

Chapter Five

Toward a Developmental Account of Belief

An infant does not emerge from the womb knowing that winter is colder than summer. Yet by the time the child is eight, she believes this. One can imagine this belief in some cases coming to the child all in an instant: She has noticed that it is much colder these days than it was a few months ago; she asks why; she receives a full discourse on what it is to be a season, what winter and summer are, and that winter months are colder than summer ones (in non-equatorial climates). Suddenly, something clicks and she has the belief. But this is not the normal case. Knowledge of the seasons, like much of the child's knowledge, is more often acquired gradually. The necessary competencies and concepts are slowly developed. Bits of evidence are collected and falteringly put together. At the beginning of the process, we can straightforwardly say the child does not have the belief; at the end, she does have it. But in the middle, in the hurly-burly of development, it is neither wholly correct to say that she has the belief, nor wholly correct to say that she does not.

Epistemologists and philosophers of mind interested in belief have typically attended to the *instantaneous* (or nearly instantaneous) acquisition of beliefs as a result of the ordinary processes of perception and reasoning in adults. Rarely have philosophers attended to the more gradual processes of belief

development evident especially in young children. But surely it is not only children who experience the gradual development of beliefs: A college student might gradually come to believe that all the best speculative metaphysicians lived before the twentieth century, this belief growing slowly apace the student's understanding of what metaphysics is and her knowledge of philosophical literature. Before taking any courses in philosophy, our student had no beliefs whatsoever on the question of when the best speculative metaphysicians lived; it even seems misleading to say, as some Bayesians might, that she believed to some low or intermediate degree that all the best speculative metaphysicians lived before the twentieth century, and that her degree of belief in this proposition gradually increased with her philosophical education. It seems more accurate to say that before her philosophical education she had no beliefs at all, of any degree of certainty, about the pinnacles of speculative metaphysics; that by the time she graduated she did believe that the best speculative metaphysicians lived before the twentieth century; and that there was no single moment at which this belief established itself in her mind.

One of the great advantages of examining philosophy of mind through the lens of developmental psychology is that it forces us to recognize the importance of such *in-between* states of believing, states in which it is neither wholly accurate to describe the subject as believing the proposition in question, nor wholly accurate to describe her as not believing it. Such

states are, I would suggest, quite common in the gradual development of a new view, a new theory, or a new set of conceptual tools. When a person is in such an in-between state regarding some proposition *P*, the question "Does she believe that *P* or not?" plausibly cannot be answered with a simple yes or no.

Developmental psychology turns our attention to such states and demands an account of belief that takes such states seriously. Nevertheless, it would be a mistake to assume that in-between cases of belief are limited to situations of gradual belief development. The coming three chapters will all cover the topic of belief with a special eye to in-between cases of believing. As we proceed, I hope it will become evident that cases such as those of self-deception, of unconscious belief, and of belief poorly thought through can provide us with many examples of in-between believing.

What we need, and what philosophers have yet to provide, is a workable account of belief that presents a framework for understanding and classifying these in-between states of believing. In the chapter following this one, I will offer such an account. In the present chapter, I will lay some of the groundwork for that account. I will outline desiderata for the account, and I will warn against a class of intuitions and metaphors that run opposite the developmental and the in-between in belief.

1. Aims of the Account

I propose, as I have said, to offer an account of belief. Let us now clarify what exactly it is I take myself to be doing and what the criteria for success in my project will be.

Accounts are sometimes said to be given of *terms*, sometimes of *concepts*, and sometimes of *things*. Philosophers have not always been as careful as they might be in distinguishing the various different projects suggested by describing the analysandum in these different ways. It is one thing to give an account of the word 'belief', another thing to give an account of the concept of belief, and yet another to give an account of beliefs themselves. The first is a linguistic inquiry into the word 'belief', the second an inquiry into how some class of people think about belief, while the last is an ontological inquiry into the nature of belief. While one might argue that there are important relations between these three projects, it is hardly plausible to regard them as identical.¹

My project in these chapters on belief has elements of each of the three dimensions described. Linguistically and conceptually what I am offering is a *recommendation*. I am suggesting that (English-speaking) philosophers and psychologists take up the habit of using the word 'belief' in the way I recommend and that they modify their concept of belief to match with the concept described below. It is *not* my project to provide an analysis of what we ordinarily mean by the word

'belief' or how, intuitively, we think of it. Despite this, one can hardly avoid talk of intuitions, and, for reasons I will soon mention, my account matches fairly well with ordinary, pre-philosophical intuition and usage.

