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Author(s): Robert Audi

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## *Dispositional Beliefs and Dispositions to Believe*

ROBERT AUDI

University of Nebraska, Lincoln

Do you believe that this sentence has more than two words? And do you believe that 98.124 is larger than 98? It would be natural to answer affirmatively. And surely, for most readers considering these questions, that would be answering truly. Moreover, in affirmatively answering them, we seem to express antecedent beliefs: after all, we are aware of several words in the first sentence by the time we are asked if it has more than two, and it is obvious that 98.124 is larger than 98. Antecedent belief of the propositions in question—believing them before being asked whether we do—is also the readiest explanation of why we answer the questions affirmatively without having to think about them.<sup>1</sup> These considerations incline many people to attribute to us far more beliefs than, in my judgment, we have. Antecedent belief may be the readiest explanation of our spontaneous answers, but it is not the best explanation. I contend that, here, what may seem to be antecedently held but as yet unarticulated dispositional beliefs are really something quite different: dispositions to believe. This distinction is my concern. The terms ‘tacit belief’ and ‘implicit belief’ have been used for both dispositional beliefs and dispositions to believe, but I will not discuss the many uses of the former pair. My account of the distinction should, however, help to clarify the various notions associated with all four terms.<sup>2</sup> It is also intended to elucidate belief and other propositional attitudes.

### **I. Development of the Distinction**

The difference I want to bring out may be better illustrated by a different kind of case in which a person (*S*) can be disposed to affirm a proposition without the least hesitation, but does not believe it. Consider Tom, who, in talking with Norma, excitedly and unrelentingly criticizes a newly elected congresswoman, temporarily forgetting that the woman’s husband (who has a different surname) is Norma’s first cousin. Tom learned of the marriage a year earlier and has

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had no occasion to think of it. Now, if he should so much as entertain the proposition that he might be offending Norma as the woman's cousin by marriage, he would believe it. But if he is a polite man, it is not plausible to suppose that he *does* believe the proposition. Given his character, if he did, he would restrain himself.

It may be objected that although Tom dispositionally believes he might be offending, he does not *occurently* believe it, e.g. manifest his belief in the thought that he is offending. If this is so, however, why doesn't Tom act on his dispositional belief in the very situation to which it so obviously applies? And how did he *form* it without its manifesting itself in some way that renders it occurrent, in which case the puzzle about his unrelenting criticism is heightened? Granted, the *occurrence of belief formation* apparently does not entail that of an *occurrent belief*. This I take to be, not an occurrence that *is* a belief (since beliefs are not events in the relevant sense) but, roughly, belief whose propositional object is in some way occurring to one, as where, in discussion, one considers the proposition one is about to suggest. But it is at best hard to see how, in cases like Tom's, the belief could be formed at all without becoming either occurrent, e.g. by manifesting itself in a thought that one might offend Norma, or at least *active*, say by moderating behavior. How could a polite man like Tom come to believe that he might be offending, yet not even try to cease? I submit that the best explanation is that he is (mainly by virtue of what he remembers) disposed to believe he might be offending, but does not in fact believe it.

A computer analogy may help. Take first the two relevant kinds of actual belief. What is dispositionally as opposed to occurrently believed is analogous to what is in a computer's memory but not on its screen: the former need only be brought to the screen by scrolling—a simple retrieval process—in order to be used, whereas the latter is before one's eyes. Compare a dispositionally believed proposition's needing to be "called in," as in answering a request to be reminded of what one said last week, with an occurrently believed proposition's being focally in mind, roughly in the sense that one attends to it, as where one has just formulated it to offer as one's thesis. By contrast with both of these cases of actual belief, propositions we are only disposed to believe are more like those a computer would display only upon doing a calculation, say addition: the raw materials, which often include inferential principles, are present, but the proposition is not yet in the memory bank or on the screen. The suggested difference between a dispositional belief and a disposition to believe is in part that between accessibility of a proposition by a retrieval process that draws on memory and its accessibility only through a belief formation process. Our unwitting offender cannot be said to *remember*, or for that matter to have forgotten, that he might be offending, or even to have this proposition preserved in his memory; he hasn't realized the point at all.

