn't simply pretending to be stuck, I immediately went over to help him get his boot out of the mud, ignoring the monsters I had been pretending to fight. Once we'd gotten Chris unstuck, we returned to our play.

In this episode, we see the three features of the practical ground relation, with beliefs appearing in the first place of the relation and imaginings in the second. First, my beliefs about where we were (in a mud field), who we were (boys), and what we were doing (playing make-believe) were available to me for choosing actions across all practical settings, *even when I was in imaginative play*.[11] Because I *believed* we were in a real mud field and didn't want to go over to Chris' part of it, I suggested at first that he should use magic to get himself unstuck. This shows that my belief that we were in a real mud field was still active in guiding my actions even in the setting of imaginative play, illustrating the critical point that belief's psychomechanical efficacy is not dependent on the agent's being in a certain practical setting. (See 1 above.) Second, my belief that I was in imaginative play—that is, my belief about practical setting—sustained my use of the adjusted cognitive background (imaginings) in determining my actions during the imaginative play. If I had imagined a monster before me at a time when I did not *believe* I was in imaginative play—say, in church—I would not have performed the stabbing motion. (See 1 and 2 above.) Third, once I was disabused of the belief that Chris' being stuck was part of the make-believe, I returned to acting on other beliefs, going over to get Chris unstuck. I desired that he be unstuck, and believed that by helping him he would become unstuck. Then once I *believed* that he

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[10] I won't consider here whether the desire is imaginary also. I refer the reader interested in the matter to Currie and Ravenscroft (2002, Ch. 1) for a discussion of the conceptual landscape. See Nichols (2004) for criticisms. See Doggett and Egan (2007) for arguments in favor of *i-desires*.

[11] Gendler (2003) refers to empirical evidence that reality tracking during play begins at a young age.

really was unstuck and that it was safe to return to playing make-believe, I made the choice against the background of these beliefs to continue imaginative play. This illustrates the point that beliefs are the cognitive input into choosing to act on an adjusted cognitive background for a practical setting, when one does so choose. (See 3 above.) *Imagining* Chris was unstuck and imagining it was safe to return to playing make-believe wouldn't get me to do so; it took belief.

Thus we see how beliefs are the practical ground of imaginings. As the attitude types relate asymmetrically in this fashion—imaginings are *not* the ground of beliefs—we have found an action-theoretic approach to distinguishing belief and imagining—i.e., to solving Hume's problem. The reason identifying the practical ground relation is needed to get the distinction is that imaginings, *in their own characteristic setting*, seem to cause action jointly with desires in the manner of belief; it's only by seeing that beliefs represent and determine entrance into that setting that we can arrive at the distinction we need.

3   Velleman and Shah on motivational role

To one who holds that imagining and belief have different roles in producing action— different motivational roles—this passage from Shah and Velleman (2005) comes as a surprise.

> The question is how to differentiate the concept of belief from the concepts of other attitudes that involve regarding-as-true [i.e., cognitive attitudes]. *The answer cannot be that belief plays a distinctive motivational role, because the motivational role of belief is one that it shares with other cognitive attitudes*. Assuming that *p* and supposing that *p* resemble believing that *p* in that they dispose the subject to behave as if *p* were true; and even imagining that *p* may resemble belief in this respect. (pp. 497-498, my emphasis)

Shah and Velleman claim that the cognitive attitudes they mention do not differ in motivational role. Here I examine the source and merits of this view. This section is not merely critical, however, since one of its conclusions is used in the argument for my practical grounding thesis in the next section. To preview: Velleman (2000a) does successfully show that the *standard* way of describing the motivational role of belief is does not distinguish belief from imagining. This is a real insight, but he draws an inaccurate conclusion from it. Velleman seems to think it follows

that there are *no* prospects for distinguishing belief from imagining on the basis of motivational role. That's wrong. The correct conclusion is that a more complete description of the motivational role of belief is needed.