My account is ontological to the extent it makes claims about the real world, as opposed simply to treating our way of thinking and talking about the world. I shall, for example, argue that there is no fact of the matter beyond a person's dispositional make-up about what that person really believes. I shall also argue for the pervasiveness of cases of in-between believing of the type alluded to in the introduction to this chapter. The first of these ontological claims will probably be seen as metaphysical, and I have no objection to so regarding it; the second claim is clearly an empirical one. I will not attempt to keep metaphysical and empirical claims separate, but will rather weave them together into my picture of belief. Indeed, it may be that the metaphysical and empirical shade into or cross-cut each other and that their separation would be ill-advised in any case.

The conceptual and the ontological elements of this account are supposed to support each other. It is because I think that certain facts about the world obtain that I recommend a certain concept of belief, yet it may be difficult to see that those facts obtain or to describe them without antecedently accepting the recommended concept of belief. This is not circular. It is not that the account depends on the truth of claims whose truth

¹ Discussion of the nature of analysis and the relation of language, concepts, and ontology was once more lively and sophisticated than it now is; for a useful historical

in turn depends on the truth of the account; rather, the merit of the conceptual recommendations of the account depends on the truth of ontological claims whose truth it may be *difficult to see* before accepting the conceptual recommendations. In part this is because the ontological claims one can make or understand depend on the concepts and words available. In part it is because one's regular habits of thinking greatly influence how one sees and structures one's experience of the world, even when new tools are made available. The reader may notice such an intertwining of conceptual and ontological issues in my treatment of in-between cases of believing: The attractiveness of my dispositional conceptualization of belief depends on the importance and pervasiveness of in-between cases, but someone who begins with a non-dispositional, all-or-nothing picture of belief may have trouble envisioning many of the cases described as genuine in-between cases. I hope to remedy this problem with a thorough attack on the all-or-nothing view and a plethora of examples.

If these are the elements of my account, what should count as success? I am not, as I have said, offering the account as an analysis of our ordinary concept of belief, so the primary standard against which the account should be gauged is not its match with ordinary intuition. Since the account is offered as a candidate for a *novel* way to think about belief, the criteria for success must be appropriate to this different purpose. First, I would hope that those claims that can be evaluated for truth or

account, see Urmson (1956).

falsity -- that is, primarily, the ontological claims -- are, in the main, true, or at least warranted, justifiable, and empirically adequate. Just as important, however, are the conceptual and linguistic recommendations of the account, which like all recommendations are not so much true or false as helpful or unhelpful. To count as successful, these recommendations must engender, or at least be apt to engender, good philosophical and scientific research. Something like this latter criterion, I think, should be a standard of success for any account with a stipulative dimension -- or, indeed, for any ordinary language account to the extent that the account is meant to be employed productively by philosophers and scientists, rather than simply marvelled at as a feat of linguistic analysis. As always, I will pay particular attention to the utility and practicality of the account for developmental psychology. I will argue, in particular, that the account will excel in its treatment of in-between cases of believing, which are prevalent in developmental psychology and which most standard accounts of belief are ill-equipped to handle.

A time may come when science and philosophy need not advert to such folksy things as beliefs in explaining mental life and behavior, as Churchland (1981) and Stich (1983) have suggested. If this is the case, then when that time comes accounts of belief of the sort I offer will serve no important scientific or philosophical purpose, unless it be merely to understand how deeply confused ordinary folk have been about the mind. If the

time for the rejection of folk psychology is now at hand, then the enterprise I have described is misguided: Science and philosophy will *not* profit from a new account of belief, and may even perhaps be hindered by it, as Marx felt the proletarian cause was hindered by the kinds of temporary capitalist palliatives that served to postpone the coming revolution. Better to let the concept alone, that we may sooner be inclined to cast it aside in favor of the new language of cognitive science.

While I do not think such a revolution is impossible, I fear it must be a long way off, if ever it will come. Although psychological and neurological research has overturned folk psychology at the fringes and in some narrow domains, scientists have so far not even come close to providing an alternative vocabulary with the broad utility that belief and desire talk has in folk psychology. Folk psychology is, in truth, a sophisticated, long-tested, highly accurate, and evolving theory, and it should be no surprise if our best scientific and philosophical understandings of the mind borrow heavily from it (and vice versa). It will be a very different world before scientists can do completely without thinking about what people want and believe.

Whether, however, philosophy and science can best profit from the raw, unwashed, folk concepts of belief and desire, or whether they should, instead, feel at liberty to modify and adjust these concepts, is another question. Indeed, folk intuitions about

belief may not all pull in the same direction or be entirely self-consistent. In such cases, at least, we should expect that philosophical and scientific investigations could profit from straightening and clarifying folk concepts to a certain extent. On the other hand, an account that strays too far from folk intuition risks losing insights from a long tradition of successful folk psychologists and may even lose justification for describing itself as an account of *belief*. I therefore aim to strike a balance between slavish adherence to intuition and sanctimonious disdain for it.