The computer analogy has another useful dimension. If propositions are added directly to the memory bank without being typed on the screen, we have an analogue of belief formation without occurrent belief. Such belief formation

seems possible where one acquires beliefs in certain perceptual ways without thinking of the propositions thereby believed. While absorbed in conversation, one might come to believe, through hearing a distinctive siren, that an ambulance went by, but without thinking of this proposition or considering the matter.<sup>3</sup> This is the formation of a dispositional belief. Suppose, however, that a proposition is typed onto the screen. This is analogous to the formation of an occurrent belief—one occurrent the moment it is formed—as where a belief that *p* is acquired when, given a suitable stimulus, one simply realizes that *p*, say that a certain whispering sound is a gentle rain.

However plain its application in many cases, the notion of a disposition needs explication. In positing a disposition, we should be able to say something about at least three matters: its *realization conditions*, the events that evoke what it is a disposition *toward*; its *grounds*, the factors on which it is based (and presumably in some way supervenes); and its *constitutive manifestations*, those events whose occurrence (under appropriate conditions) counts, by virtue of the logic of the concept, as a realization of the disposition. With dispositions to believe, the constitutive manifestation is suggested by the very notion: it is belief formation. This is an event (in the sense entailing change), though believing itself is not. The realization conditions and grounds are various, and conceptual investigation alone does not reveal them. Let me briefly describe the main cases.

### *Realization*

One central category of realizers has been illustrated: having a thought of the relevant proposition (*p*). I mean thinking *of p*, as opposed to thinking *about p*, though that may also produce the belief that *p*. The former can occur as fast as one's comprehendingly hearing an assertion of *p*. It does not entail thinking about *p*. One also thinks of *p* in having the sudden thought *that p*, even if one does not go on to consider, and hence think about, the proposition. There are many things we are disposed to come to believe immediately upon thinking of them. Indeed, this is a major property of many dispositions to believe, and certainly of those that most concern me: the kind often assimilated to dispositional beliefs. These dispositions tend to be realized simply upon one's thinking of *p* and, often, upon thinking of it even in a less focal way than in entertaining it. For any disposition to believe, however, the readiness to believe is there, grounded, e.g., in sense impressions; given such factors as potential grounds for the belief—grounds that may also play a causal role in its formation—all that is normally needed for belief formation is *p*'s coming before one's mind in an appropriate way.

The range of appropriate ways for *p* to come before the mind is partly an empirical matter, and I shall introduce only some of the apparently central cases. A major constraint on appropriateness seems to be this: *S* must think of *p* in such a way that *S*'s ground(s) for believing it become properly connected with it, e.g. by inference from something *S* already believes. This point suggests two others: first, a realizer is normally not, by itself, a sufficient condition for belief forma-

tion; secondly, sometimes reflection is needed before the belief will form, e.g. to enable one to see that  $p$  follows from a proposition already believed.

Here are a few of the central cases, described in terms of our initial examples. In the first, I have a clear recollection of several words just used; hence, when asked if the sentence contains more than two, I form the belief that this is so—for asking the question results in my thinking, in an appropriate way, of the proposition it concerns. In the second example, there are at least two possibilities. First, I might already believe something to the effect that any integer is increased by adding a decimal to it; hence the moment I think of the proposition that 98.124 is larger than 98, I form the belief that it is. Second, I might have in mind some pattern representing comparative numerical sizes, and immediately see the two numbers as fitting it. To be sure, the apparent immediacy may be only temporal and not epistemic. My newly formed belief may, in the first case, be *inferential*, since it is based on my general belief about integers and decimals, or, in the second, conceptually *mediated*, given the way it is based on a pattern, yet non-inferential. But these cases show only that some kind of mediational process can realize a disposition to believe, not that I antecedently held a dispositional belief. Both cases contrast with that of the ambulance in that there the propositional object of the belief apparently does not come before the mind but is somehow “implanted” by the perceptual experience: the siren leaves a sort of doxastic trace.

