

## Alief and Belief

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**Abstract:** I introduce and argue for the importance of a cognitive state that I call *alief*. Paradigmatic alief can be characterized as a mental state with associatively-linked content that is representational, affective and behavioral, and that is activated – consciously or unconsciously – by features of the subject’s internal or ambient environment. Alief is a more primitive state than either belief or imagination: it directly activates behavioral response patterns (as opposed to motivating in conjunction with desire or pretended desire.) I argue that alief explains a large number of otherwise perplexing phenomena and plays a far larger role in causing behavior than has typically been recognized by philosophers. I argue further that the notion can be invoked to explain both the effectiveness and the limitations of certain sorts of example-based reasoning, and that it lies at the core of habit-based views of ethics.

### O. Four Opening Examples

In March 2007, 4000 feet above the floor of the Grand Canyon, a horseshoe-shaped cantilevered glass walkway was opened to the public. Extending 70 feet from the Canyon’s rim, the Grand Canyon Skywalk soon drew hundreds of visitors each day, among them *New York Times* reporter Edward Rothstein, who filed the following dispatch:

A visitor to these stark and imposing lands of the Hualapai Indians on the western rim of the Grand Canyon knows what sensation is being promised at the journey’s climax. After driving for a half-hour over bone-jolting dirt roads...you take a shuttle bus from the parking lot...You deposit all cameras at a security desk, slip on yellow surgical booties and stride out onto a horseshoe-shaped walkway with

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transparent sides and walls that extends 70 feet into space, seemingly unsupported.

Below the floor's five layers of glass (protected from scratches by the booties) can be seen the cracked, sharp-edged rock face of the canyon's rim and a drop of thousands of feet to the chasm below. The promise is the dizzying thrill of vertigo.

And indeed, last week some visitors to this steel-supported walkway anchored in rock felt precisely that. One woman, her left hand desperately grasping the 60-inch-high glass sides and the other clutching the arm of a patient security guard, didn't dare move toward the transparent center of the walkway. The words imprinted on the \$20 souvenir photographs taken of many venturesome souls herald completion of a daredevil stunt: "I did it!!!"<sup>2</sup>

Though some readers may find this story politically or aesthetically disturbing, none – I take it – find it perplexing. While the sarcasm of "venturesome souls" is surely well-placed, and the price of the "I did it!!!" photo is surely excessive, the basic phenomenon – that stepping onto a high transparent safe surface can induce feelings of vertigo – is both familiar and unmysterious<sup>3</sup>.

How should we describe the cognitive state of those who manage to stride to the Skywalk's center? Surely they *believe* that the walkway will hold: no one would willingly step onto a mile-high platform if they had even a scintilla of doubt concerning its stability. But alongside that belief there is something else going on. Although the venturesome souls wholeheartedly *believe* that the walkway is completely safe, they also *alieve* something very different. The alief has roughly the following content: "Really high up, long long way down. Not a safe place to be! Get off!!!"<sup>4</sup>

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In a series of ingenious studies spanning several decades, psychologist Paul Rozin has demonstrated a widespread tendency for well-educated Western adults to exhibit behaviors consonant with a commitment to the existence of "laws of sympathetic

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<sup>2</sup> Edward Rothstein, "Skywalk Review: Great Space, Glass Floor-Through, Canyon Views." *The New York Times*, May 19, 2007.

<sup>3</sup> The *physiological* explanation, of course, is that there is a mismatch in input between the visual, vestibular and somatosensory systems. For discussion, see Thomas Brandt and R. B. Daroff, "The Multisensory Physiological and Pathological Vertigo Syndromes." *Annals of Neurology* 7, no. 3 (1980), pp. 195-203; and Thomas Brandt. *Vertigo: Its Multisensory Syndromes*, second edition (London: Springer-Verlag, 1999/2003).

<sup>4</sup> Throughout my discussion, I am using the term "content" in a somewhat idiosyncratic way, for want of a better term to describe the general notion that I wish to capture. As I am using the term, content need not be propositional, and may include – as the example above makes clear – affective states and behavioral dispositions.

magic:<sup>5</sup>” that “there can be a permanent transfer of properties from one object...to another by brief contact” (*contagion*) and that “the action taken on an object affects similar objects (*similarity*).<sup>6</sup>

So, for example, subjects are reluctant to drink from a glass of juice in which a completely sterilized dead cockroach has been stirred, hesitant to wear a laundered shirt that has been previously worn by someone they dislike, and loath to eat soup from a brand-new bedpan. They are disinclined to put their mouths on a piece of newly-purchased vomit-shaped rubber (though perfectly willing to do so with sink stopper of similar size and material), averse to eating fudge that has been formed into the shape of dog feces, and far less accurate in throwing darts at pictures of faces of people they like than at neutral faces<sup>7</sup>.

How should we describe the cognitive state of those who hesitate to eat the feces-shaped fudge or wear their adversary’s shirt? Surely they *believe* that the fudge has not changed its chemical composition, and that the shirt does not bear cooties<sup>8</sup> -- just as they believe that that the newly-purchased bedpan is sterile and that the fake vomit is actually made of rubber: asked directly, subjects show no hesitation in endorsing such claims. But alongside these beliefs there is something else going on. Although they *believe* that the items in question are harmless, they also *alieve* something very different. The alief has roughly the following content: “Filthy object! Contaminated! Stay away!”

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Last month, when I was traveling to the APA Program Committee meeting, I accidentally left my wallet at home. I noticed its absence when I arrived at the check-in desk at the Hartford Airport, and fully expected to be turned away from my flight. Much

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<sup>5</sup> Cf. J. G. Frazer. (1959). *The new golden bough: A study in magic and religion* (abridged). New York: Macmillan (Edited by T. H. Gaster, 1922; Original work published 1890); M. Mauss, (1972). *A general theory of magic*. (Trans. Robert Brain,). New York: W. W. Norton. (Original work published 1902), (as cited in Paul Rozin, Linda Millman, and Carol Nemeroff, “Operation of the Laws of Systematic Magic in Disgust and Other Domains,” *Journal of Personality and Social Psychology*, 50:4 (1986), 703-712)).

<sup>6</sup> Rozin, Millman & Nemeroff 1986, *op cit*.

<sup>7</sup> The descriptions of the cases make it clear that the experimenters go out of their way to avoid the possibility of any sort of confusion. In the fudge study, for example, “subjects were offered a piece of high-quality chocolate fudge, in a square shape, on a paper plate [and then] ate the piece...[Next] two additional pieces of the same fudge were presented, each on its own paper plate.” Subjects were made explicitly aware that the two pieces come from the same initial source, and that the only difference between them is that “one piece was shaped in the form of a disc or muffin, the other in the shape of a surprisingly realistic piece of dog feces.” Despite recognizing that they contained identical ingredients, subjects showed a striking reluctance to consume the feces-shaped piece. (Rozin Millan, & Nemeroff 1986, *op cit*, p. 705.)

<sup>8</sup> For definition, see: <http://en.wikipedia.org/wiki/Cooties>. Apparently, a roughly equivalent British term is “lurgi.”

to my surprise, the desk agent simply wrote the words “No ID” on my boarding pass, and told me to allow for a few extra minutes at security<sup>9</sup>. The various scans showed nothing amiss, so I boarded my plane, flew to Baltimore, and made my way to the meeting site.

Though the TSA may not require identification, restaurants and hotels do require payment, so when I got to Baltimore, I arranged to borrow money from a friend who was also attending the meeting. As he handed me the bills, I said: “Thanks so much for helping me out like this. It’s really helpful for me to have this much cash since I don’t have my wallet.” Rooting through my bag as I talked, I continued: “It’s a lot of cash, though – let me just stash it in my wallet....”

How should we describe my mental state as my fingers searched for my wallet to house the explicitly wallet-compensatory money? Surely I *believed* that I had left my wallet in New Haven; after all, the reason I was borrowing so much money was because I knew I had no credit cards or cash with me. But alongside that belief there was something else going on. Although I *believed* that my wallet was several hundred miles away as I rooted through my bag, I simultaneously *alieved* something very different. The alief had roughly the following content: “Bunch of money. Needs to go into a safe place. Activate wallet-retrieval motor routine now.”

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Charles is watching a horror movie about a terrible green slime. He cringes in his seat as the slime oozes slowly but relentlessly over the earth destroying everything in its path. Soon a greasy head emerges from the undulating mass, and two beady eyes roll around, finally fixing on the camera. The slime, picking up speed, oozes on a new course straight towards the viewers. Charles emits a shriek and clutches desperately at his chair.<sup>10</sup>

How should we describe Charles’ cognitive state? Surely he does not *believe* that that he is in physical peril; as Walton writes “Charles knows perfectly well that the slime is not real and that he is in no danger.”<sup>11</sup> But alongside that belief there is something else going on. Although Charles *believes* that he is sitting safely in a chair in a theater in front of a movie screen, he also *alieves* something very different. The alief has roughly the following content: “Dangerous two-eyed creature heading towards me! H-e-l-p...! Activate fight or flight adrenaline now!”

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<sup>9</sup> The Transportation Safety Administration requires that airline passengers either “present identification to airline personnel before boarding or be subjected to a search that is more exacting than the routine search that passengers who present identification encounter.” Cf. *Gilmore v. Gonzales*, 04-15736 (9th Cir. 2006); full text at <http://papersplease.org/gilmore/dl/GilmoreDecision.pdf>. As a quick internet search for “flying without identification” will reveal, this choice may not be uniformly offered by all airports or to all passengers.

<sup>10</sup> Kendall Walton, “Fearing Fiction,” *The Journal of Philosophy*, Vol. 75, No.8. (Jan., 1978): 5.