2. All-or-Nothing Belief and the Simple Question

The positive account to be given in the following chapter will be easier to accept if I first describe some of the intuitions that run against it, their utility, and where that utility ends. Doing so will, I hope, drain the power these intuitions might have to undermine my positive presentation.

The Simple Question

Most of us feel a certain temptation when presented with in-between cases of the sort that will be the focus of my account. The temptation is to insist on what I will call the *Simple Question* about belief (following Goldstein 1993). A person may be said to be asking the Simple Question about belief when two conditions obtain. First, she must be asking whether some thinking creature *S* believes some proposition *P*.² Second, she must accept only a simple yes-or-no answer to this question. One might think of an attorney cross-examining a hedging and evasive witness, saying, "Look, Mr. X, I am only asking you a *simple question*, Do you believe that *P* or not? Yes or no?" The idea behind insistence on the Simple Question is presumably that with enough tenacious probing, the evidence regarding *S*'s beliefs about *P*, evidence which may presently be tangled and indecisive, will eventually straighten itself out in favor of either *S*'s genuinely believing that *P* or *S*'s genuinely not believing that *P*.

² By 'proposition' here I simply mean 'candidate for belief' (cf. chapter three). Some term of art is needed here, since ordinary language provides no convenient term for such things. Nothing I say hinges on one or another resolution of the various metaphysical disputes about the nature of propositions.

Somewhere in the labyrinth of *S*'s mind, the reasoning goes, *P* has either set up residence, or it has not. Insistence on the Simple Question will not let us rest until we discover which is the case.

An inclination to insist on the Simple Question about belief has some very practical benefits. Suppose someone tells me that the notorious gambler Charlie Smart refuses to play poker without a package of salt in his pocket because, he says, the salt gives him good luck at the table, and suppose I have good reason to think, from other circumstances, that Charlie is a cool, unmystical probability theorist. My evidence regarding Charlie's beliefs on the topic of the effectiveness of lucky charms is now mixed. I could, at this point, simply assume that Charlie really is confused and inconsistent on the matter, or I could act on the hunch that there must be a resolution to this apparent tension and press the Simple Question: Does Charlie *really* believe that the salt will improve his chances? The inclination to take the latter route, to challenge evidence pointing in different directions regarding a person's beliefs, is a healthy one: Often there will be a perfectly good resolution of the tension. Charlie might not be as cool and unmystical as I thought. Perhaps even in the most serious vein he would avow the causal efficacy of lucky charms. Alternately, Charlie might *not* really believe in the efficacy of his charm. He is just sentimental, carrying the salt in memory of the last wish of his more mystical friend Idaho Bob who thought more highly of such methods.

Probing for a "yes" or a "no" in such a case may be helpful in eliciting an explanation of pieces of evidence pointing in different directions regarding an agent's beliefs. Because of its utility, the inclination to insist on the Simple Question, at least when first presented with a tension of this sort, is nearly universal.

However, if I am told that Charlie, when pressed, repudiates with all sincerity belief in lucky charms but nevertheless becomes extremely uncomfortable and edgy, complaining of bad luck, if asked to gamble without his salt; if I am told that he is surprised when he loses carrying his salt and surprised when he wins without it, but regards his habit of carrying the salt as silly and superstitious -- if, in fact, a hundred different signs point in one direction regarding his belief and just as many point in the opposite direction, and there seems to be no hope of reconciling them -- it may be that Charlie is *not* accurately describable as either simply believing or simply not believing in the efficacy of his salt, and that insistence on the Simple Question will be counterproductive. One might just as sensibly insist on a simple yes-or-no answer to the question of whether Betty is courageous *simpliciter* when she is courageous in matters of love and money and cowardly in matters of health and work.

There is a limit, then, to the utility of insisting on the Simple Question. People are sometimes *not* accurately describable as simply either believing that *P* or not believing it. When it becomes clear that the case in hand is of this type, continued

insistence on the Simple Question becomes a hindrance rather than an aid to further research. The inclination to insist on the Simple Question, however, never entirely disappears. It is this continued inclination to insist on the Simple Question that I believe to be the most persistent source of dissatisfaction with the account of belief I will present. If I can succeed in motivating the reader to distrust this inclination, I will have gone far, I think, toward disposing the reader toward my account.

Several of my projects in chapters five through seven will, I hope, do something to motivate the reader to distrust any inclination she may have to insist too strenuously on the Simple Question. In the remainder of this section, I will describe and criticize the all-or-nothing view of belief implicit in refusal to abandon the Simple Question. In the following section, I will examine a pervasive metaphor in psychology and philosophy of mind that may be working to bolster our unwitting dependence on this all-or-nothing view of belief. In chapter six I will describe four areas in philosophy and developmental psychology in which too dogged an insistence on the Simple Question has led researchers astray. And throughout these chapters I will continue to provide detailed examples of the kind of in-between beliefs that do not fit into the categories allowed by the Simple Question.