Shah and Velleman (2005) rest their claims about motivational roles of cognitive attitudes on Velleman's (2000a) 'On the Aim of Belief,' which originates the claim that imagining has the same motivational role as belief and generalizes that claim to other cognitive attitudes.[12] But this claim is not the main conclusion of 'On the Aim of Belief.' Velleman's (2000a) paper is meant to persuade the reader that belief stands out from other cognitive attitudes in that belief *aims at the truth*. 'Belief is that attitude of accepting a proposition with the aim of thereby accepting *a* truth' (p. 252, Velleman's emphasis). 'Aim,' furthermore, is to be understood in a teleological sense; the mechanisms of belief production are in some sense designed to track truth.

If Velleman (2000a) is arguing that beliefs constitutively aim at truth, why does he focus on motivational role? The answer can be found in his argument summary:

> Yet the conditional disposition to cause behavior is the same [for belief and imagining], and this disposition is all that figures in the nature of belief. The only essential difference between these states is that believing that *p*, unlike imagining that *p*, is regulated in ways designed to make it reflect the actual truth-value of *p*. That's why truth-directedness is essential to the characterization of belief. (p. 272)

Essentially, Velleman is arguing that *since* the motivational roles of belief and imagining are the same, the notion of aiming at truth is needed to distinguish belief. I'll put his overall argument in as clear a form as I can.

1. If belief can't be distinguished from other cognitive attitudes by its role in action output, then it must be distinguished from them by etiology or cognitive input, i.e., regulation and production. [premise[13]]
2. Belief and imagining have the same motivational role, i.e., 'conditional disposition to cause behavior,' a role shared by the other cognitive attitudes as well. [*lemma* argued for in the paper]

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[12] Shah and Velleman (2005) cite Velleman (2000a) in support in their footnote 3 to the above quotation. Shah and Velleman (2005) abandon some positions of Velleman (2000a); I am concerned here with the view on motivational role that is common to the two papers.
[13] Premise 1 is not explicitly stated, but Velleman's argument needs it.

3. Therefore, belief can't be distinguished from other cognitive attitudes by its role in action output. [from 2]
4. Therefore, belief must be distinguished from other cognitive attitudes by cognitive etiology, i.e., regulation and production. [from 1 and 3]
5. Aiming at truth, i.e., being regulated by mechanisms designed to produce truth in beliefs, is the best candidate among cognitive properties that could distinguish beliefs. [intuitive assumption, argued for briefly in *Answers to Objections*]
6. ' . . . truth-directedness is essential to the characterization of belief.' [from 4 and 5]

Interestingly, the largest portion of Velleman's paper (called *Can't Belief be Defined by its Motivational Role?*) is dedicated to arguing for 2.

To argue for 2, Velleman gives several examples in which imagining disposes one to act in ways that would satisfy one's conations in worlds in which the contents of the imagining are true. Velleman's examples include a child imagining herself to be an elephant, a person muttering to herself during an imagined conversation with someone else, Freudian examples in which people behave toward symbolic objects as they would at some level like to behave toward the things that they (sub-consciously) imaginatively stand for, and expressive behavior, i.e., 'behavior that's expressive of emotion' (p. 269). The general form of his argument is that, in each category, examples show that imagining motivates action in relation to conation in the same way that belief would, so belief and imagining are alike in motivational role. To get the flavor of Velleman's argument, let's look at his example from the category of expressive behavior:

> Hume points out that a person who is suspended at a great height in a metal cage may tremble with fear despite knowing that he is securely supported. Hume's point is that, although the person doesn't believe that he's going to fall, he does imagine falling, and imagination can arouse the same emotions as belief. Hume might have added that imagination can also motivate the same behavior as belief, since the person in this example may not only tremble but also cling to the bars of his cage, despite the knowledge that he is thereby gaining no additional safety. (pp. 269-270)

The point is that the person suspended in the cage behaves out of imagining he is in danger of falling just as he would behave if he believed he was in danger of falling, so the motivational

effects of imagining and believing in this case are the same.[14] As they are the same in the other

cases considered, Velleman generalizes to the conclusion that they are the same *period*.

A skeptic would conclude that Velleman mistakenly generalizes from cases in which

imagining that *p* and believing that *p happen* to yield similar behavior to the conclusion that this

holds for all cases. But before we conclude this, it's worth asking what Velleman means by

'motivational role.' There are two salient interpretations of his use of this phrase, which gives rise

to the following dilemma. On the first interpretation of 'motivational role,' the claim that belief

and imagining have the same motivational role is indefensible in virtue of its absurd

consequences. On the second interpretation, the claim in question fails to give Velleman what he

needs in his wider argument, because on this interpretation the inference from step 2 to step 3 in

the argument outlined above fails. Let me now flesh out this dilemma.