<sup>11</sup> Walton 1978, *op cit.*, 6.

## 1. Introducing Alief

### 1.1 Belief-Behavior Mismatch and Belief-Discordant Alief

In each of the cases presented above, it seems clear what the subject believes<sup>12</sup>: that the walkway is safe, that the substance is edible or potable, that the wallet is in New Haven, that the theater is in no danger of being invaded by slime,. Ask the subject directly and she will show no hesitation in endorsing such claims as true. Ask her to bet, and this is where she will place her money. Ask her to think about what her other beliefs imply and this is what she will conclude. Look at her overarching behavior and this is what it will point to. At the same time, the belief fails to be accompanied by certain belief-appropriate behaviors and attitudes: something is awry.

When else do we find this sort of belief-behavior mismatch? One sort of case is that of deliberate deception. If I believe that I have a winning hand, but I am trying to mislead you into thinking that I do not, I will behave in ways discordant with my belief. But clearly, this is not a good model for the cases just considered: Charles is not trying to fool the movie-maker; Rozin's subjects are not trying to mislead the experimenters. In contrast to the cases of deliberate deception, the belief-behavior mismatch in our cases is not the result of something other-directed and deliberately controlled.

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<sup>12</sup> Although belief is clearly one of the central notions in epistemology, the question of what belief *is* has been (with important exceptions) underexplored in this context\*. One might think a simple characterization would suffice – something like: “To believe a proposition is to hold it to be true” (Simon Blackburn, *The Oxford Dictionary of Philosophy* (New York: Oxford, 1996), 40.) But, for reasons that David Velleman brings out nicely (David Velleman, “On the Aim of Belief” in *The Possibility of Practical Reason* (Oxford 2000)) this won't quite do (at least, not without a careful spelling out of what “hold to be true” amounts to, which just pushes the question one step back.) Moreover, the issue is complicated by there being at least two apparently different fundamental notions of belief: what H. H. Price calls the “occurrence” or “traditional” view – that to believe a proposition is to be in a mental state with a particular sort of introspectively available feature, such as “vivacity” or “liveliness” or “solidity” (a view he attributes to, among others, Descartes, Hume, Spinoza, Cardinal Newman and Cook Wilson) – and what he calls the “dispositional” or “modern” view – that to believe a proposition is to be disposed to act in certain ways (a view he attributes to, among others, Alexander Bain, R.B. Braithwaite and Gilbert Ryle.) (H. H. Price, *Belief*, (London: Allan & Unwin, 1969.) I will have more to say about this matter below. In the meantime -- as the astute reader will have suspected by now – I invoke this legacy as much to exculpate as to inform: though I will offer more details in subsequent sections, for the time being, I will leave the notion of belief undefined.

\*Of course, there have been extensive discussions of this question in the context of philosophy of mind (for an overview see section 1 of (Eric Schwitzgebel, “Belief,” *The Stanford Encyclopedia of Philosophy* (Fall 2006 Edition), Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/fall2006/entries/belief/>.) But (with some important exceptions) this literature has remained largely insulated from the literature in epistemology.

Perhaps, then, it is akin to a case of self-deception? A self-deceived subject believes, say, that her child has committed some terrible crime, but somehow brings herself to represent the situation – both to herself and to others – as if she believed precisely the opposite, resulting in the requisite belief-behavior mismatch<sup>13</sup>. This is an improvement on the previous model; it corrects the problem of other-directedness, and – to some extent – the problem of deliberate control. But it still misrepresents the structure of the situation: it's not that the reluctant walker on the Hulapai Skywalk believes that the surface is safe, but has somehow deceived herself into thinking that it is risky; it's not that Rozin's subject believes that the bedpan is sterile, but somehow deceives herself into thinking that there's some reason not to drink from it. The mismatch runs two directions: unlike in cases of self-deception, the subjects in our cases show no reluctance to explicitly endorse the belief with which their behavior fails to accord. And unlike in cases of self-deception, their behavioral responses do not result from some deliberate or quasi-deliberate process of misrepresentation.

Perhaps, then, the subjects' hesitation to act on their beliefs is the result of some sort of doubt or uncertainty? In setting out for the day, I might dither a bit before leaving my umbrella at home: "it's not going to rain," I might aver – though I am not completely certain that I am right. Though the action-pattern is strikingly similar to some of the cases above, the model is still inadequate. Stepping onto the Skyway, eating the stool-shaped fudge, or staying seated in the theater is not like willing oneself to play Russian roulette: it is not a case of discounting a low-probability outcome and hoping for the best. Charles doesn't leave the theater thinking: "Phew! It's lucky the slime stayed on the screen this time!" Rozin's subject doesn't breathe a sigh of relief that the dart hitting the photograph didn't *actually* harm her friend. I wasn't rooting around on the off-chance that maybe my wallet really *was* in my bag after all<sup>14</sup>.

Perhaps, then, the belief is temporarily forgotten? When I reach for my wallet, perhaps it's that I just don't remember that it isn't with me. When I hesitate before the fudge, perhaps I've just lost track of the fact that it's not dogshit. When I step timidly on the walkway, perhaps I've just forgotten that it's solid. Perhaps. But I don't think this could be the full story. Rozin's subjects hesitate to eat the soup even if they are vividly and occurrently entertaining the thought "this is a completely sterile bedpan," fully, consciously and with explicit attention to its meaning and implications. I was rooting around in my bag for my wallet at the exact moment that I was vividly and occurrently entertaining the thought "I left my wallet in New Haven," fully, consciously, with explicit attention to its meaning and implications. And certainly the Hulapai Canyon steppers

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<sup>13</sup> For a more detailed discussion of self-deception, see Tamar Szabó Gendler, "Self Deception as Pretense," *Philosophical Perspectives: Mind*, 2008.

<sup>14</sup> Nor are these cases of what Eric Schwitzgebel ("In Between Believing," *The Philosophical Quarterly*, Vol. 51, No. 202 (2001), pp. 76-82) calls "in-between beliefs" – attitudes "that are not quite accurately describable as believing that P, nor quite accurately describable as failing to believe that P" (*op cit.*, 76) – cases such as "gradual forgetting, failure to think things through completely, and variability with context and mood" (*op cit.*, 78.) They are closer to some of the cases that Price calls "half-beliefs" (Price 1969 *op cit.*, 302-314); I discuss Price's examples in more detail below.

have not *forgotten* that the platform is safe, else they would do something a good deal more dramatic than hesitate before taking the next step.

But if it's not a case where the subject is deceiving others, or self-deceived, or uncertain, or forgetful, then why *is* stepping onto the Skywalk different from stepping onto the back porch? The reason, of course, is that each activates a different set of affective, cognitive and behavioral association-patterns. When the subject steps onto the wooden porch, input to her visual system affirms her explicit conscious belief that the surface is solid and secure; this sets into motion a train of associations and activates a number of motor routines. But since these motor routines coincide with those activated by her explicit intention to walk across a surface that she believes to be solid, there is no belief-behavior mismatch. When she steps onto the glass platform, by contrast, input to her visual system suggests that she is striding off the edge of a cliff. This visual input activates a set of affective response patterns (feelings of anxiety) and motor routines (muscle contractions associated with hesitation and retreat), and the visual-vestibular mismatch produces feelings of dizziness and discomfort, leading to additional activation of motor routines associated with hesitation and withdrawal<sup>15</sup>. These motor routines compete with those activated by her explicit intention to walk across a surface that she believes to be solid; the result is the belief-behavior mismatch adverted to above.

Nor do we need anything so dramatic to make the point. The same phenomenon occurs when I set my watch five minutes fast. The effectiveness of the strategy does not depend on my *forgetting* that the watch is inaccurate, or on my *doubting* that it's really 9:40 rather than 9:45, or my *deceiving* myself or others into thinking that it's five minutes later than it is. Rather, as with the glass-bottomed Skywalk, when I look at my watch, input to my visual system suggests that I am in a world where the time is  $t+5$ . This visual input activates a set of affective response patterns (feelings of urgency) and motor routines (tensing of the muscles, an overcoming of certain sorts of inertia), leading to the activation of behavior patterns that would not be triggered by my explicit, conscious, vivid, occurrent belief that it is actually only 9:40<sup>16</sup>.

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<sup>15</sup> For detailed discussion, see Brandt, 1999/2003, *op cit.*, Chapter 29 ("Visual Vertigo: Visual Control of Motion and Balance"), pp.409-440.

<sup>16</sup> Examples of such cases are manifold. I think, for example, that many of the cases of motivation by imagination discussed in David Velleman's "On the Aim of Belief," (in *The Possibility of Practical Reason* (NY: Oxford University Press, 1999) are actually cases of motivation by alief. Likewise, I think that many of the cases of heuristic-based reasoning discussed by Kahneman and Tversky are cases of decision on the basis of alief. (Cf. Kahneman, D., Slovic, P. & Tversky, A., eds. (1982). *Judgment under Uncertainty: Heuristics and Biases*. Cambridge, UK: Cambridge University Press. Kahneman, Daniel and Amos Tversky, A., eds. (2000). *Choices, Values and Frames*. Cambridge, UK: Cambridge University Press; cf. also Denes-Raj, Veronika and Seymour Epstein (1994). "Conflict Between Intuitive and Rational Processing: When People Behave Against Their Better Judgment." *Journal of Personality and Social Psychology*, 66:5, 819-829 and other work in the "dual processing" tradition.) I hope to explore these issues in more detail in my tentatively-titled "The Antecedence of Alief" (provisionally scheduled to appear in *Mind and Language*, 2008.)