The All-or-Nothing View of Belief

Only one view can justify unrelenting insistence on the Simple Question: the view that belief is inherently an all-or-nothing matter; for only if there can be no cases lying between full belief in *P* and complete lack of belief in *P* (or at least no cases we can be sure of) will insistence on the Simple Question always be appropriate. Few, I think, would want on reflection to endorse an all-or-nothing view of belief. We can see that the all-or-nothing view is not acceptable by examining three positions that follow from an all-or-nothing view of belief. I will sketch some widely accepted objections to two of these positions. I will also outline some concerns regarding the third position, to which I shall return briefly again at the end of my discussion of belief.

(1.) *Nonprobabilism*. The Bayesians are mistaken in saying there is a smooth gradation from indifference between *P* and not-*P* to certainty that *P* is the case, or from subjective probability .5 to subjective probability 1. If there are different degrees of certainty, they are only differences in one's attitude to propositions already completely and fully believed.

(2.) *Individuationism*. This view has two components: (1.) that beliefs are distinct and clearly individuable, and (2.) that there is always a precise fact of the matter exactly which beliefs a subject has at any given time. If Mary is running upstairs to retrieve her purse from the bed, she may have some of the following beliefs: (a.) her purse is on the bed, (b.) her

purse is near where she slept last night, (c.) the object containing her lipstick is a few feet from the surface of the floor, etc. Individuationism commits one to the view that such beliefs are cleanly distinguishable and that there is a precise fact of the matter which of them Mary has and which she does not.

(3.) *Inaccessibilism*. A person who does not recognize in herself a belief that *P*, or who is cognitively incapable of acting on the basis of that belief in a certain range of circumstances, may still be said to believe that *P* as fully and completely as someone who does recognize that belief in herself and who can act on that belief in any circumstance. In the former case, the belief is genuinely present but simply "inaccessible" to the agent -- believed, perhaps, "implicitly" or "unconsciously".

Let us now consider these three corollaries of the all-or-nothing view. We have excellent reason to reject the first corollary, nonprobabilism about belief. We have, in other words, excellent reason to regard confidence about the truth of a proposition as the kind of thing that comes in degrees, spreading smoothly from indifference to absolute certainty. This view is so widely held that it is almost embarrassing to argue for it.³ Jeffrey (1992) provides an elegant defense of probabilism, though his views are stronger than is needed here. Jeffrey claims that *all* our beliefs, even those sometimes taken as "foundational", are subject to the probabilistic calculus of Bayesianism; all

that is necessary for the rejection of nonprobabilism is that *some* of our beliefs are.

That belief comes in degrees seems quite plainly to be the everyday view, even if the everyday view does not quantify degree of belief. Someone can be absolutely certain, moderately sure, hesitant, doubtful, or cautiously accepting of *P*. The degree of confidence with which someone believes that *P* has a variety of effects recognized in folk psychology. The more confidently one holds a view, the more one is willing to stake on it, the less likely one is to revise it in light of counterevidence, the more forceful the conclusions one is willing to draw from it, the more assuredly one is willing to act on it, and the fewer hedges one will make against its falsity. And again, these generalizations from folk psychology seem smoothly extensible downward from the heights of confidence to the depths of uncertainty.

Bayesian decision theory, as elaborated by Jeffrey (1983), Ramsey (1990), Savage (1972), and others, builds upon these ordinary observations and quantifies them, generating a normative calculus for decision-making. Although decision theory is not free from difficulties, its range of successes would be hard to explain if it weren't right at least about the basic fact that beliefs are the kinds of things that come in degrees.

The second corollary to the all-or-nothing view of belief, individuationism, may seem more appealing than nonprobabilism. Suppose, for example, that one regarded beliefs as items in the

³ Harman (1986) provides some reasons to think that nonprobabilistic full acceptance is our normal mode of dealing with propositions explicitly believed. But even Harman will

mind written in the "language of thought", as Fodor does (Fodor 1975). If this were one's view, individuationism might come naturally. If two purportedly identical beliefs correspond to the same sentence in the language of thought, they are the same belief; if they correspond to different sentences, they are different beliefs; and it's hard to see room for vagueness on the question of whether two sentences in the language of thought are the same or not (the first component of individuationism). There may be a little room on this view to deny there is always a precise fact of the matter exactly which of these sharply individuable sentences are inscribed in a person's mind (the second component of individuationism), but it strains against the model and images invoked. Fodor indeed may come closer than most to subscribing to an all-or-nothing or Simple-Question view of belief. He is also fond of the "belief box" metaphor I will discuss later in this chapter (Fodor 1987).