On the first interpretation, 'motivational role' means *all characteristic effects an attitude*

of a given kind has on behavior; let's call this sense of the phrase *comprehensive motivational*

role. And let's call the interpretation of Velleman's claim about identity of motivational role that

invokes this sense the *identity of comprehensive motivational role thesis*. The reason for

understanding Velleman to mean *comprehensive motivational role* is that that's what's needed to

support the inference from 2 to 3 in his wider argument. That is, unless he can show that belief

and imagining have the same motivational role in a comprehensive sense, then he hasn't ruled out

the possibility that belief and imagining can be distinguished in terms of action output; if he

hasn't ruled this out, he hasn't shown the need to draw the distinction in terms of etiology or

cognitive input.

On the second interpretation, 'motivational role' encompasses the standard

characterization, referred to above, of how belief relates to conation in the production of action.

Velleman (2000, Introduction) refers to this role as being part of 'The Standard Model': *the*

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[14] I find Velleman's interpretation of the bar-clinging not totally satisfactory. That behavior is a function of reflex due to the fear-causing visual *perception* of the ground being far below. But that point is immaterial to the present dispute.

motivational role of a belief is to cause behavior that will satisfy conations if the belief is true. This second sense of 'motivational role' grasps the effects of an attitude on action only at a high level of abstraction. To keep things clear in the following argument, let's call this sense of 'motivational role' *vanilla motivational role*[15].

[Horn 1] Now, if Velleman intends *comprehensive motivational role* to be understood in his claim that belief shares its motivational role with imagining, then we should expect the following to be true: *other things equal*, imagining that *p* will cause the same behaviors as believing that *p*. But this leads to absurdity.

Consider the following case. A young man named Josh receives a notice in the mail that his uncle has died and left him a house. He knows that his uncle has two houses. One is on the water with a beautiful ocean view, several rooms, and a large backyard. The other is a smaller house inland with hardly any yard in a region with a widespread rat problem. There are two scenarios to consider. First, the letter contains the address of the beach house. Second, it contains the address of the inland house. In both scenarios, Josh instantly acquires a rich set of beliefs. In the first scenario, the beliefs have contents like *I will have a house with an ocean view*, *I will have a house with many rooms*, *I will have a house that is good for barbeque parties*, and so on. In the second scenario, the beliefs he acquires have contents like *I will have a house with many rats*, *I will have a house with a small yard*, *I won't have an ocean view*, and so on. Josh is very imaginative, so in either scenario he's prone to imagining what life would have been like had he inherited the other house; he imagines in each scenario everything he believes in the other. So, in the scenario where he inherits the beachfront house, he has imaginings with contents like *I will have a house with many rats*, *I will have a house with a small yard*, *I won't have an ocean view*, and so on. I claim that Josh's behavior will be different in the two scenarios. In the first scenario, Josh may scan the local papers for deals on grills and surfboards. In the second, he'll scan the yellow pages for an exterminator. Furthermore, the differences in behavior will be due solely to

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[15] Michael Bratman suggested the term 'vanilla motivational role' to me for use in this argument.

the differences in what he believes versus imagines, since other conditions are equal in the two scenarios. So the comprehensive motivational roles of belief and imagining must differ.[16]

Cases like this can be multiplied in which differences in action must be attributed to the agent's believing that *p* (and *q*, *r*, etc.) as opposed to merely imagining it, or *vice versa*. Since the *comprehensive motivational role thesis* entails that no such cases exists, the thesis is absurd.

[Horn 2] What then of vanilla motivational role? The argument Velleman gives for holding that belief and imagining have the same motivational role fares better under this interpretation. There are indeed circumstances in which we act in ways that would make our wants satisfied if the contents of our imaginings were true. Given that, one might reasonably say 'yes' to the question 'does imagining have the vanilla motivational role of belief?' But a better answer would be 'sometimes;' for, as I argued in the last section, imagining does not dispose us in the manner of belief across all settings.