The activation of these response patterns constitutes the rendering occurrent of what I hereby dub a *belief-discordant alief*. The alief has representational-affective-behavioral content that includes, in the case of the Skywalker, the visual appearance as of a cliff, the feeling of fear and the motor routine of retreat<sup>17</sup>. Similar appeal to belief-discordant alief can be made in each of the other cases. The visual appearance of the feces-shaped fudge renders occurrent a belief-discordant alief with the content: “dog-shit, disgusting, refuse-to-eat” – an alief that runs counter to the subject’s explicit belief that the object before her is composed of a substance that she considers delicious and appealing. The visual-motor input associated with throwing a dart at a representation of a loved one renders occurrent a belief-discordant alief with the content: “harmful action directed at beloved, dangerous and ill-advised, don’t-throw” – an alief that runs counter to the subject’s explicit belief that damaging a representation has no effects on the entity represented. The visual-motor input associated with handling cash rendered occurrent my belief-discordant alief with the content: “Bunch of money. Needs to go into a safe place. Activate wallet-retrieval motor routine now” – an alief that ran counter to my explicit belief that my wallet was in Connecticut while I was in Maryland. And so on.

## 1.2 A Provisional Characterization of Alief

In the remainder of the article, I argue for the importance of recognizing the existence of alief – so-called because *alief* is *associative*, *action-generating*, *affect-laden*, *arational*, *automatic*, *agnostic* with respect to its content, shared with *animals*, and developmentally and conceptually *antecedent* to other cognitive attitudes<sup>18</sup>. I will argue that any theory that helps itself to notions like belief, desire and pretense needs to include a notion like alief in order to make proper sense of a wide range of otherwise perplexing phenomena. Without such a notion, I will contend, either such phenomena remain overlooked or misdescribed, or they seem to mandate such a radical reconceptualization of the relation between cognition and behavior that traditional notions like belief seem quaint and inadequate. In short, I will argue that if you want to take seriously how human minds really work, and you want to save belief, then you need to make conceptual room for the notion of alief.

Because alief is a novel notion, introduced to make sense of a cluster of otherwise baffling cases, most of the paper will proceed by examination of specific examples. The heart of the paper lies in that discussion, and in the claim that consideration of such cases

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<sup>17</sup> Of course, stepping onto the wooden deck also renders occurrent an alief – indeed many aliefs – but since those aliefs accord with the subject’s explicit beliefs, we do not need to make appeal to them in order to explain her subsequent behavior.

<sup>18</sup> An alternative term might be *prelief*, but this expression is already spoken for (cf. J. Perner, S. Baker and D. Hutton, “Prelief: The Conceptual Origins of Belief and Pretence” in C. Lewis and P. Mitchell, eds. *Children’s Early Understanding of Mind*. Psychology Press, 1994.) And in any case, it lacks the resonance of the chosen term. One might also want to leave room for an analogous notion that bears the relation to desire that alief bears to belief. Had “prelief” been available, one might choose *presire*; since it is not, a suitable expression is *cesire*. (I leave open for the time being what sort of attitude *cesire* might be.)

brings to light issues of philosophical importance. At the same time, I will tentatively offer a more abstract characterization of the concept that I am introducing, so that the general claim that I making can be properly assessed.

The account that follows is explicitly provisional. I have little doubt that I have gotten some of the details wrong – and perhaps a good deal more than the details. But it seems to me better to make an honest mistake by attempting to be precise than to avoid error by refusing to be explicit. With that in mind, I offer the following tentative characterization of a paradigmatic alief:

A paradigmatic *alief* is a mental state with associatively-linked content that is representational, affective and behavioral, and that is activated – consciously or non-consciously – by features of the subject’s internal or ambient environment. Aliefs may be either occurrent or dispositional.

Nearly every clause in this characterization merits a quick remark or highlighting:

(1) Alief is a *mental state*...

Since I incline towards physicalism, this means that I think alief is also a physical state. But it is a special sort of physical state – one that occurs in the brain of a conscious subject. And it occurs in her brain as the result of her (or her genetic ancestors) having undergone certain sorts of experiences – experiences that result in the creation of clusters of associations with representational-affective-behavioral content.

(2) Alief is a mental *state*...

Alief is a state and not, say, an attitude. It is (I think) roughly what Aristotle would call a *hexis*.

(3) ...with *associatively-linked* content...

That is, a cluster of contents that tend to be co-activated. The contrast here is with discrete contents that fail to be linked through such an association.

(4) ...that is *representational, affective and behavioral*...

In paradigmatic cases, an activated alief has three sorts of components: (a) the representation of some object or concept or situation or circumstance, perhaps propositionally, perhaps non-propositionally, perhaps conceptually, perhaps non-conceptually; (b) the experience of some affective or emotional state<sup>19</sup>; (c) the readying of some motor routine.<sup>20</sup>

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<sup>19</sup> Psychological research on affect seems to suggest that our affective processing mechanisms are largely indifferent to the question of whether the scenario under consideration is real, imagined, supposed or denied. (To the extent that there is a

- (5) *Paradigmatic* alief is a mental state with content that is representational, affective and behavioral...

Notwithstanding the characterization offered in (4), I do not want to rule out the possibility of there being aliefs that involve the mental activation of a different sort of associative cluster. Perhaps there are cases where the activation occurs at a sufficiently low level to render the notion of representation inapplicable. Perhaps there are states that lack an obvious affective ingredient, or that do not include the clear activation of a motor routine, but that nonetheless sufficiently resemble our paradigm cases that we want to count them as aliefs. Perhaps there are cases where the most noticeable associations are not easily subsumed under the three categories offered – cases that primarily involve the heightening or dampening of certain sorts of attention, or the heightening or dampening of certain perceptual sensitivities.

- (6) Alief is a *mental state with...behavioral... content*.

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difference in the intensity of our responses, this can be largely traced to a difference in the intensity of the stimulus.) (Cf, e.g., the literature surveyed in Anthony R. Damasio, *Descartes' Error: Emotion, Reason and the Human Brain* (New York: Grosset/Putnam, 1995); Anthony R. Damasio, "The Feeling of What Happens: Body and Emotion in the Making of Consciousness (New York: Harcourt Brace, 1999).). For discussion of this in the context of fictional emotions, see Tamar Szabó Gendler & Karson Kovakovich, "Genuine Rational Fictional Emotions," in Michael Kiernan, ed., *Contemporary Debates in Aesthetics and the Philosophy of Art* (Oxford: Blackwell, 2005), pp. 241-53; Paul Harris, *The Work of the Imagination* (London: Blackwell, 2000); T. Schroeder and C. Matheson, "Imagination and Emotion" in S. Nichols (ed.) *The Architecture of the Imagination*. (New York: Oxford University Press, 2006) pp. 19-39.

<sup>20</sup> This gives rise to a potential worry: that alief is not a fundamental mental state, but instead an amalgam of several more primitive mental states: those of entertaining content R, experiencing affect A, and activating behavioral repertoire B. I reply: the fact that our current vocabulary requires us to describe alief-content using three separate terms doesn't show that the state is an amalgam of three others. Indeed, one might even argue that it is out of these more primitive association patterns ("Mama, warmth and comfort, purse lips to drink") that the less fundamental differentiated attitudes like belief, desire, and imagination are constructed. These are cognitive attitudes that rely on the notion of *representation* (and misrepresentation), a distinction between seeming and being, one that is largely absent from the more primitive state of alief. I hope to explore this issue in more detail in my tentatively-titled "The Antecedence of Alief" (provisionally scheduled to appear in *Mind and Language*, 2008.) (Thanks to Andy Egan for raising this concern.)

That is: alief does not involve the *execution* of these motor routines; it merely involves their *activation* (alief is a *mental state*.) At the same time, this activation renders it more likely that the routine will actually be performed<sup>21</sup>.

(7) Alief...content... [may be] activated ...*consciously or non-consciously*.

That is: a subject may (occurently) alieve something with or without being aware of being (put into) in such a state.

(8) Alief...content... [may be] activated ...*via features of the subject's internal or ambient environment*.

That is: the activation of an alief may be the result either of (conscious or non-conscious) (quasi-)perception, or of (conscious or non-conscious) non-perceptual thought<sup>22</sup>.

(9) Aliefs may be either *occurrent or dispositional*<sup>23</sup>.

A subject has an *occurrent alief* with representational-affective-behavioral content R-A-B when a cluster of dispositions to simultaneously entertain R-ish thoughts, experience A, and engage in B are activated – consciously or unconsciously – by

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<sup>21</sup> William James calls the principle that “the mere act of thinking about a behavior increase[s] the tendency to engage in that behavior” the *principle of ideomotor action*. He writes: “We may then lay it down for certain that every [mental] representation of a movement awakens in some degree the actual movement which is its object; and awakens it in a maximum degree whenever it is not kept from so doing by an antagonistic representation present simultaneously to the mind” (William James, *The Principles of Psychology* (1890). Available on-line at <http://psychclassics.yorku.ca/James/Principles/>). Or again: “Merely thinking about a behavior makes it more likely to occur, even if it is unintended...the mere act of thinking about a response, even when the thought involved is meant to help prevent the response, has the automatic effect of increasing the likelihood of that response” (John Bargh, Mark Chen & Lara Burrows, “The Automaticity of Social Behavior,” *Journal of Personality and Social Psychology*, Vol. 71, No. 2 (Aug., 1996), pg. 232, discussing work by Daniel Wegner).

<sup>22</sup> As John Bargh, Mark Chen and Lara Burrows write: “Recent research has shown that attitudes and other affective reactions can be triggered automatically by the mere presence of relevant objects and events...without conscious attention or awareness...[They] then exert their influence on thought and behavior” (Bargh, Chen & Burrows, 1996, *op cit.*, 230, citations omitted.)