It may be difficult to tell when a belief is inferential or otherwise mediated, but that does not affect the point: the arithmetic belief at issue still appears to be, not antecedently held and then expressed, but *formed*, in the sense, roughly, that  $S$  comes to believe the proposition in question. Indeed, the point that it is formed and not, e.g., rapidly retrieved from memory, does not depend on any such mediation. We can quite intelligibly suppose it is not thus mediated, but formed out of a sense of the self-evidence of the proposition considered. Perhaps, in different circumstances, the same person might form beliefs of the same sort either inferentially or “directly.” Suppose  $S$  directly forms the belief that 98.124 is larger than 98, and we then ask for a mathematical principle underlying this truth.  $S$  might cast about among apparently relevant principles and reach the one just stated (about integers), forming a belief of it on the basis of *its* apparent self-evidence. Later on, inference from this retained principle, rather than any sense of self-evidence, might explain  $S$ ’s formation of beliefs of similar comparative numerical propositions. The example also illustrates how thoughts that produce beliefs may be generated by a search for grounds or explanations.

### Grounds

The grounds of dispositions to believe are of several kinds. They include beliefs, as in arithmetic cases in which what underlies the disposition to believe may be belief of a “premise.” Other important grounds are sensory, introspective, and memorial experiences. Consider seeing. We need not form beliefs about every-

thing we see.<sup>4</sup> But seeing something disposes one to form various beliefs about it. Seeing a painting of a wooded hillside disposes me to form, but normally does not produce in me, a belief that it portrays more than two trees. This concerns *objectual*, not *propositional*, seeing. If one (propositionally) sees *that p*, e.g. sees that there are chairs out in the rain, as opposed to just (objectually) seeing chairs in the rain, the former at least normally implies believing *p*. Such propositional perception does not require having the thought that *p*, where having that thought implies entertaining the proposition or at least understanding some expression of it that comes before one, as in someone's saying that *p*. One can just see that there are chairs out in the rain, and thereby come to believe that proposition. The situation might be this: my seeing the chairs produces the disposition to believe they are out in the rain, and the disposition is realized straightaway when (e.g.) the question whether they should be outside puts before my mind the proposition that they are out there. Similar examples apply to introspection and memory. Think of recalling a person, and of the indefinite number of propositions one is thereby disposed to believe. If, however, all I want to know is whether Lee took her briefcase, the belief that she did may be the only one I form as a result of imaging her departure.

#### *Formative and Sustaining Dispositions to Believe*

Dispositions to believe are manifested in belief *formation*, but that formation does not imply belief *retention*. One can be disposed to form a belief, but not, on balance, disposed to retain it. Suppose I see someone breaking into my car who looks from thirty feet away just like Lea. I might now be disposed, by my percepts, to form the belief that it *is* Lea, and do so, then immediately realize that *her* breaking into the car is unthinkable, and thus come to believe it must be someone else. Or, take a logical case. Beliefs of certain premises may dispose me to form a belief of a proposition which, as soon as I consider it after coming to believe it, I reject as implausible, while quickly reconsidering my premises. We might call this inferential disposition, like the non-inferential one about Lea, a *merely formative disposition to believe*; it is simply a disposition to *come* to believe.<sup>5</sup> The most usual dispositions to believe *p* are based on elements that one takes to provide (or is at least disposed to take to provide) adequate ground for *p*. A common effect of these elements is a tendency to retain the belief, once it is formed, at least for a time. Call this a *sustaining disposition to believe*; it is a disposition to *hold* a belief. Typically, a disposition to come to believe *p* is grounded in a way that implies a disposition to hold the belief that *p*; and in speaking without qualification of dispositions to believe I refer to these typical dispositions to believe, the kind that are both *formative and sustaining*.

#### *Beliefs, Dispositions to Believe, and Presuppositions*

I have not pretended to give an analysis of dispositional beliefs or dispositions to believe. But it should help to say this: whereas a belief is—at least in good part—a (state of) readiness to act in certain ways appropriate to its content, at

least by affirming the proposition believed,<sup>6</sup> a disposition to believe is a readiness to form a belief. Neither forming a belief nor believing itself is a case of acting. *Causing* oneself to believe can be an action; but a disposition to believe is not equivalent to nor even implied by a disposition to cause oneself to believe. Indeed, people usually are not disposed to cause themselves to believe something unless they are *indisposed* to believe it otherwise. Dispositions to believe and actual beliefs are alike in requiring appropriate circumstances before they manifest themselves in belief formation or action (respectively); but their crucial manifestations are quite different, even in ontological category. Belief formation, though an event, is not an action.