But if you interpret Velleman as meaning *vanilla motivational role*, you give him an interpretation that wins a battle but loses the war, since the inference from step 2 to step 3 in the argument above fails. Although it may be plausibly claimed that imagining (sometimes) has belief's vanilla motivational role, this does not entail that *no* characterization of motivational role can distinguish between belief and imagining, which is what Velleman needs in his argument that the aim of belief is needed for this distinction. And the previous section of this paper showed that such a nuanced role distinction is possible.

Ironically, Velleman's arguments actually *support* my view that being the practical ground of imagining is an essential part of the motivational role of belief. This is because his arguments strongly suggest that the standard characterization of the motivational role of belief, which *lacks* the practical grounding thesis, is insufficient to distinguish belief from imagining.

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[16] The difference in behavior in the two scenarios can't be due to surrounding mental conditions besides beliefs and imaginings. The only difference in Josh's other mental and bodily conditions prior to forming the respective beliefs and imaginings in the two scenarios is in his visual input that conveys one address or the other. But it is the effects that the visual impressions have on his *beliefs* about what house he will inherit that make the difference in his behavior.

So, given that the identity of comprehensive motivational role thesis is false, something else is needed in the specification of the motivational role of belief beyond the standard characterization. Being the practical ground is, I claim, the best candidate. Returning to the scenario in which Josh inherits the beachfront house, we see that he may well have *pretended* to call the exterminator, so long as he *believed* he was in the setting of playing make-believe. So imaginings motivate when beliefs ground them.

<center>*   *   *</center>

A possibility this discussion seems to open up is that belief does not necessarily aim at truth in the specific sense that Velleman intends, since Velleman's argument that belief does aim at the truth has been shown to fail. One thing I have shown is that the aim-at-truth thesis is not necessary to *distinguish* belief from imagining, since the practical ground relation suffices for that. I have not shown that the aim-at-truth thesis is false. In fact, I suspect some version of it is true, for without some degree of truth-tracking in our belief formation processes there would be a breakdown of conditions that make it possible for mental states to have *content*. But that discussion lies outside the scope of this paper.[17]

Now let's turn to an explicit argument for the practical grounding thesis, which will give us a fuller description of the motivational role of belief.

4   Explicit argument for the *Practical Grounding Thesis*

There are two intuitive considerations so far in favor of the *practical ground thesis*. First, the practical grounding relation strengthens our ability to explain the kinds of behaviors

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[17] The phrase is due to Williams (1973), but it's been put to many uses. Ralph Wedgwood (2002) presents a normative interpretation of 'belief aims at truth': beliefs are *correct* if and only if they are true. David Owens (2003) argues that belief doesn't aim at the truth in any sense. Steglich-Petersen (2006, forthcoming) has been a defender of the view that belief does aim at the truth, although for quite different reasons from those I would adduce in support of the thesis. For other arguments against Velleman's view on motivational role, see O'Brien (2005).

exemplified in the make-believe involving Chris and me. Second, the *thesis* gives a plausible

solution to Hume's problem of distinguishing belief from imagining.

It is tempting to rest with intuitive considerations. But it is more desirable to fashion a

fully explicit argument for the thesis that offers greater prospects for clear assessment. Since there

are three components of the practical ground relation (p. 7), there will be three *lemmas* in the

argument, which is as follows.

1. The *identity of comprehensive motivational role thesis* is false. [from the argument in section 3]
2. There exist practical settings in which the behavioral consequences of imaginings differ from beliefs. [from 1]
3. The differences quantified over in 2 are non-accidental. [premise, plausible since practical setting typically influences behavior in conjunction with cognitions]
4. The differences in behavioral output between belief and imagining are caused, at least in part, by differences in practical setting. [from 2 and 3]
5. Either the psychomechanical efficacy[18] of imagining is practical setting dependent, or the psychomechanical efficacy of belief is, or both. [from 4]
6. The psychomechanical efficacy of belief is not practical setting dependent. [from Bratman (1992), also motivated by examples from section 2]
7. The psychomechanical efficacy of imagining is practical setting dependent. [from 5 and 6]

lemma 1: Beliefs are effective in practical reasoning and motivating actions in a practical setting-independent way, while imagining depends on practical setting to be effective in influencing action. [from 6 and 7]