<sup>23</sup> For discussion of this distinction in the case of belief, see H.H. Price, 1969, *op cit.*; David M. Armstrong, *Belief, Truth and Knowledge* (Cambridge: Cambridge, 1973); William G. Lycan, “Tacit Belief,” in R.J. Bogdan, ed., *Belief: Form, Content, and Function* (Oxford: Clarendon, 1986); John R. Searle *The Rediscovery of the Mind* (Cambridge, MA: MIT, 1992); and Robert Audi, “Dispositional Beliefs and Dispositions to Believe,” *Nous*, 28 (1994): 419-34. (References thanks to Eric Schwitzgebel 2006, *op cit.*)

some feature of the subject's internal or ambient environment. A subject has a *dispositional alief* with representational-affective-behavioral content R-A-B when there is some (potential) internal or external stimulus such that, were she to encounter it, would cause her to occurrently alieve R-A-B<sup>24</sup>.

(10) *Tentative* characterization...

Despite all that I have said in this section, I continue to waver on whether it would be better to think of the term as two-place (S alieves R) rather than four-place (S alieves R-A-B) relation. Had I opted for the former, I might have introduced the expression as follows:

S (occurrently) alieves R when S's R-related associations are activated and thereby rendered cognitively, affectively and behaviorally salient.

In most of the discussion that follows, I will make use of the expression in its four-place version, occasionally noting cases where the two-place version seems more appropriate.

### 1.3 Examples and Usage

How does the terminology just introduced help us with our opening examples? Consider, for example, Rozin's subject who shows reluctance to put a piece of vomit-shaped rubber in her mouth. When the visual experience as of vomit awakens in the subject the entertainment of vomit-related trains of thought, the affective experience of disgust, and the activation of motor routines associated with behaviors like retreat and avoidance, Rozin's subjects come to *occurrently alieve* the representational-affective-behavioral content: "Vomit! Disgusting! Stay away!"<sup>25</sup> And anyone whose inclinations to feel disgust and avoidance would be activated by encountering a vomit-like visual stimulus (a class which for evolutionary reasons is likely to include nearly everyone) *dispositionally alieves* what Rozin's subjects occurrently alieve.

Of course, occurrently *alieving* "Vomit! Disgusting! Stay away!" is fully compatible with occurrently *believing* that there is no vomit in one's vicinity. An occurrent alief whose content is P may well be accompanied by an occurrent belief whose content includes not-P. Indeed, it is precisely when they are belief-discordant that aliefs tend to be evident to us. It is because Rozin's hesitating subjects occurrently believe something like: "the object in front of me is made of sterilized rubber and poses no risk to my health" that we need to explain their reluctance in terms of their alief. (Actually, I think that alief plays a major role in explaining behavior even when it is belief-

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<sup>24</sup> Obviously, there need to be some restrictions on what this causal relation looks like: the connection must be non-deviant, and the encounter must not in itself bring the dispositional alief into existence.

<sup>25</sup> In fact it is likely that you right now – prompted by the associations set into play through imagining such a case – occurrently alieve something with similar (though decidedly milder) content

concordant. But since the most convincing cases are those involving belief-discordant alief, I will focus primarily on those in making my initial argument. )

One final remark concerning usage. Given that I have opted for the four-place characterization, I need to say that Rozin's subjects occurrently alieve something like "Vomit! Disgusting! Stay away!" while believing that there is no vomit in their vicinity. Had I opted for the two-place characterization, I might have said instead: Rozin's subjects believe that that the object before them is a piece of rubber, but they alieve that it is a mound of vomit. This usage seems particularly tempting in cases where the associational clusters are awakened by the presence of a particular object or situation, and where the associations awakened tend to be similar across individuals. Indeed, there is a natural tendency to loosen usage yet further, saying, for example, that visitors to the Skywalk believe that the glass surface is safe, but alieve that it is dangerous; that Rozin's dart-throwers believe that damaging the picture will not harm their loved one, but alieve that it will; that Rozin's shirt-avoiders believe that their enemy's laundered chemise is utterly harmless, but alieve that wearing it is ill-advised; that Charles believes that he is at no risk from the slime, but alieves that it is about to attack him. And so on. I consider it a live possibility that careful reflection on natural patterns of usage will reveal that I have made the wrong decision in opting for the four-place characterization. But for the time being, I will explore the advantages of employing the term in the way that I have characterized it thus far.

This ends the official introduction of the notion of alief. In the remainder of the paper, I will do three things. In section 2, I will offer some brief additional general remarks about the relation between the state of alief and propositional attitudes such as belief, desire and pretense. In section 3, I will offer a series of examples – drawn from recent empirical work in psychology – that played a central role in convincing me that appeal to the notion of alief is crucial if we wish to hold on to a notion like belief that relates to action in anything like the way philosophers have traditionally assumed. In section 4, I will close with a few speculative remarks about ways that appeal to the notion of alief may help us to make sense of two apparently unrelated phenomena: the tendency of examples to affect us in ways that abstract descriptions do not; and the role of habit in Aristotelian ethics.

## **2. Alief and Other Attitudes**

### **2.1 Alief, Belief and Imagination**

Why can't alief be assimilated to one of the more familiar cognitive attitudes – belief, for example, or imagining? There are a number of reasons that I think that it cannot, which I will present in the remainder of this section.

Alief differs from both imagining and believing along certain crucial dimensions. If I believe that P, I believe that it is true that P, and my belief is non-defective only if, as a matter of fact, it is true that P. If I suppose or imagine or pretend that P, I suppose or imagine or pretend that it is true that P, but the actual truth or falsity of P is explicitly irrelevant my successfully supposing or imagining or pretending it to be. Both classes of states, then, involve what David Velleman helpfully calls *accepting* a proposition: to

believe or imagine or suppose or pretend that P is to regard P as true (in some way<sup>26</sup>.) But though they coincide in this dimension, they differ in another: whereas belief is *reality-sensitive*, supposition and imagination and pretense are explicitly *reality-insensitive*. It is this latter disparity that is typically taken to underlie one important difference between belief on the one hand, and supposition, imagination and pretense on the other: whereas (modulo certain complications) we can imagine pretty much any content, we can (without acrobatics) believe only what we take to be true.

How does alief fare along these dimensions? Strictly speaking, it lies in another plane altogether. Believing and supposing and imagining and pretending are all (at least on certain uses of the expressions in question) propositional attitudes, whereas alieving (as I am provisionally using the expression) is not. But we can, by employing the “loose” usage adverted to above, make reasonable sense of the notion of alieving that P, and we can ask – keeping in mind that our usage is loose – whether alieving that P involves accepting that P. We will need to be a bit more careful when we ask whether alief is reality-sensitive or reality-insensitive, and whether we are in a position to alieve at will. But again, we will be able to draw certain fairly sharp contrasts between alief and other attitudes.

Let’s begin with the question of acceptance. Does alieving that P involve accepting that P? (That is, does being an alief state with the content R-A-B involve regarding it as true in some way that R is part of one’s real or imagined environment<sup>27</sup>?) Interestingly, the answer to this question turns out to be: *no*, and the way in which it turns out to be *no* reveals something important about the nature of alief. Unlike belief or pretense or imagination or supposition, alief does not involve acceptance. Though the point can be made on conceptual grounds alone, it is helpful to begin with a specific example.

In a 1986 study by Paul Rozin, subjects saw “sugar poured into two bottles, and then applied labels of *sugar* and *sodium cyanide*, each to one of the bottles, making their own choice.” Despite having applied the labels themselves, subjects “showed a reluctance to consume sugar from the cyanide labeled bottle.”<sup>28</sup> So far, the case is a familiar one: while

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<sup>26</sup> He writes: “Regarding-as-true [is]...involved in... believing...[in] supposing or assuming, and in propositional imagining as well...To imagine that *p* is to regard *p* as describing how things are...Imagining is therefore a way of regarding a proposition as true—or, to introduce a term, a way of accepting a proposition” (David J. Velleman, “On the Aim of Belief,” in *The Possibility of Practical Reason* (NY: Oxford University Press, 2000), pg. 250.) Note that Velleman’s use of this term is somewhat different than that of L. Jonathan Cohen (*An Essay on Belief and Acceptance*. (Oxford: Clarendon Press) 1992) and Michael Bratman (“Practical Reasoning and Acceptance in a Context” as reprinted in Michael Bratman, *Faces of Intention*, (Cambridge: Cambridge,1999) pp.15-34).

<sup>27</sup> I am here skating over the difficult question of whether there is a uniform rule for stating what one (loosely) alieves when one (strictly) alieves R-A-B.

<sup>28</sup> Paul Rozin, Maureen Markwith, and Bonnie Ross, “The Sympathetic Magical Law of Similarity, Nominal Realism, and Neglect of Negatives in Response to Negative Labels,” *Psychological Science*, Vol. 1, No. 6 (Nov., 1990), pg. 383, reporting results from Paul Rozin and Carol J. Nemeroff “The Laws of Sympathetic Magic: A Psychological Analysis of Similarity and Contagion,” in J. Stigler, G. Herdt and R.A. Schweder, eds.,

Rozin's subjects believed that both bottles contained sugar, consideration of the second rendered occurrent an alief state with the content "cyanide, dangerous, avoid" associated with the second bottle – and this belief-discordant alief played a role in governing their behavior<sup>29</sup>. Up to this point, there is no reason to posit a case of alief without acceptance: in alieving "cyanide, dangerous, avoid" the subject is regarding as true (perhaps in imagination) that the bottle contains cyanide.