The reason why dispositional beliefs and dispositions to believe can be hard to distinguish is that some of their manifestations are the same. Above all, if you ask me whether I believe *p*, then, if I do, I tend to affirm it—which is just what I typically tend to do if I am only disposed to believe *p* and am asked whether I do. But there remains a difference: if I already believe *p*, then I need only understand the question in order to reply sincerely, whereas if I am merely disposed to believe it I must instantiate one of the realizers for that disposition. What this amounts to depends on the circumstances: how obvious *p* is to me, how easily I draw the relevant inference (if my belief of *p* arises inferentially), how persuasively *p* is expressed, and so forth—the issue is largely empirical. Typically, I must think of *p* in a way that apparently goes beyond merely understanding what is said to me; perhaps I must focus on *p*, or at least think of it in a way not required for simply affirming it when I already believe it and am asked whether it is so. The relevant thinking of (or perhaps in some sense entertaining) *p* may be virtually instantaneous; but there is a way one must relate to a proposition—say, by focusing on it—in order to form a belief of it, which is not required for simply expressing a proposition already believed. Often, the difference is between consciously mediated and consciously unmediated affirmation. It is partly a contingent matter what factors in consciousness can mediate—and even whether a mediator must be in some sense conscious. But that some mediation—something which realizes the distinction between a belief's formation and its mere manifestation—is required in the one case and not the other seems essential to the contrast between dispositional beliefs and dispositions to believe.

The need for such mediation as a realizer of a disposition to believe is connected with another important distinction. What is believed is, unless temporarily forgotten, *presuppositionally available* in thought and discourse, e.g. as a premise for inference or as spontaneously assertible in talking about topics on which the proposition in question bears. What one is merely disposed to believe is only *indirectly available*, say through considering the proposition or placing it in the light of one's background beliefs. Some kind of realizer is required to produce belief formation. Granted, in some cases where people are said to presuppose that *p*, my view of belief implies that they would be only disposed to believe it. But this is consistent with the view: we may simply distinguish

between directly and indirectly accessible presuppositions and between psychologically realized and psychologically unrealized ones. There are various kinds of presuppositions and different relations one may have to what one presupposes. My view is intended to help us sort these out.

While the concept of a disposition to believe does not imply a small or even determinate set of realizers, it does imply that by comparison with a believed proposition, a proposition *S* is only disposed to believe is one step further from presuppositional availability. A mediator is required, something like thinking of *p*, to evoke the belief that *p*. Once formed, the belief holds *p* in readiness to serve as a premise in inferences or a basis for affirmations. This point can apply even if both dispositions to believe and dispositional beliefs can be unconscious, in the (epistemic) sense that *S* cannot become conscious of them *as such* without external help or special self-scrutiny. For the presuppositional role can surely be played by a proposition unconsciously believed, and an unconscious disposition to believe can, like a conscious one, also be a step further from readiness to play this role.<sup>7</sup>

## II. Beliefs, Actions, and Dispositions to Believe

Both the connection between belief and action and the nature of dispositions to believe are easier to grasp if we focus on instrumental beliefs, roughly beliefs to the effect that doing something—schematically, *A*-ing—will realize something one wants. If I want coffee and believe a pot of it is in the lounge, then when my desire becomes acute I will probably go there. But if I am only disposed to believe there is a pot there, say because I must reconstruct this from what I recall about the department's new plans, I do not tend to act so under the same conditions; the crucial belief must first be elicited by, e.g., my seeing a pot. Dispositions to believe instrumental propositions are at least one realizer further away from producing action than dispositional beliefs with the same content. This additional mediation need not cause temporal delay, but it apparently is essential to the genesis of the action.