8. In order for the psychomechanical efficacy of a cognitive attitude in an agent to be practical setting dependent, that agent must *represent* the practical setting she is in.[19] [premise]
9. An agent who acts on the cognitive basis of imagining must have a representation of the practical setting she is in. [from 7 and 8]
10. The representational states representing practical setting are cognitive attitudes.[20] [premise]
11. Representational states representing practical setting are beliefs or non-belief cognitive attitudes. [from 10]
12. If the representational states representing practical setting are non-belief cognitive attitudes, then they are themselves practical setting dependent. [premise, which is a generalized version of 7]

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[18] Recall that 'psychomechanical efficacy' refers to the property of being part of the cognitive background that feeds into practical reasoning and action choice.
[19] There is no magical connection between simply being in a practical setting and having that setting activate an adjusted cognitive background.
[20] Tracking practical aspects of surroundings is largely what cognitive attitudes are for. Recent work by Gendler (2008) posits another kind of state, *alief*, that represents practical setting as well.

13. If all representations of practical setting are practical setting dependent, then we get an infinite regress of representation of practical setting. [from 8]
14. There is no infinite regress of representations of practical setting. [premise, plausible since humans are finite]
15. Any practical setting-dependent cognitive attitude must have its practical setting in part represented by non-practical setting-dependent cognitive attitudes. [from 13 and 14]

lemma 2: There are beliefs that represent the practical setting an agent is in, on which the psychomechanical efficacy of imagining is dependent. [from *lemma 1* and 15]

16. Acting with imagining as the adjusted cognitive background is a choice.[21] [premise exemplified by the story of Chris and me in section 2]
17. Attitudes of the kind that represent the practical setting an agent is in are cognitive inputs into choices the agent makes in those settings. [premise, plausible since knowledge of context/practical setting typically influences choices]

lemma 3: Beliefs are cognitive inputs into choosing to act with imaginings as the adjusted cognitive background, when one does so choose. [from *lemma 2*,16, and 17]

Practical grounding thesis: belief is the practical ground of imagining. [from *lemma 1*, *lemma 2*, *lemma 3*, and the definition of practical ground on p. 8] QED

Now the *practical ground thesis* is justified in two directions. First, the thesis is justified in that it *explains* cases of human behavior (section 2). Second, the thesis is derivable logically from plausible premises. If these considerations are enough to show the truth of the thesis, Hume's problem of distinguishing imagining and belief has been solved.

Furthermore, we can say more completely what the motivational role of belief is: beliefs cause actions that will satisfy desires when the contents of those beliefs are true, *and* beliefs are the practical ground that determines when imaginings are psychomechanically effective. In the next section, we'll see that beliefs are the practical ground of other non-belief cognitive attitudes as well. To extend the classic metaphor of Ramsey and Armstrong: beliefs are not the only maps by which we steer the ship, but they are maps by which other maps are chosen and appraised.

Before going on, let me now consider a challenge to this overall perspective.[22] Many imaginings happen involuntarily. I may find myself imagining a tiger walking around my room and not be able to get rid of that imagining. This may at first seem to be an objection to the

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[21] Note also that I say *acting* with an adjusted cognitive background is a choice. Often *having* one is involuntary.
[22] This concern was raised by an anonymous referee of this journal.

practical ground thesis, since that thesis emphasizes the role of beliefs in *choosing* adjusted

cognitive backgrounds like imaginings. And something that happens involuntarily is not chosen.

But I never said that *having* imaginings is always voluntary; I only said that *acting* with

imaginings as the cognitive input into practical reasoning is a choice that one makes on the basis

of beliefs (lemma 3). Entering into the game, so to speak, is a choice one makes on the basis of

beliefs, and one needs beliefs about what the game is in order to play it (lemma 2). In the tiger

example, although it may not be that I can choose to not imagine the tiger, I can choose to be

playing make-believe or not; if I choose to play, I'll start acting like a hunter, or whatever. Thus,

when I choose to play make-believe, I am making the choice to include the imaginings as part of

how I represent the world *for the sake of acting*. So even if imagining something is involuntary,

acting as if what one imagines is part of reality is a choice one makes—with beliefs being the

cognitive input into that choice.