The interesting case comes from a follow-up study four years later. In that study:

Subjects faced two empty brown 500 ml bottles. In the presence of the subject, the experimenter opened a container of "Domino" cane sugar, and poured some into each bottle, so that about ¼ of each bottle was filled. The experimenter informed subjects that she was pouring sugar into each bottle. The experimenter then presented the subject with two typed labels. One had *not sodium cyanide, not poison* written on it, with a red skull and cross bones preceded by the word *not*. The other label had *sucrose, table sugar* typed on it. The subject was invited to put one label on each bottle, in any way he or she chose. The experimenter then set out two different colored plastic cups, one in front of each bottle, and poured unsweetened red (tropical punch) 'Kool-Aid' from a glass pitcher into both, until they were about half full. Now, using separate, new plastic spoons for each bottle, the experimenter put a half spoonful of powder from one sugar bottle into the glass standing in front of that bottle, and repeated this with the other glass for the other sugar bottle.<sup>30</sup>

Subjects then faced the choice of drinking from the cup containing the sugar that had been labeled "sucrose, table sugar" or from the cup containing the sugar that had been labeled "not sodium cyanide, not poison." Though the effect was somewhat less pronounced than in the original study, subjects showed considerable reluctance to drink from the latter.

Here again, while Rozin's subjects believed that both bottles contained sugar, consideration of the second bottle rendered occurrent an alief state with the content "cyanide, dangerous, avoid." But in this case, the label read precisely the opposite: it "had *not sodium cyanide, not poison* written on it, with a red skull and cross bones preceded by the word *not*." So, although these subjects were in an alief state with the content "cyanide, dangerous, avoid," the content they were prompted to imagine was exactly the opposite. They did *not* – as the acceptance condition requires – regard it as true in some way that cyanide is to be found in the vicinity; instead, it was the negated presence of the word "cyanide" that rendered occurrent their cyanide-associated aliefs.

Can we explain this with the resources of only belief and imagining? Clearly, belief cannot do the work: it is implausible to suggest that the subject believed that the bottle

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*Cultural Psychology: Essays on Comparative Human Development* (Cambridge, England: Cambridge University Press), pp. 205-232.

<sup>29</sup> As Rozin reports, subjects "knew this response was foolish, but felt the reluctance anyway. This suggests a 'low-level' gut feeling, that can influence behavior in spite of countering cognitions" (Rozin et al 1990, *op cit.*, 383.)

<sup>30</sup> Rozin et al 1990, *op cit.*

she had labeled “not sodium cyanide, not poison” contained cyanide. But what about imagining? Can’t we say that the source of the subject’s hesitation is that she first imagines that the bottle does contain poison, and that she then somehow negates this, and that this enables her (perhaps in some special Sartrean fashion) to imagine the absence of poison<sup>31</sup>?

Perhaps this is indeed what happens. But how is this supposed to explain the subject’s hesitancy to drink the liquid? Is the reason for her hesitancy supposed to be that she *had been imagining* that the bottle contained cyanide, though now she is not – and that what she imagined *in the past* (though fails to imagine now) somehow explains her action *at present*? Or that her current imagining that the bottle does not contain cyanide somehow contains within it (in not-fully-*aufgehoben* form) the antithetical imagining that the bottle does contain cyanide? And that somehow this negated semi-imagined content – content that she has, throughout the entire process, been fully consciously aware of explicitly disbelieving – sneaks into the control center for her motor routines and causes her to hesitate in front of the kool-aid?

Really? Is this really what you think imagining is like? Or have you just described a case of belief-discordant (and imagination-discordant) alief: a case where the subject believes that the bottle does not contain cyanide, imagines that the bottle does not contain cyanide, yet has an occurrent alief with the content: cyanide, dangerous, avoid? Isn’t it a lot more natural to describe this as a case of alief-motivated behavior than as a case of motivation by (past or negated) imagination? And if it is alief that is doing the explanatory work here, isn’t it plausible that alief is doing the explanatory work in the cases above as well?

For those unconvinced by examples or lines of rhetorical questioning, there is a more general argument for why alief can occur without acceptance. At its core, alief involves the activation of an associative chain – and this is something that can happen regardless of the attitude that one bears to the content activating the associations. (Indeed, since alief may be activated non-consciously, one may bear towards that content no attitude at all.) This means that alief contexts are what we might call *hyperopaque*: they do not permit *salva veritate* substitution even of expressions that the subject explicitly recognizes to be coreferential. Even if I believe that the phrases “not poison” and “safe to consume” pick out coextensive classes of substances, even if I focus on that belief and hold it vividly before my mind, even if the synonymy of these two terms is crucial to my views about analyticity, still the aliefs activated by the two expressions may be wildly dissimilar<sup>32</sup>. Imagination, by contrast, is not hyperopaque in this way. If I explicitly recognize that P and Q are synonymous, and I imagine P while focusing explicitly on the co-referentiality of P and Q, then in imagining P I imagine Q. Alief just isn’t imagination.

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<sup>31</sup> As in the following joke. Jean-Paul Sartre was sitting in a cafe when a waitress approached him: “Can I get you something to drink, Monsieur Sartre?” Sartre replied, “Yes, I’d like a cup of coffee with sugar, but no cream.” Nodding agreement, the waitress walked off to fill the order, returning a few minutes later. “I’m sorry, Monsieur Sartre,” she said, “we are all out of cream – would you like your coffee with no milk instead?” (Taken with slight variation from <http://www.workjoke.com/projoke70.htm>)

<sup>32</sup> This feature of alief will turn out to be important in the discussion in section 4 below.

The same features that explain alief's hyperopacity and the possibility of alief without acceptance explain why we are not in a position to alieve at will. If I believe that P, and subsequently learn that not-P, I will revise my belief. If I imagine that P, and subsequently learn that not-P, I will make no such revision. But what if I (loosely speaking) alieve that P, and subsequently learn that not-P? What happens then? At first glance, alief seems to behave like imagination and its kin: after all, the cases above are all cases where the subject truly and consciously believes P while actively alieving not-P. But this doesn't quite capture the full story. If I believe that P and imagine that not-P, I am violating no norms. But if I believe that P and alieve that not-P, something is amiss. Learning that not-P may not cause me to cease alieving that P – but if it doesn't, then I'm violating certain norms of cognitive-behavioral coherence. No such criticism is possible in the analogous case of imagining.

If action is supposed to be responsive to reality, then the well-functioning aliever is one whose aliefs and beliefs largely coincide (or one whose ability to suppress contrary impulse is strong<sup>33</sup>.) But alief just isn't reality-sensitive in the way belief is. Its content doesn't track (one's considered impression of) the world. At the same time, it's not reality-insensitive in the way that imagination is. For while we can (for the most part) imagine at will, we do not seem to have the same sort of freedom in alief<sup>34</sup>. We may be relatively unconstrained in which of our dispositional aliefs we render occurrent – at least in the case of those aliefs that can be rendered occurrent through contemplation alone – but we are far from unconstrained in which dispositional aliefs we have in the first place. Our dispositional aliefs depend on the associational patterns that have been laid down in our minds as the result of our experiences and those of our genetic ancestors. We are not in a position to generate such patterns of association merely at will.

So it looks like, just as it is (something close to) *conceptually* impossible to believe at will, it is *practically* impossible to alieve at will. Of course, in both cases we might use all sorts of tricks to bring ourselves to be in a certain sort of mental state – “roundabout routes” involving processes that we ourselves deliberately initiate<sup>35</sup>. But if we use such tricks to cultivate beliefs, we need to cover our tracks<sup>36</sup>; if we use them to cultivate aliefs, we can do so under conditions of full disclosure.

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<sup>33</sup> As William James writes: “To make our nervous system our ally instead of our enemy . . . we must make automatic and habitual, as early as possible, as many useful actions as we can.” (William James, 1890, *op cit.*)

<sup>34</sup> It is the reality-sensitivity of belief that is typically taken to explain the impossibility of believing at will. Cf. Bernard Williams, “Deciding to Believe.” Reprinted with new pagination in Bernard Williams, *Problems of the Self* (Cambridge: Cambridge University Press, 1970/1973), pp. 136-151 for a classic articulation of this view. (Thanks to Ted Sider for suggesting that I consider this issue in the context of alief.)

<sup>35</sup> Cf. Williams 1970/1973, *op cit.*; for instructions, see Pascal. (E.g. Blaise Pascal, “The Wager” from *Pensées*. Reprinted in (Eds.) Tamar Szabó Gendler, Susanna Siegel, and Steven M. Cahn, *The Elements of Philosophy: Readings from Past and Present*. New York: Oxford University Press, 2007).

<sup>36</sup> In addition to Williams 1970/1973 *op cit.*, see Barbara Winters, “Believing at Will,” *The Journal of Philosophy*, Vol. 76, No. 5 (1979), pp. 243-256; Jonathan Bennett, “Why is Belief Involuntary?” *Analysis*, Vol. 50, No. 2 (March 1990), pp. 87-107; cf. J.T. Cook

This concludes the brief survey contrasting alief with attitudes like belief and imagining. We now turn to the second issue of this section, the relation between these attitudes, and the bringing about of behavior. I will suggest that alief's special structure – its being a mental state with affective, representational and behavioral content that is activated by features of the environment – means that it poses problems for behavioral accounts of belief that are especially severe.