Individuationism, however, fares poorly on inspection. Holistic arguments are one natural avenue for criticism of this thesis. Suppose you and I both have a belief we describe by means of the sentence 'Angela is fond of trees'. You, however, being unfamiliar with the proper meaning of the English word 'tree', take yourself to be expressing the belief that most of us would express with the sentence 'Angela is fond of processed lumber'. You are agnostic about her attitude toward what we usually call trees. Clearly, we do not have the same belief on the subject. But change the case a little: You think of trees as

not go so far as to say that *all* our beliefs are nonprobabilistically accepted.

including both lumber and those living things (pines, redwoods, oaks, but not eucalyptus or orange) that are commonly turned into processed lumber. Now is it accurate to say that you share my belief that Angela is fond of trees? What if you don't think of any processed lumber as belonging to that class? What if you and I only disagree about the membership of saguaros in this class? What if you, like Davidson's dog (see chapter two) don't realize that trees require water and sunlight to grow? Presumably, if we share enough of our other tree-related beliefs, we will want to say that we share the belief in question, but when, exactly, is this line crossed? The difficulty of keeping facts about language and the expression of beliefs separate from facts about the beliefs themselves only adds to the confusion.

Generalizing from this example, it seems plausible to suppose that there is often a smooth spectrum of states between believing that *P* (Angela is fond of trees) while not believing that *Q* (Angela is fond of processed lumber) and believing that *Q* while not believing that *P*. It is not sensible to insist that a subject standing in the middle of this spectrum always be classifiable simply as believing that *P* or simply as believing that *Q*. Rather, in such situations, describing the subject's cognitive state as a belief that *P* or a belief that *Q* is somewhat a matter of approximation. The descriptions are more or less apt, not wholly accurate or wholly inaccurate. Individuationism requires the contrary, that one of the descriptions be exactly on

target and the other be a complete miss (even if it comes near to being a hit).

Another route to the rejection of individuationism about beliefs is suggested by the example I first gave in describing individuationism and which is borrowed from Dennett (1987, p. 111; Stich 1983 makes a similar case). This argument, like the previous one, depends on the implausibility of drawing a clear line across a smooth gradation. Where the previous argument depended on blurring the line between different propositions, the present argument concedes the existence of clearly individuable beliefs and challenges the further claim that there is some precise fact of the matter which of these beliefs the subject genuinely has.

Consider Mary, then. Her date is waiting in the foyer. She is running upstairs to retrieve her purse. She believes that her purse is on the bed, which in fact it is. Mary would seem to have a number of related beliefs as well. She believes, for example, that her purse is in the bedroom. She believes her purse exists. Perhaps slightly more questionably, we can say that she believes her purse is near where she slept last night and that it is on some flat surface in her bedroom. Does she believe that her birthday gift from Allan is in the bedroom? Does she believe that her birthday gift from Allan is further from her date than she herself is? Does she believe that either her purse is in the bedroom or Fermat's last theorem is false? Does she believe that an object weighing 1.4 kilos is preventing light from reflecting off part of her bedcover? She herself will

answer yes to some of these questions, and no to others, depending on the context in which these questions are asked and the tone in which they are asked. Her intuitions on the matter waver. She would answer, if queried, that her purse is preventing light from reflecting off part of her bedcover, but she will deny having thought of it that way before. Surely we don't want to grant her belief in everything she would on (some sufficient amount of) reflection assent to -- but at the same time we don't want to assert that she believes only things that are presently passing through her consciousness. It is fantasy to think we can draw a strict line here between what she believes and what she does not. We should rather think of these descriptions as more or less appropriate for capturing Mary's cognitive state. Furthermore, the aptness of the descriptions will depend on the situation in which the description is provided. Individuationism, as I have characterized it, is false because there is no precise fact of the matter exactly which among a vast network of related propositions a person can accurately be said to believe. As in the lumber case, the appropriateness of describing a subject as believing a certain proposition seems to be a matter of *degree*.

Finally, let us consider inaccessibilism, the third corollary of the all-or-nothing view of belief. Inaccessibilism, as described above, is the view that a person who does not see herself as believing that *P*, or who is unable to act on *P* in all circumstances, might nonetheless be describable with the highest

degree of accuracy as believing that *P*. The belief that *P* might, in popular locution, really be "in there" somewhere, with the subject unable to access it for the time being. There is something rather intuitive about the inaccessibilist view. Perhaps I cannot now bring to mind, no matter how hard I try, the name of my sophomore year roommate in college. Still, I insist, I *know* his name. Or perhaps, though I deny it to myself, my pattern of behavior is generally racist. In such a case, we might say, I really do believe that one race is superior to another, but I cannot see that this is in fact my view.