One might think that even explaining actions requires only dispositions to believe, and that the distinction between these and dispositional beliefs is thus largely artificial. After all, often we cannot immediately say why we acted. Could this be because the relevant instrumental proposition is no more readily available to us for explaining our behavior than what I am calling a disposition to believe awaiting realization? First, even if dispositions to believe can explain action, it does not follow that they do not differ from dispositional beliefs. Second, if one cannot readily say why one *A*-ed, it may be because one does not know what one *wanted* in *A*-ing rather than because one cannot find a believed proposition about what *A*-ing would accomplish. If I know the end(s), i.e., what I wanted in *A*-ing, I can usually cite some belief I held about the action as some kind of means, even if the belief is just, say, that the action might revive my dead battery. But we can forget what we wanted to achieve in doing something or,

without forgetting anything, believe propositions we cannot readily articulate. An instrumental belief may also be repressed in some way; and if something we did seems to us unwarranted, that, too, can inhibit our formulation of beliefs underlying the action. There are, then, various ways to explain difficulty in formulating such beliefs; we need not conclude that what underlies action here is only a disposition to believe an instrumental proposition.

Beyond these points is a major theoretical one: our very concepts of belief and action are apparently such that any action is sufficient warrant to ascribe *some* belief connecting that action with an end, at least if every action has some description under which it is intentional.<sup>8</sup> *S*'s *A*-ing intentionally (at least where *S* *A*'s for a further end) is a paradigmatic ground for belief attribution. Granted, an action may be triggered by the *realization* of a disposition to believe; but the occurrence of the action implies that the disposition has been realized and has thereby issued in belief. 'She did it intentionally, but had no belief about how it might achieve any end of hers' expresses a generally incredible claim. If one acts for an end, one in some sense *aims* at it. The aim is not physical, but intentional. Belief *is*, in part, what determines the direction of that aim.

If dispositions to believe are in practice sometimes hard to distinguish from dispositional beliefs, they can also be hard to distinguish from something weaker. Are we not—it may be objected—disposed to believe whatever we can be convinced of? Think of a persuasive argument for *p* as a kind of realizer of a disposition to believe it. And am I not disposed, to some degree, to believe even that this paper is red, since its becoming red would produce that belief in me? These suggestions assimilate a disposition to believe to a mere *capacity to believe*. That, too, is a dispositional, and higher order, property; but as I conceive dispositions to believe, a disposition to believe is (conceptually, at least, as opposed to ontologically) a condition in which a (causal) basis for a belief is already present in such a way that, typically, the proposition need only be thought of, in order to be believed. *S* needs an occasion to *form* the belief, but does not lack an adequate psychological basis for it (and may also have, in this basis or otherwise, an adequate evidential ground for it). In the purported counterexamples, the argument would provide new inferential grounds for believing *p*, and the change in color would yield a new perceptual basis. As this illustrates, the philosophically most interesting dispositions to believe *p* are those whose basis is also an epistemically relevant ground for believing *p*; but the concept does not require any more than a certain kind of causal ground for forming the belief.

### III. Outline of a Theory of Belief Formation

I have been conceiving beliefs as states of *cognitive commitment*, however tentative and however unselfconsciously acquired; dispositions to believe as states of *cognitive inclination*, based on some ground—at least a causal one—for belief (or for forming a belief) of *p*; and mere capacities to believe as states of *cognitive*

*potential*, not necessarily resting on any ground for believing *p*. The sense of 'commitment' here is psychological, and applies to the belief, not the person holding it: normatively, *I* might be committed (epistemically) to a contrary of something I believe, e.g. because it is entailed by several other things I (more reasonably) believe. Such a normative commitment might go unfulfilled, even if I am quite disposed to form the new belief and, if I did, would revise my present beliefs. All three cognitive conditions can issue in affirmation. But normally, for beliefs that *p*, affirming *p* is a manifestation of a cognitive (belief) state already present; for dispositions to believe *p*, it is a manifestation of belief formation based on (at least causal) grounds already possessed; and for mere capacities to believe *p*, it is a manifestation of *both* the development of some ground and the formation of the belief that *p* on the basis of that ground.