## 2.2 Alief and Behavior

According to what David Velleman has dubbed the “purely motivational view of belief,” “all that's necessary for an attitude to qualify as a belief is that it disposes the subject to behave in certain ways that would promote the satisfaction of his desires if its content were true. An attitude's tendency to cause behavioral output is thus conceived as sufficient to make it a belief”<sup>37</sup> Or, again: to believe that *P* is to be disposed to act in ways that would tend to satisfy one's desires, whatever they are, in a world in which *P* (together with one's other beliefs) were true.<sup>38</sup>

There are at least three sorts of marginal cases where this sort of analysis seems to go awry – two that pose problems for necessity, the third for sufficiency. The first sort are cases where (arguably) a subject believes that *P*, but where this belief does not bring with it a disposition to act in *P*-concordant ways because of some feature of the subject. (Think, for example, of an immutable omniscient contemplative God, a permanent paralytic, a subject built to act with utter randomness, a character under a unbreakable spell that causes him to act contrary to his first-order intentions, a hopeless akratic, or an agent who aims always to deceive.) The second are cases where (arguably) a subject believes that *P*, but where this belief does not bring with it a disposition to act in *P*-concordant ways because the belief itself has no behavioral implications. (Think, for example, of a subject who believes in causally-inert invisible goblins, or of a subject who believes that she inhabits a space that is distorted but Euclidian (rather than undistorted

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“Deciding to Believe without Self-Deception,” *The Journal of Philosophy*, Vol. 84, No. 8 (1987), pp. 441-446.

<sup>37</sup> (Velleman 2000 *op cit.*, 255) Velleman rejects this view, for reasons related to the ones discussed here, but notes that the view has been widely endorsed, by philosophers as diverse as R. B. Braithwaite, “The Nature of Believing,” *Proceedings of the Aristotelian Society*, Vol. 33, (1932-1933), pp. 129-146; David Armstrong, *Belief, Truth and Knowledge* (Cambridge: Cambridge University Press, 1973); W. V. Quine & J. S. Ullian, *The Web of Belief*, second edition (New York: Random House, 1978); Robert Stalnaker, *Inquiry*. (Cambridge, MA: MIT Press, 1984); Lynn Rudder Baker, *Explaining Attitudes: A Practical Approach to the Mind* (Cambridge: Cambridge University Press, 1995); and Daniel Dennett, “Intentional Systems.” *Journal of Philosophy* 68, no. 4 (1971), 87–106, and “Do Animals Have Beliefs?” in Herbert Roitblat, (Ed.), *Comparative Approaches to Cognitive Sciences*, MIT Press, 1995.

<sup>38</sup> Stalnaker, 1984, *op cit.*, 15; cf. Dennett, 1971 *op cit.*.

but non-Euclidian<sup>39</sup>.) The third are cases where, although the subject is disposed to act in the requisite ways, she nonetheless fails to believe that P because she lacks beliefs (either locally or globally.) (Think, for example, of a super-stoic who acts and has desires but always withholds assent, or of a hyper-Van Fraassenite who extends his constructivist commitments to the realm of the observable.)

Five-finger exercises that they are, these marginal cases don't show that there is anything deeply wrong about the motivational view. All that's needed to avoid them are few tweaks to the notion of disposition and a reiteration of the irrelevance of mental states. The big guns come loaded with a different sort of ammunition: not with the suggestion that the view is wrong in certain far-fetched contrived cases, but with the assertion that it is problematic through and through because a wide range of attitudes – among them acceptance (Bratman), imagination (Currie, Velleman) and pretense (Doggett & Egan, Velleman) – may motivate P-concordant behavior<sup>40</sup>.

Even here, I think there is room for the defender of a neo-behaviorist account. Restrict yourself to non-deviant subjects, and retreat, say, to betting behavior or high-stakes situations. Once again, you can save the letter of the view that belief and behavior go hand in hand.

To some extent, this strategy works for alief as well. (If it didn't, it would be hard to maintain that the paradigmatic cases above are ones in which the subject believes that P but alieves that not-P.) H. H. Price, whose underappreciated discussion of related examples deserves more detailed attention than I have space for here, employs such a strategy. Defending his account of a case of what he calls “half-belief,” Price writes:

It might be suggested that the man who avoids walking under ladders does just *believe* (however unreasonably) that walking under ladders has bad consequences...After all, these people act as if they believed, and they often go to considerable trouble in consequence. They step off the pavement into a muddy street or even into a street full of traffic, to avoid the ladder...Moreover they show the emotional symptoms of belief, for example, discomfort or unrest if there is...no way of avoiding the ladder...Of course, these people will not admit that they...believe these propositions; not even to themselves, and still less in public...But one may hold beliefs...without admitting to oneself that one holds them.<sup>41</sup>

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<sup>39</sup> If you are worried about verbal reports counting as behavior, add the caveat that it is also their fervent wish never to speak about this particular belief.

<sup>40</sup> See Michael E. Bratman (1992), “Practical Reasoning and Acceptance in a Context,” *op cit*; Gregory Currie (2002) “XI—Imagination as Motivation” *Proceedings of the Aristotelian Society* 102 (1), 201–216; David Velleman “The Aim of Belief” *op cit*; Andy Egan and Tyler Doggett, “Wanting Things You Don’t Want,” *Philosophers’ Imprint*, forthcoming. For my own take on these issues, see “On the Relation between Pretense and Belief” in *Imagination, Philosophy, and the Arts*, Matthew Kieran and Dominic McIver Lopes eds., (London: Routledge, 2003); “Imaginary Contagion,” *Metaphilosophy*, Vol. 37, No. 2 (April, 2006); and “Self-Deception as Pretense” *op cit*.

<sup>41</sup> H.H. Price 1969, *op cit*, 310.

Price rejects this account – a proposal, he suggests, to “dispense with the concept of half-belief altogether” – because, while

...no doubt there are some who do wholly believe that their chances of suffering misfortunes are increased if they walk under a ladder...I do not think that this is the usual situation...the ordinary person who avoids walking under ladders does not seriously believe that walking under ladders does any harm, or at any rate he does not believe it with complete seriousness. We notice that if it is very important for him to get to his destination quickly (for example, if he will miss a train if he does not hurry) he does not seem to mind the ladder at all. He sees it – there it is, in front of his nose – but he goes straight under it without hesitation. He himself, if he thinks about his experience afterwards, will be able to notice that he felt no qualms at all about doing the thing which he ordinarily avoids so carefully.<sup>42</sup>

“A half-belief,” he concludes, is “something which is ‘thrown-off’ when circumstances alter... [I]n some contexts to which the proposition is relevant one is in a belief-like state about it, but in other contexts to which it is equally relevant one disbelieves it or disregards it.” This is so even though “in both sorts of contexts, the evidence for the proposition...remains the same, and the probability of the proposition is as great, or as little, as it was before.”<sup>43</sup>

I agree with Price that the ladder case might well proceed as he describes. But I’m not so clear that his analysis will work for the cases presented on the opening pages. Suppose it is very important for me to get to my train, but that the station lies across a chasm fifty feet wide and 1000 feet deep, bridged by a transparent glass walkway. Even if I “will miss a train if [I do] not hurry,” I don’t think it’s true that I would “not seem to mind the [apparent chasm] at all,” crossing it “without hesitation” even though the visual stimulus is “right under my nose.” I very much doubt that in “think[ing] about [my] experience afterwards,” I would “be able to notice that [I] felt no qualms at all about doing the thing which [I] ordinarily avoid so carefully.” (Indeed, in my own case, I’m not sure I could make it across the bridge at all without closing my eyes -- which would be, of course, to suspend the occurrent alief by suspending the feature that activates it.)

Suppose we make the case even higher stakes. My child is on the other side of the chasm, and I need desperately to reach him to prevent some dreadful occurrence. Here I suspect I could make it across the bridge – eyes open – to perform the rescue: after all, I believe that he is in danger, and I believe that the bridge is safe. But even here, the hesitation would not fully dissipate. And not because I doubt in any way that the surface is a safe one: I see others walking across it and am about to do so myself. I am 100% certain that I will make it safely – as certain as I would be if the chasm were only 5 feet deep, as certain as I would be if the bridge were made of opaque material. Still, I hesitate; still, I shudder. My behavior reflects something other than my belief. It is my alief in action.

The reason Price’s explanation fails for our paradigm cases is that the mechanisms they exploit are not under our rational control. We are not in a position to

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<sup>42</sup> *Op cit.*, 310-311.

<sup>43</sup> *Op cit.*, 312.

“throw them off...when circumstances alter.” This is not because we are in doubt about what we believe. There is no question in my mind that the fudge has not been transformed into dog feces; there are few things of which I am more certain than that hurling darts at a photo of my baby will do no harm to the baby itself. Still – even in high-stakes situations – there is a hesitation to my belief-concordant actions<sup>44</sup>.

The problem with the belief-behavior picture is that at its heart lies a faulty picture of what makes us act<sup>45</sup>. I do not doubt that the account could be made extensionally adequate: limit the cases that count as “behavior” in the relevant sense, fuss with the notion of disposition, make the fate of the world depend on the subject’s actions. Belief and behavior can be made to match up, so long as one is free to make relevant alterations from both directions. But deep down, the account misses something very important about human behavior. This is something to which both Aristotle and Hume were especially well attuned (I will return to this in the final section), and which contemporary psychology has begun to explore in detail. It is to cases from the latter domain that I turn in the next section.