I am happy to admit that it is more accurate to describe me, in these cases, as believing that my roommate's name was 'Louis' and that the caucasian race is superior, than it is to describe me as not believing these things; but it is a separate question whether it is *just as* accurate to ascribe me these beliefs as it is to ascribe them to someone who explicitly avows them. I think intuition pulls both directions on this matter. The impulses that drive us toward the Simple-Question, all-or-nothing view of belief incline us to say that, given that I do in fact have the belief in all these cases, there can be no "more or less" about it. The belief is really *in there*, and all the belief ascriptions are equally -- that is to say, 100% -- accurate. Nevertheless, people may feel at least some resistance toward saying that I do genuinely and completely believe, right now as I stand here stammering, that my sophomore year roommate's name was 'Louis'. And does it really seem completely accurate, in all

contexts, to say that I believe caucasians to be the superior race if I only believe it "deep down" and completely deny it on its face?

I ultimately want to reject the inaccessibleist view along with the nonprobabilist and individuationist views, but at this point in the presentation I will settle for a draw on the basis of conflicting intuitions. Inaccessibleism is incompatible with the account of belief I will present in the next chapter, and I aim to gather enough points in favor of my account of belief that it will seem reasonable to reject something as unstable as our inaccessibleist intuitions in favor of the picture I offer. I am, however, aware that this is a point on which my account might sometimes seem seriously to be at odds with intuition.

To review: The general thrust of this section is that it is quite natural, for good reasons, to insist on simple all-or-nothing answers in most inquiries about belief. Nevertheless, as I hope to have made plain, the all-or-nothing view of belief is untenable for a variety of reasons. I shall now move on to describe a metaphor commonly used in talking about the mind that may also be partly responsible for leading us unreflectively into thinking of belief as an all-or-nothing matter.

3. The Container Metaphor

A metaphor is a powerful force, and the persistent use of any particular metaphor inevitably draws its users' thoughts in a certain direction. Lakoff and Johnson examine, for example, the regular metaphorical treatment of arguments as battles: Arguments are won or lost; positions are attacked and defended, shot down or salvaged; criticisms are launched and found to be on or off target; and so forth (1980 p. 4). They argue that this way of talking about argument is apt to influence one's thinking about and approach to argumentation, making one, perhaps, more combative in one's argumentative style and less likely to notice the co-operative aspects of argumentation.

Much of our talk about the mind is likewise metaphorical, both in everyday discourse and in technical philosophy and psychology. As with our metaphors for argumentation, the metaphors we use to talk about the mind doubtless incline us to think of the mind in one way rather than another. It would therefore seem to be of extraordinary importance in a discussion of how to think of the mind to examine the metaphors we employ in talking about it. Unfortunately, this is rarely done.

In this section I will examine one persistent metaphor in philosophy of mind and indicate how its use might incline one toward the all-or-nothing view of belief and other disputable doctrines about the mind. I do not mean to claim that everyone who employs this metaphor holds the views suggested by the metaphorical usage. Metaphor is not destiny. But I do think

that these positions have a certain attractiveness they might not otherwise have in virtue of being suggested by the popular metaphor, and I hope for two effects from displaying this metaphor as a source of their attractiveness. First, I hope that revealing the metaphor as a source of attraction helps to bring more acutely into question the reasons people might have for being inclined toward these positions. Second, I hope that revealing some of the directions in which this metaphor leads our thinking will incline us to use the metaphor less frequently and with greater awareness.

Lakoff and Johnson (1980) have some useful discussions of metaphors used in talking about the mind. They discuss, for example, the metaphor of the mind as a machine (grinding out solutions to problems, feeling rusty, running out of steam), of the mind as a brittle object (I am going to pieces, her ego is fragile, he is easily crushed), and of ideas as food (half-baked), plants (coming to fruition), commodities (to be packaged), and fashions (out-of-date) (1980 p. 27-28, 46-48). They also very briefly mention, although they do not provide any examples of, the metaphor that will be the focus of my attention: the mind as a container or storage space (p. 148).

That the metaphor of the mind as a container is commonly used in everyday discourse can be made clear by a few examples:

He filled my head with new ideas.
Keep that thought in mind.
Don't clutter up your mind with that rubbish.
He crammed for the exam.
Memory retrieval can take effort.
Empty your mind of thoughts.

That person sure is *airheaded*.

The container metaphor in cognitive psychology is often quite explicit in discussions of memory *storage* and *retrieval*. In philosophy of mind, the prevalence of the container metaphor is most apparent in the popularity of the word 'content'.