The suggested theoretical conception of belief formation and, indirectly, of belief, can be sharpened by noting some contrasting views. One, often associated with Descartes, is *voluntarism*, which says that beliefs are formed by assenting to propositions as they come before the mind.<sup>9</sup> Another, which goes with certain empiricist pronouncements, we might call *experientialism*; it says that beliefs form in response to experience, and claims (or presupposes) that we believe *all* the propositions that experience in some sense puts before us, e.g. one for each clearly apparent property of what we see.<sup>10</sup> Some such view may underlie the idea of the mind as a mirror of nature. A third position takes elements of these or other views to account for the formation of non-inferential beliefs, and then posits inferential formation of beliefs of all the propositions that obviously follow from the propositional objects of the initial beliefs. Call this *inferentialism*. If it has not been explicitly held, it plausibly approximates what one is committed to if one (a) takes people to believe (at least dispositionally) all the obvious consequences of what they believe and (b) posits the prima facie most plausible account of how the non-basic beliefs are formed. Important truths may be extractable from each of these views, but my theory of belief formation is very different. It is non-voluntarist: while one can cause oneself to believe, many beliefs arise "directly" from cognitive dispositions grounded in, say, recollection; they need not emerge by assent or any exercise of will.<sup>11</sup> It is non-experientialist, since I maintain that experience produces far fewer beliefs than it disposes one to hold. And it is non-inferentialist because of a similarly economical thesis for beliefs already held: we are disposed, by holding a belief, to believe its obvious consequences; we need not believe, or even be disposed to believe, *all* of them.

If my negative points about the genesis of belief are sound, then what *does* account for belief formation, and why, given our experiences and beliefs, do we form only some of the beliefs we might naturally and warrantedly form? The question seems largely empirical, but some of the relevant evidence is familiar. The answer I suggest is that belief formation is (normally) a *discriminative response to experience*.<sup>12</sup> It occurs, for instance, when perception, thought, inquiry, or testimony makes one or more propositions stand out, or engage our

attention, in a certain way. Consider perception. We can see that this paper is white and, especially if that fact is mentioned, we may thereby perceptually believe that it is. But one can't *see* that *a* is *F* unless one sees *a* (or something suitably connected with it), and normally our visual percepts produced by seeing the paper enable us to form any of a countless multitude of beliefs. Why do we not form many others, e.g. that this paper does not weigh 100 lbs., is not European size, etc.? Because—I claim—the context in which the paper is brought to our attention, my mentioning its whiteness, makes one proposition in particular highly relevant to our concerns.

Another way to see how belief formation is discriminative is to consider cases in which the basis of a belief that *p* is a ground of a kind that provides an epistemically relevant reason for believing *p*. Even where my visual experience produces, and grounds, my belief that this paper is white, it would not normally produce a belief that it has a flat finish. Believing that would not be a normal response, as forming the color belief is; it is not as if I had to avoid paper with a cockle finish. Moreover, if the color changed before my eyes, my belief system would tend to follow suit, and my belief that it is white would be replaced by a different one: the process of belief formation responds to *changes* in experience. Belief formation is discriminative both because it is *selective*, depending on our needs or interests in the context, and *adjustive*, varying with relevant changes in its experiential basis.

There is far more to say about why we discriminate as we do. The answer may be in part evolutionary, in part pragmatic. If we did not form certain beliefs, say about blue and green as opposed to grue and bleen, we would not survive; and surely our interests in a situation partly determine what we focus on, which in turn partly determines what beliefs we form from among the multitude we could form. Perception, for instance, is *overinformative*: it normally gives us, non-propositionally, more information than we need to navigate the world. To step over a protruding paving block, I do not need to believe that it sticks up more than one inch, though this may be evident. So long as the mind is retentive, the extra information is ready to issue in new beliefs as problems or reflections indicate the need for it; and because memory of objects and events is analogously overinformative, we can retain much of this non-propositional information in a similarly accessible way.

#### IV. Psychological and Epistemic Properties of Dispositions to Believe

In distinguishing dispositions to believe from dispositional beliefs, I have noted the greater explanatory powers of the latter, say regarding actions. But this is not to suggest that dispositions to believe are not real characteristics of persons, or have no explanatory power. I shall stress four of their properties.