### 3. Automaticity

Recent work on “automaticity” has produced a remarkable series of widely-publicized results suggesting that alief plays a larger role in behavior than many had thought. Indeed, one of the main projects in social psychology over the last two decades has been to document systematically the ways that behavior-inducing mental representations may be activated by awakening the associative patterns that have come to be linked with some object, stereotype, protocol or mental image<sup>46</sup>. A few examples will suffice for giving a sense of their flavor. But it is important for the reader to realize that this is a massive research program and that while it may be possible to come up with alternative explanations for one or another of the examples I discuss, the basic

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<sup>44</sup> Of course, I may become accustomed to performing the alief-averse action, and my hesitation may dissipate. But this is a way of *changing* alief (by creating new patterns of representational-affective-behavioral association patterns) – not a way of “throwing it off.”

<sup>45</sup> A nice recent defense of such an account can be found in Eric Funkhouser & Shannon Spaulding’s, “Imagination and Other Scripts,” where they defend what they call the “Belief-Desire Thesis: For every intentional action, there is a belief-desire pair that both causes and rationalizes that intentional action” (Funkhouser & Spaulding, *op cit.*, manuscript 2).

<sup>46</sup> I discuss these and related cases in greater detail in Gendler 2006, *op cit.*; some of the material in this section draws on the discussion in that essay. In the earlier paper, I suggested that these cases were examples of a phenomenon that I called “imaginary contagion.” I now think that the phenomenon that I identified there is a special case of an alief-like phenomenon. Readers interested in additional examples of these sorts of cases may find them in that essay, and in the works cited therein.

phenomenon I am describing here has been established beyond any reasonable doubt in hundreds of published studies<sup>47</sup>.

Much of the work in this areas has been pioneered by John Bargh and his colleagues, who, in a typical task present subjects with some sort of association-inducing stimulus. This is often a “scrambled sentence” task – a standard technique in psychology used to “prime” particular concepts<sup>48</sup>. In one such study, subjects faced one of three conditions: either the collections of words from which they were asked to form sentences contained only neutral terms, or they also contained a number of terms associated either with politeness (e.g. respect, honor, considerate, patiently, courteous) or rudeness (e.g. aggressively, bother, disturb, intrude, brazen). Subjects were instructed that, after completing the task, they should come out into the hallway and find the experimenter, who would then give them the next task to complete. When they emerged, they found the experimenter engaged in a conversation with another “subject” (actually a confederate), a conversation that continued either until the first subject interrupted the conversation, or until 10 minutes had passed.

The action-patterns of the three groups differed markedly. Of those who had been primed with the rudeness concept, most interrupted in the allotted time; those in the neutral condition interrupted in less than half of the cases; whereas those in the polite condition interrupted in almost none of the cases.<sup>49</sup>

One *might* maintain that the various groups differ in their beliefs, or that they differ in their desires, or that the subject’s interruption of the experimenter is not an action of the sort that belief-desire explanations are designed to cover. I have no doubt

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<sup>47</sup> I am gliding over many important distinctions about exactly which sorts of primes tend to generate which sorts of responses: whether they tend to elicit assimilation or contrast, whether they involve goals or non-goals, etc. In a full-fledged account of alief, it will be important to address these subtleties in proper detail.

<sup>48</sup> In such a task, subjects are presented with a list containing a number of five-word sets, and asked to come up with a sentence for each set that contains at least four of the designated words. So, for example, one such set might contain the words “snow, roof, cat, cheerful, red” and the subject might write: “The cat stood in the snow atop the red roof.” For original presentation of the scrambled sentence task see Thomas K. Srull & Robert S. Wyer, “The Role of Category Accessibility in the Interpretation of Information about Persons,” *Journal of Personality and Social Psychology*, Vol. 37, No. 10 (1979), pp. 1660-1672, and “Category Accessibility and Social Perception,” *Journal of Personality and Social Psychology*, Vol. 38, No. 6 (1980), pp. 841-856. For discussion of priming see (concept) L. H. Storms, “Apparent Backward Association: A Situational Effect,” *Journal of Experimental Psychology* 55 (1958), 390-395; (term) S.J. Segal and C.N. Cofer, “The Effect of Recency and Recall on Word Association,” *The American Psychologist*, Vol. 15 ((1960), pg. 451; (discussion) J. H. Neely, “Semantic Priming and Retrieval from Lexical Memory” *Journal of Experimental Psychology: General* 106 (1997), 226-254; (review) J.P. Toth & E.M. Reingold, “Beyond perception: Conceptual contributions to unconscious influences of memory,” in G. Underwood (Ed.), *Implicit cognition* (pp. 41-84). Oxford: Oxford University Press, 1996.

<sup>49</sup> John Bargh, Mark Chen, and Lara Burrows, “The Automaticity of Social Behavior” *op cit*, pg. 236.

that such a story could be told. One might say, for instance, that all three groups share the same desire – to interrupt the experimenter only if doing so would be socially unacceptable – but that they differ in their belief about whether it is. (Note that this would involve attributing to the subjects an odd sort of belief -- one that is formed as the result of mechanisms that are not themselves sensitive to any subject-independent truth attitudes.<sup>50</sup>) Alternatively, one might try to explain the phenomenon in terms of imagination or pretense. Perhaps engaging in the scrambled sentence task causes the subjects to fantasize that the experimenter is rude, or polite – or that they themselves are rude or polite – and, carried away by this fantasy, perhaps they begin to act as if it were true. Perhaps<sup>51</sup>. But why would engaging in the scrambled sentence task cause the subjects to engage in this sort of fantasy (unless, of course, the explanation runs through something like the notion of alief)? And even if we have an answer to that question, why would engaging in such a fantasy make them act as if it were true (again, unless the explanation runs through something like alief)?

Rather, what Bargh and his colleagues have done, I want to argue, is to induce in their different sets of subjects different sorts of occurrent alief. As the result of the pre- or quasi-conscious activation of the cluster of affective tendencies and behavioral repertoires associated with the notion of rudeness, subjects in the third condition find themselves more likely to act in ways that they would act in the presence of rudeness; as the result of the pre- or quasi-conscious activation of the cluster of affective tendencies and behavioral repertoires associated with the notion of politeness, subjects in the second

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<sup>50</sup> For either there is no fact of the matter whether interruption in such circumstances is socially acceptable (in which case there is no truth for the mechanisms to be sensitive to), or there is a fact of the matter, which is either dependent on or independent of the subject's attitudes in the situation. If it is independent of those, then the belief-forming mechanism is clearly truth-insensitive, for the three groups using the same mechanism respond in three different ways to the same scenario. (See next note.) And if it is dependent on those attitudes – say: interrupting is socially unacceptable iff the interrupter takes it to be socially unacceptable – then the belief-desire explanation to which we are appealing becomes close to vacuous. (This is not to deny that there are all sort of interesting instances of self-fulfilling beliefs and assessment-dependent attitudes. But subliminal primes altering perceptions of rudeness are hardly instances of the *cogito*.)

<sup>51</sup> Actually, there is experimental evidence suggesting that the behavior is not the result of any sort of conscious process. “To assess whether the priming manipulation had resulted in different perception of the experimenter’s politeness, Bargh, Chen, and Burrows, 1996 (*Op cit.*, 235.) examined the ratings participants made on” a scale where they were explicitly asked to rate the experimenter’s degree of politeness. They found “no reliable difference in the ratings made in the three priming conditions” – all three groups ranked him as neither especially polite nor especially impolite. They continue: the “fact that the behavioral measure showed quite strong effects of the priming manipulation, whereas the effect on the judgment measurement was nonexistent, argues against the...interpretation...that the priming manipulation affected consciously made judgments about the experimenter, which then determined behavioral responses to him. The results instead point to a direct effect on behavior that is not mediated by conscious perceptual or judgment processes” (Bargh, Chen, & Burrows, 1996, *op cit.*, 235).

condition find themselves more likely to act in ways that they would act in the presence of politeness<sup>52</sup>.

Nor is this an isolated anomaly. Example after example reveals the subtle role of alief in guiding behavior. In another widely-publicized Bargh experiment, subjects performed a scrambled sentence task in which one group confronted sentences containing terms associated with the elderly (e.g. wrinkle, bingo, and retired), whereas the second group's unscrambling task involved only neutral terms. After completing the experiment, subjects were surreptitiously timed as they walked down the hall to the elevator. Those primed with the elderly stereotype took significantly longer to walk to the elevator than those who had not been so primed.<sup>53</sup>

It seems implausible (to say the least) that Bargh's elderly-primed subjects *believed* that they had suddenly turned into a bunch of geezers who needed to dawdle lest they overtax themselves. It is slightly less absurd to suggest that Bargh's elderly-primed subjects *imagined* themselves as old – or imagined someone else who is old – and, having so imagined, began to act in some ways as if the imagined content should govern their own actual behavior. But even this is a rather far-fetched explanation<sup>54</sup>. (Among other things, in well-designed scrambled sentence tasks, subjects remain unconscious of the fact that a particular notion is being primed<sup>55</sup>.) Rather, I want to suggest, Bargh's elderly-primed subjects *alieved* something like: “Old. Tired. Be careful walking to that elevator...” – and the activation of this behavioral repertoire made them more likely to act in accord with it.

Additional research within this paradigm has reinforced and expanded the lessons of these early experiments. So, for example, showing suitably primed subjects a picture of a library leads them to speak in quieter tones; showing them an image of an elegant dining room – or exposing them to the smell of soap -- leads them to eat more neatly.<sup>56</sup> Subliminal visual priming with an image of an African-featured face leads subjects to respond more aggressively to certain sorts of provocation<sup>57</sup>. Priming subjects with

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<sup>52</sup> (Bargh, Chen & Burrows, 1996, *op cit.*) Of course, subjects in the first (neutral) condition also have various aliefs rendered occurrent, but none that systematically affects the likelihood of their interrupting the experimenter; they are like the visually-induced aliefs associated with stepping onto the back porch (as opposed to the Skywalker); they are present, but we do not need to appeal to them to explain otherwise discordant behavior.