Interestingly, talk about "mental contents" takes place on two levels at once: Minds are said to have contents, of which beliefs and desires are of course the most popular examples (some, such as Fodor (1987), even talk about "belief boxes"); at the same time, beliefs and desires are themselves said to have "propositional contents". It is primarily on the first of these container relations that I will focus my attention, though I do not doubt that discussions of propositional content could also profit from a more scrupulous look at the metaphors involved.⁴

This metaphorical treatment of the mind as containing beliefs is appropriate if the relationship between minds and beliefs is similar in important ways to the relationship between prototypical containers and their contents. Even if the mind is viewed *literally* as a container for beliefs, presumably the extension of the class 'container' to cover minds is warranted only if there are such similarities. The same holds for the view that containers provide a good *model* of the mind. Even, then, if one were to argue that philosophical or psychological reference to containers in discussing the mind is not metaphorical, proper use of container talk depends on the existence of similarities

⁴ Reddy (1979) and Lakoff and Johnson (1980) have interesting discussions on the related metaphor of linguistic expressions as having propositional content.

between paradigm instances of containment and relations into which the mind can enter.

This is certainly not to say that proper talk of the mind as containing beliefs requires that the relationship between minds and beliefs must be in every respect like prototypical instances of containment. If I say that Richard is a tortoise when it comes to paying his bills, I do not mean to be suggesting that Richard's skin is scaly or that he carries a hard shell on his back, and no one with a standard, American cultural background would regard me as suggesting this (though one could imagine strange enough contexts in which this could be the meaning). A somewhat more elaborate example is the planetary model of the atom, invoked metaphorically in talk about electrons *orbiting* the nucleus. (I am intentionally blurring here the difference between a model and a metaphor; I actually believe that the differences are less than they are sometimes supposed to be; for a good discussion see Black (1962).) Although this model is still frequently used in explaining the structure of the atom, especially in teaching, it has several infelicities which, if not made clear, can hamper understanding. The atom is like a planetary system in that it has a large mass at its center, several smaller masses that maintain themselves at a distance from it, a lot of empty space between the masses, and so forth. On the other hand, planets have definite positions in space, while electrons are thought to be "spread out" over an area, planets make regular elliptical orbits, while measurements of

electron position yield less regular results, and so forth. Once a model or metaphor is in place, especially if it is repeated frequently, the mind will naturally attempt to extend it in plausible directions, and students employing the planetary model of the atom must be specifically warned against these inferences. Black describes both the power and danger inherent in this tendency to draw inferences from models of this kind.

It is my belief that the container view of the mind has many more infelicities than advantages. We can discover problems even at the most basic ontological level. Objects are not usually thought of as containing their states, but beliefs and desires are generally regarded as states of minds. So the view that minds contain beliefs and desires seems to rest on a category mistake, like regarding *being 17° Centigrade* as something a bucket contains because it is in that state.

Although that ontological matter is worrying, it is not my primary concern. After all, if the container metaphor is apt in other ways, one can always warn against particular inferences. I will turn my attention to more the more specific features of prototypical instances of containment. Enough of these features are inappropriate to the mind-belief relation that the container metaphor for the mind has substantial potential to mislead. Of particular interest for my overarching project are those features of containers that suggest the all-or-nothing view of belief, but I will not confine my list of features to those suggesting that view.

For concreteness, I will take upright buckets as prototypical containers. I will also regard (discrete, undivided) balls as the contents (see footnote five for a discussion of liquid contents). If it is useful to think of the mind as "containing" beliefs, then the mind should be, at least in some important respects, like the bucket, and individual beliefs should be like the balls. I shall now describe some of the relevant features of the bucket-and-ball system.

(1.) A bucket contains a ball just in case the ball is physically inside the bucket. In other words, the volume of the ball must be a part of the volume enclosed by the bucket. It does not matter how things stand outside of the bucket.

(2.) In the normal (upright, gravitational) case, it takes a certain amount of effort to get a ball into a bucket and a certain amount of effort to get it back out again.

(3.) Balls take up space. A finite bucket can only contain a limited number of non-infinitesimal balls. It takes a certain amount of the bucket's spatial resources to contain each ball it contains.

(4.) Balls are typically clearly individuated, countable entities. We can, of course, imagine cases in which this is not so: Rubber balls may be melted together, balls may be cut into pieces, etc.; but these are not the kinds of things that typically come to mind when we imagine container relations between buckets and balls.

(5.) A ball is generally either fully inside a bucket or fully outside it. In marginal cases, a ball may be suspended

near the lip of a bucket, or it may be unclear for reasons of topology whether its volume is part of the volume enclosed by the bucket; also, of course, as balls enter and leave buckets there will typically be a brief period during which they may be said to be neither wholly inside nor wholly outside the bucket. Despite these marginal cases, however, it is rarely a vague matter whether a bucket contains a ball or not.

(6.) If the balls are small enough and appropriately shaped (and not, for example, highly magnetized), there is typically no reason why any two balls can't go in the same bucket or why a ball can't be removed from one bucket and put into another without changing any of the other contents.