First, dispositions to believe apparently have explanatory power, not in the way events do, but as part of a causal framework in terms of which we explain events and other phenomena. It is partly because I am disposed to believe that

this sentence has more than two words that, on considering the proposition, I in fact come to believe it. Similarly, it may be because I am disposed to believe a conditional, say that if the machine is running then the fan is on, that I am disposed to believe its contrapositive, that if the fan is not on, then the machine is not running. In the first instance, a disposition to believe is partly responsible for an event of belief formation; in the second, it is a sustaining cause of another such disposition. One may protest that it is not the disposition to believe which plays a causal role, but the properties on which it supervenes. Suppose this is true.<sup>13</sup> Two points temper it: (1) the same would apply to many other properties which apparently enter into causal relations in a potentially explanatory way; and (2) since a person who has the disposition will have its base properties as well, an appeal to the disposition in answering why-questions is at least indirectly explanatory. Its presence implies the materials for an explanation, and anyone aware of its base properties can easily use those materials to construct an explanation.

Second, dispositions to believe admit of justification. If I see a chair on the grass, my visual experience both produces and justifies my disposition to believe that there are more than two blades of grass near it. But someone disposed, merely from jealousy, to believe ill of another person would not be justified in that disposition. Note that, at least usually, the grounds of a disposition to believe are internally accessible: *S* usually can, by reflection, become aware of the crucial base properties and can often come to know on what ground *S* is disposed to believe that *p*.<sup>14</sup> Thus, insofar as the grounds are good, one can (normally) use them to justify the disposition or, if they are deficient, to criticize it.

To have a justified disposition to believe *p* is not simply to be such that if one were to come to believe *p*, one would be justified in so believing. Certain authorities could provide me information that would evoke justified beliefs, though the information is quite new to me; but this point implies only a capacity on my part to believe, not a disposition thereto. A dispositional property as I construe it is not wholly analyzable in counterfactuals and subjunctives<sup>15</sup>; and *how S* comes to believe *p* (or why *S* continues to believe it) is crucial for the question whether that belief is justified. Even if I do have a justified disposition to believe *p*, if I come to believe *p* on grounds irrelevant to that disposition—e.g. testimony I should know is baseless—I do not thereby acquire a justified belief.

The third point is that dispositions to believe exhibit a limited closure. Here are two representative principles. (1) If *S* is disposed to believe *p*, and *p* obviously entails *q*, then (other things equal) *S* is disposed to believe *q*. If I am disposed to believe that Lee is at the office, I am disposed to believe that someone is there. (2) If *S* is disposed to believe *p* and *does* believe that *p* entails *q*, then (other things equal) *S* is disposed to believe *q*. Here the strength of the disposition to believe *q* varies with many factors, including the strength of one's disposition to believe *p* and of one's tendency to draw obvious inferences from what one believes. Weaker counterpart principles hold for probabilistic connections.

The fourth point is that dispositions to believe figure in our overall rationality, somewhat as dispositions to act figure in our overall virtue. It is not just our beliefs, but also our dispositions to believe, that count toward our rationality. Being disposed to believe absurdities would count against my rationality even if I withheld them by reminding myself that I will be thought foolish. Our dispositions to believe are part of our cognitive make-up and represent rational potential: the rational beliefs we are disposed to form are *accessible* to us. Unlike beliefs themselves, dispositions to form them are not (psychologically speaking) cognitive commitments. But we are properly judged by our inclinations as well as our commitments. To be disposed to form justified, insightful beliefs counts towards rationality; to approach the brink of forming irrational beliefs bespeaks folly, even if one never tumbles over.

### V. Conclusion

The distinction I have developed is generalizable to all the propositional attitudes. There are, e.g., dispositions to hope and dispositional hopes, dispositions to fear and dispositional fears, dispositions to want and dispositional wants, and dispositions to prefer and dispositional preferences. These distinctions can be important for reasons similar to those applicable to belief. For instance, just as our rationality may be judged both by what we are disposed to believe and by what we do believe, our morality may be judged both by what we are disposed to intend and by what we do intend. I cannot pursue these other cases here. It is more important, in concluding, to consider what is gained theoretically by retaining the distinction between dispositional beliefs and dispositions to believe, as opposed to adopting what we might call *assimilationism*, by invoking two ways of dispositionally believing, the retentional—which is shorthand for the conception I have offered, taking dispositional beliefs as presuppositionally available—and the affirmational, which is shorthand for the common view that we dispositionally believe whatever we tend (sincerely) to affirm when questioned.<sup>16</sup> What is learned by preserving the distinction, not just about what belief is—the most common (and in my judgment too narrow) preoccupation of most philosophers studying the notion of belief—but about its formation, storage, retrieval, and change?