There is still a Pandora's box here, at which, for present purposes, I can only gesture. I

believe that what I have said about beliefs being the practical ground of imaginings holds for

mentally healthy individuals. The issue becomes very tortured with various forms of

psychopathology, since the question of whether the *concept* of belief applies to psychopathic

delusions is opened simultaneously with empirical questions about the nature of the delusions. I

recently interviewed A. G., who had suffered from severe obsessive compulsive disorder (OCD)

and had felt she needed to say prayers in sequences of five to prevent terrible things from

happening to family members, such as car accidents. She said she knew that the terrible things

wouldn't happen, which suggests the obsessive thoughts were not beliefs, but she felt *compelled*

to act on them, which suggests they were. My view is that the OCD delusions have taken on more

of the functional roles of belief than non-belief cognitive attitudes typically do, without taking on

all of the functional roles of belief. My hypothesis is that the obsessive thoughts of OCD cannot

be shown to have the full practical ground role, but defending that hypothesis clearly crosses over

into empirical research. Articulating how much of the function of belief the obsessive thoughts

take on is another project, one that specification of notions like *practical ground* can help with on the conceptual side, but cannot complete without incorporating significant amounts of empirical data.[23]

5   A sketch of a general theory of cognitive attitudes

I've argued that the practical ground relation is needed to describe fully the motivational role of belief. I'd like to suggest here that that relation can play a central role in a general theory of cognitive attitudes. So, after this section, I hope to have shown that the practical ground thesis has four pieces of support: (1) it helps explain examples of make-believe, such as the one of Chris and me in section 2; (2) it provides a solution to Hume's problem of distinguishing belief from imagining; (3) it can be argued for explicitly from independently plausible premises (previous section); and (4) the practical ground relation offers insight into the structure of the space of cognitive attitudes generally.

We can think of each class of cognitive attitudes as a *reservoir* of representations that can be used in the agent's projects of choosing actions to perform in the world. What makes each reservoir distinct from the others is the kind of practical setting in which it's used. The imagining reservoir is used for imaginative or mimetic play and possibly other settings as well, such as those Velleman identifies. The acceptance in a context reservoir is used when there is a need to simplify, cautiously avoid overly costly errors, coordinate collective reasoning, etc. The hypothesis reservoir is used in the setting of inquiry. There are many other kinds of reservoirs, including suspicion reservoirs, assumption for sake of argument reservoirs, and pedagogical simplification reservoirs. Each different reservoir is what Bratman would call an 'adjusted

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[23] For those interested in pursuing this topic at the border of philosophy and psychology, I recommend Sass (1994) as an excellent discussion of schizophrenia and Coltheart and Davies (2000) for articles discussing delusions ranging from Capgras to Cotard delusions. See Egan (forthcoming) for further philosophical discussion, as well as Currie and Ravenscroft (2002).

cognitive background.' But behind all the other reservoirs, providing a basis for their

management, is the belief reservoir. This reservoir is the practical ground of every other reservoir.

In retrospect, this picture should appear quite intuitive. If one assumes that *p* for the sake

of argument, that assumption will cause and rationalize utterances expressing *p* and related

propositions as long as one *believes* one is still in the argument. The assumption gets one to do

what a belief would, as long as one's beliefs indicate one is in the right setting, i.e., the argument.

Once one stops having that belief, one stops talking that way. In other words, beliefs are the

practical ground of the assumption for the sake of argument. To give a homuncularist metaphor,

it's as if beliefs say to the assumption for the sake of arugment, 'Look, you can fill in for us in

motivating some actions, but we get to say when you start and stop.' And I say beliefs relate in

the same way to all the other cognitive attitudes. One way of looking at the technical formalities

of this paper is that they show this relation can be specified without such homuncularism.

In the previous section, I stated an argument that the practical ground relation holds

between belief and imagining. A perfectly parallel argument can be made to show that it holds

between belief and hypothesis, belief and acceptance in a context, belief and assumption for the

sake of argument, and belief and any other cognitive attitude. Thus, on this view, part of what it is

to be a belief is to stand in the first place of this relation, and part of what it is to be a non-belief

cognitive attitude is to stand in the second place. Why do I say 'part' in the last sentence? I hold

that belief is also the basis for *cognitive governance* of the other cognitive attitudes, providing

conditions for the possibility of their existence and influencing their contents in systematic ways.