(7.) A bucket can contain only one ball, or no balls.

Just as the argument-as-battle metaphor naturally inclines one toward a certain view of argumentation -- a view one might, on reflection, want to reject -- so, I would suggest, the mind-as-container metaphor, in virtue of the features described, naturally draws one toward a certain view of belief. The view of belief toward which we are drawn by the container metaphor has a number of undesirable, or at least controversial, features.

If the mind-belief relation has the features described in (1.), wherein the containment of a thing depends only on that thing's being inside the container, then beliefs must be things *internal* to the mind, *contra* the externalist view, to be discussed in the next chapter, of beliefs as partly dependent on

social or historical relations between the subject and the external world.

The features described in (2.), regarding the effort involved in adding and removing objects from containers, do not sit comfortably with our knowledge of how hard it can be to remember things and how easy it can be to forget them.

If the mind-belief relation has the features described in (3.), wherein buckets are characterized as containing only a limited number of balls, then we can only have a limited number of beliefs. Many have argued, however, that the number of beliefs any person may have is indefinitely large, since, it seems, I believe that the number of planets is less than 10, I believe that the number of planets is less than 11, and so on upward (see, for example, Harman 1986; Dennett 1978).

If (4.), the claim that balls are clearly individuatable, captures a feature of the mind-belief relation, then beliefs must also be clearly individuatable; and combining (4.) with (5.), the under which balls are either fully inside or fully outside a container, suggests that there must be a precise fact of the matter exactly which of these beliefs a subject has at any given time. These two combined, then, suggest "individuationism" as described in the previous section.

Furthermore, (5.) taken alone suggests also suggests the doctrine of "nonprobablism" as described in that section.

The sixth and seventh features of containers, relating to the independence of the presence of one ball in a bucket from the presence of others balls, are incompatible with a holistic view

of belief on which the possession of any single belief is dependent upon and changeable with the possession of many other beliefs.⁵

That so many of these features of the container relation seem, at least to some people, not to apply to the relation between the mind and beliefs is testimony to the fact that the use of a metaphor does not commit its user to regarding the object described metaphorically as having all of the features the metaphor suggests. But let us not slip into thinking that the metaphor is completely innocuous. Repeated application of the container metaphor is bound to pressure us subtly into certain habits of thinking, though we may successfully resist it in our more reflective moments. We should aim to be especially careful in examining the justification of positions suggested by such metaphorical uses. People with a particular interest in rejecting the patterns of thinking that come with a metaphor may wish to avoid at least that metaphor's livelier uses.

We ought, then, to be wary of letting talk about mental content lead us unreflectively into treating any of the features

⁵ The metaphor can be extended or the model adjusted with an eye to avoiding at least (5.) above. The bucket is again the mind or the believing faculty of the mind. The beliefs, instead of being balls, are different liquids. The amount of liquid *P* contained in the bucket corresponds to the subject's degree of belief that *P* is the case. This model does avoid the nonprobabilism suggested by the earlier model, but (1.) - (3.) and (6.) - (7.) still clearly apply. One might try to get around (4.) by noting that different mixtures of liquids are not clearly individuatable, but the maneuver fails: A mixture of *A* and *B*, once in the bucket, is indistinguishable from *A* and *B* added separately, but these two cases must be kept distinct if the model of overlapping, not clearly individuatable mixtures is to have any value. The chemically pure liquid is thus the natural unit of analysis, and chemically pure liquids are neatly distinct from each other.

Other changes may of course be introduced. To avoid some of the more obvious difficulties with (2.), one might imagine the bucket having a spout through which old balls are pushed as new balls are added. Or, *contra* (6.), balls may be imbued with properties that make it difficult for a bucket to contain certain of them simultaneously, and so forth. There is sufficient material here for hours of fun. The point remains, however, that until such changes are actually introduced into our way of talking about

following from this metaphor as features of the mind, unless we can provide independent reasons for accepting those features. The first images that come to mind when the container metaphor is invoked are just as apt to mislead than to clarify.

beliefs, the more basic metaphor is the one that will have the greatest impact on our way of thinking.

4. Conclusion

In chapter seventh I will offer several in-depth examples of arguments in philosophy and developmental psychology which seem to suffer from an unreflective treatment of belief as an all-or-nothing matter. To what, exactly, we should attribute the tendency to overlook the possibility of in-between states of believing is not a matter I can hope to have settled. I have in this chapter offered what I regard as two plausible explanations: that the natural advantages of insisting on the Simple Question may lead us to take this insistence too far; and that steady repetition of the container metaphor may incline us, at least in our less guarded moments, toward thinking of belief as an all-or-nothing matter. In the next chapter I will describe a view of belief that recognizes the importance of in-between states of believing and invokes a metaphor much friendlier to matters of degree than is the container metaphor.