<sup>53</sup> For discussion of how these results be reconciled with neuropsychological evidence suggesting that simple motor actions are impervious to high-level mental processes such as stereotype activation, see Jane F. Banfield, Louise F. Pendry, Avril J. Mewse, and Martin G. Edwards, “The Effects of an Elderly Stereotype Prime on Reaching and Grasping Actions,” *Social Cognition*, Vol. 21, No. 4 (Aug., 2003), pp. 299-319.

<sup>54</sup> Though one that I tacitly appealed to in my discussion of this cases in Gendler 2006, *op cit.*.

<sup>55</sup> In this particular case, “inspection of the responses” to a similar priming task “revealed that only 1 of the 19 participants showed any awareness of the relationship between the stimulus words and the elderly stereotype” (Bargh, Chen and Burrows 1996, *op cit.*, 237.)

<sup>56</sup> Henk Aarts and Ap Dijksterhuis, “The Silence of the Library.” *Journal of Personality and Social Psychology*, Vol. 84 No. 1 (Jan. 2003), pp. 18-28.

<sup>57</sup> Bargh, Chen and Burrows, *op cit.*, 1996..

thoughts of their (achievement-oriented) mother leads them to persist longer at word-find tasks; priming them with thoughts of a friend makes them more likely to help a stranger.<sup>58</sup>

Indeed, alief may be activated in even more striking ways. Recently, psychologist Lawrence Williams “hypothesized that a simple experience of physical, spatial distance would trigger feelings of psychological distance and that those feelings, in turn, allow people to enjoy aversive media.” Subjects were first asked to plot a pair of points on a cartesian plane: the points were either quite close to one another (occupying less than ¼ of the plane) or quite far apart.

All the participants then read an embarrassing passage from a novel--in which a woman opens a magazine to find that her ex-boyfriend has written an article about her, called "Loving a Larger Woman"-- and rated how much they enjoyed the story. Just as Williams had expected, the participants who drew the dots far apart liked the passage more.

In his next study, after the volunteers drew the dots, they read a book excerpt in which a man beats his brother with a rock after a car crash. When the readers rated their emotional experience, Williams found, people who were told to draw the dots close together reported feeling more negative emotions<sup>59/60</sup>

In all of these cases, it is perhaps possible to explain what is going on in familiar terminology. Perhaps Bargh’s interruption subjects imagine that there is rudeness afoot in their dominion, and adjust their behavior accordingly. (Really? Even though the priming takes place at the unconscious level?) Perhaps his elevator subjects imagine that they are old and gray and full of sleep, and consequently slow their pace. Perhaps Williams’ subjects imagine that they are far away from the stories they hear, and therefore feel their emotional tug less strongly.

Perhaps. Or perhaps what is happening in each of these cases is the activation of a low-level cluster of associations – representational, affective, behavioral – an activation that renders the subject more likely to exhibit behavior of a certain sort. To a reasonable approximation, it looks like all depictive representations – even those that we explicitly disavow as false – feed into our behavioral repertoires, and that it is only through a process of conscious or habit-governed inhibition that representations whose accuracy we endorse come to play a distinctive role in governing our actions.

If so, there is something deeply wrong about the traditional picture of the relation between belief and behavior that we discussed in section 2. But of course, this is not the

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<sup>58</sup> G. Fitzsimmons & J.A. Bargh, “Thinking of You.” *Journal of Personality and Social Psychology*, Vol. 84 (2003), pp. 148-163.

<sup>59</sup> Polly Shulman, “Priming the Mind,” *Science: Science Careers*, March 2007.

<sup>60</sup> In addition to showing greater enjoyment of embarrassing media and less emotional distress from violent media, distant-dot drawers offered lower estimations of calories in unhealthy food, and weaker reports of emotional attachments to family members. (Lawrence Williams and John Bargh, “Keeping One’s Distance: The Effect of Spatial Distance Cues on Affect and Evaluation” *Psychological Science*, forthcoming 2007.)

only way philosophers have thought about these matters. In the final section, I briefly examine one competing philosophical strand.

#### 4. Alief, Persuasion and Habit

Despite certain protestations to the contrary, philosophers have been exquisitely sensitive to the ways in which contemplation of an imaginary particular may have cognitive and motivational effects that differ from those evoked by an abstract description of an otherwise similar state of affairs<sup>61</sup>. (Think of Plato's cave, the ring of Gyges, twin earth, the Chinese room, teletransportation, Thomson's violinist, the veil of ignorance, Mr. Truetemp, the fat man on the bridge, and any of the myriad other examples.) A particularly vivid presentation of this claim can be found in Hume's *Treatise on Human Nature*, where Hume writes:

There is a noted passage in the history of Greece, which may serve for our present purpose. Themistocles told the Athenians, that he had form'd a design, which wou'd be highly useful to the public, but which `twas impossible for him to communicate to them without ruining the execution, since its success depended entirely on the secrecy with which it shou'd be conducted. The Athenians, instead of granting him full power to act as he thought fitting, order'd him to communicate his design to Aristides, in whose prudence they had an entire confidence, and whose opinion they were resolv'd blindly to submit to. The design of Themistocles was secretly to set fire to the fleet of all the Grecian commonwealths, which was assembled in a neighbouring port, and which being once destroy'd wou'd give the Athenians the empire of the sea without any rival. Aristides return'd to the assembly, and told them, that nothing cou'd be more advantageous than the design of Themistocles but at the same time that nothing cou'd be more unjust: Upon which the people unanimously rejected the project.<sup>62</sup>

Hume goes on to note that his contemporary Charles Rollin found it astounding that the Athenians would reject – merely on grounds of injustice – a strategy so “advantageous” that it would give them “the empire of the sea without any rival.” But Hume himself is not surprised:

For my part I see nothing so extraordinary in this proceeding of the Athenians. ... [T]ho' in the present case the advantage was immediate to the Athenians, yet as it was known only under the general notion of advantage, without being conceiv'd by any particular idea, it must have had a less considerable influence on their imaginations, and have been a less violent temptation, than if they had been acquainted with all its circumstances: Otherwise `tis difficult to conceive, that a

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<sup>61</sup> I discuss this issue in more detail in “Philosophical Thought Experiments, Intuitions and Cognitive Equilibrium,” *Midwest Studies in Philosophy* 2007. The discussion in the next three paragraphs draws on the discussion from the opening pages of that paper.

<sup>62</sup> David Hume. *A Treatise on Human Nature*. (Ed.) L.A. Selby-Bigge. Oxford: Clarendon (1739/1978), II.iii.6.4.

whole people, unjust and violent as men commonly are, shou'd so unanimously have adher'd to justice, and rejected any considerable advantage.<sup>63</sup>

Hume's story brings out the way in which engagement of the cognitive mechanisms associated with vivid imagining may lead a subject to reverse a prior commitment, selecting as preferable the option previously rejected, and shunning the option previously embraced<sup>64</sup>.

For the reader who has gotten this far, it should be apparent what lesson I want to draw from this case. Ever sensitive to the role of habit and association – "If any thing can intitle the author to so glorious a name as that of an inventor, 'tis the use he makes of the principle of the association of ideas"<sup>65</sup> – Hume is here pointing out that judgment about a particular case may be driven as much by alief as by belief. Like his K Street counterpart, Hume recognizes the citizen who believes that wealth should be redistributed across generations alieves that the death tax is unfair; like his Madison Avenue foil, Hume recognizes that a customer who believes that a \$9.99 scarf costs nearly ten dollars alieves that it costs only nine. When the citizen votes against the amendment does this show that he really opposes redistribution? Or does it show that action is often governed by alief?

If so, then Aristotle is right: In order to live well, we must work to bring our habits in accord with our reflective beliefs<sup>66</sup>:

"Men become builders by building and lyre-players by playing the lyre; so too we become just by doing just acts, temperate by doing temperate acts, brave by doing brave acts ... states of character arise out of like activities ... It makes no small difference, then, whether we form habits of one kind or of another from our very youth; it makes a very great difference, or rather all the difference."<sup>67</sup>

My conclusion should not be a surprising one. I think that alief governs all sorts of belief-discordant behavior – the cases with which I began the paper, and the ones that I have presented along the way. But if alief drives behavior in belief-discordant cases, it is likely that it drives behavior in belief-concordant cases as well. Belief plays an important

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<sup>63</sup> *Op cit.*, II.iii.6.4.

<sup>64</sup> In the paper on thought experiments, I go on to explore how this phenomenon might help explain both the effectiveness and the limitations of philosophical thought experiments.

<sup>65</sup> Hume, 1739/1978 *op cit.*, "Abstract" 661-662.

<sup>66</sup> For exploration of this connection in a related context, see the final paragraph of J. Thomas Cook, "Deciding to Believe Without Self-Deception" *The Journal of Philosophy*, Vol. 84, No. 8. (Aug., 1987), pp. 441-446; cf. also Myles Burnyeat "Aristotle on Learning to be Good," in Amélie O. Rorty, ed., *Essays on Aristotle's Ethics* (Berkeley: University of California Press, 1980.)

<sup>67</sup> Aristotle. *Nichomachean Ethics*. (eds.) J.L. Ackrill, J.O. Urmson, and David Ross, (Oxford: Oxford University Press, 1998), 1103-4. Somewhat simplistically, one might say that Aristotelian ethics is an ethics of alief, whereas Kantian ethics is an ethics of belief. I hope to explore this issue in more detail in further work.

role in the ultimate regulation of behavior. But it plays a far smaller role in moment-by-moment management than philosophical tradition has tended to stress.