This paper has explained the first relation, practical grounding; the second, cognitive governance,

will have to wait for another time.[24]

Describing the cognitive attitudes as I do reveals an important property of the human

mind. If non-belief cognitive attitudes are just those that are practically grounded and cognitively

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[24] Let me gesture at where I'm going. Cognitive governance entails: (i) determination of subject matter or content, (ii) governance over inference, and (iii) determination whether to keep or reject other cognitive attitudes.

governed by belief, and if what distinguishes one non-belief cognitive attitude from the other is the type of practical setting in which it is psychomechanically effective, then it is possible—by art or accident—to create a new *kind* of cognitive attitude. To do this, one must become sensitive— by logical specification, practice, or otherwise—to a kind of practical setting of which one was not previously aware and then come to host representations specifically for making choices and inferences in this idiosyncratic setting. This has been done throughout human history, and much invention of new cognitive attitudes takes place by way of cultural processes and pressure. 'Once-a-week Christians' have a non-belief cognitive attitude to Christian doctrine, an attitude which is activated by *belief* (the ground) that one is in the setting of church.[25] This attitude is neither hypothesis nor imagining nor supposition; it is also not acceptance in a context of the sort Bratman has in mind. Politicians have a non-belief cognitive attitude to many of their highly manicured campaign slogans; that attitude is activated by *belief* that one is giving a public speech, so belief remains the ground.[26] Liars have a special practical setting for each lie they tell. But relative to lie-cognitive attitudes—the cognitive attitudes that sustain lies—beliefs are still the ground; *beliefs* keep track of which lie has been told to whom and remain the basis of choice for non-verbal behaviors of the liar. The specialized cognitive attitudes are likely to differ from one another in many ways that go beyond their characteristic practical settings. But their constitutive features are (1) that they are cognitive attitudes at all, (2) that beliefs relate to them in asymmetric ways (being the practical ground and cognitively governing them), and (3) the type of practical setting in which they are psychomechanically effective. Thus I am suggesting here an *increase* in the cardinality of possible cognitive attitude types; there is one possible type for each practical setting type. But this increase does not increase the complexity of the theory of cognitive

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[25] Schwitzgebel (2001, 2002) has a dispositionalist treatment of this kind of state. Price (1969) famously has 'half-beliefs.'

[26] Harry Frankfurt (1988) has a good name for utterances that express the type of attitude I'm attributing to the politician. But the bullshitter doesn't have *complete* disregard for the truth, as she will seek true *beliefs* about the effect the bullshitting has on her audience.

attitudes, because each idiosyncratic cognitive attitude maintains core types of connection to belief: beliefs ground and govern them.[27]

6   Conclusion

In a simple creature with only one kind of cognitive attitude—call it belief*—that creature will seek to satisfy its desires in light of what it believes*. If we were such simple creatures, the characterization of those mental states we call beliefs could stop here by equating beliefs with beliefs*. In other words, the standard characterization of the motivational role of belief would be sufficient. But we are not such creatures. We have other attitudes that represent how the world is or might be that can figure into the choice of actions as well. Thus, fully characterizing beliefs must go beyond the simple formula by which belief* is defined and include a complete description of how belief relates to the other cognitive attitudes, both in the production of action and otherwise.

I have given here the practical part of such a description. Beliefs: (1) are not dependent on practical setting for their influence on action in the way that other cognitive attitudes are; (2) represent the various practical settings for the agent in which other cognitive attitude types may or may not be psychomechanically effective; and (3) are the cognitive basis for choosing to act on one of the other cognitive attitude types when one does so choose. In short, beliefs are the practical ground of the other cognitive attitudes.[28]

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[27] Thus not all cognitive attitudes come in innate 'boxes.' Capacities for *some* cognitive attitudes are innate, although I dislike the 'box' metaphor since it suggests inflexibility. Humans have the capacity to develop nuanced differences in types of cognitive attitude that were not handed down to by innate architecture.

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