Preserving the distinction yields a theory of cognition that is both conceptually richer and, often, discriminatively finer than the assimilationist alternative. We also get a simpler model of cognitive behavior and overt action. For we can explain both our inferential tendencies and our affirmational and other behavior without positing so many beliefs. Granting that we must also posit dispositions to believe, they are at least built from the same basic materials, psychologically and epistemically, which constitute belief and knowledge. There is no inflation of raw material, only a finer accounting of its shapes and forms.

Preservation also gives us a better account of information processing and storage. Information that assimilationism must regard as stored in disparate

beliefs is instead viewed as retained in sensory impressions, in memorial images or remembered paradigms, and in general beliefs which yield instantial ones by subsumption of new items under the general propositions these beliefs express. Information processing is similarly treated: framework beliefs, e.g. of simple logical truths, and non-propositionally stored information can yield new beliefs as we need them to guide inference and action; we need not posit such a vast store of beliefs in order to explain affirmations and instrumental behavior. To be sure, if dispositions to believe are individuated in terms of their propositional contents, then we must countenance a huge number of these dispositions. But this is less problematic than positing beliefs of each proposition in question. Dispositions to believe are grounded, and retained, in elements independently needed to understand persons, e.g. in percepts (whether construed adverbially or substantively), impressions, conscious states, and beliefs. These dispositions are not, then, gratuitous posits, whereas the beliefs assimilationism puts in place of some of them are not required to explain anything philosophically or psychologically important. Second, there is no special philosophical problem about how the elements grounding dispositions to believe arise, whereas there is serious difficulty in understanding how we would form all of the beliefs required by assimilationism. One might say that it is by unconscious inference; but there is no independent evidence of this process, at least in *all* these cases, and the multitude of belief formations to be explained—a staggering number in arithmetic alone—suggests that the relevant unconscious activity requires immense neural support and an exceedingly capacious memory. It may be even harder to find a plausible explanation of why the behavior of our unwitting offender is not affected by his (supposedly dispositional) belief that he might be offending Norma as a relative of the politician he is attacking.

Dispositions to believe are higher order properties belonging to us by virtue of a much smaller number of first-order psychological properties; beliefs are first-order properties that, psychologically, must be retained in memory when (as is usual) they are held over time, and, neurologically, must apparently be realized in the brain. In suggesting that, to appraise assimilationism as opposed to the discriminative response view, we should consider their relative demands on the brain as well as on the mind understood philosophically, I am not presupposing any theory of brain function. I am simply making assumptions that seem reasonable given *any* plausible theory of how the brain works. Moreover, my case seems neutral regarding the controversy between connectionism and the classical rules-and-representation view of the brain.<sup>17</sup> Indeed, if this paper suggests anything about that controversy, it may be that, as some writers on the issue believe,<sup>18</sup> the two approaches can be to some extent combined. Given a disposition to believe *p* grounded in an antecedent belief that *q*, which formally entails *p*, it is easy to see how a rule might mediate the formation of the belief that *p* as the realization of the disposition. Given a disposition to believe *p* grounded, more globally, in a percept, there might be not only many ways the belief can be

formed, depending on the pattern of activation of relevant nodes, but also many different beliefs that can also be readily formed. In contemplating a painting, one may, but need not, bring to it artistic rules or aesthetic conceptions; one will, in a mere moment of contemplation, have many unrealized dispositions to believe; and one may follow no identifiable pattern in forming the beliefs one does form.

Belief is a dauntingly troublesome concept however we approach it, but it surely becomes less so when we free ourselves of the task of subsuming under it all the phenomena I have identified as dispositions to believe. Folk psychology, moreover, becomes richer and more likely to be integrable, in part, into a scientific conception of the human agent.<sup>19</sup> Our beliefs are vast in number and multifarious in content. Many never surface, but even those that do not are still more than dispositions to affirm their propositional contents, and these in turn are more than mere capacities to believe. As compared with dispositions to believe, beliefs differ in origin, having been formed, in a different way, through, for instance, thought or perception; they differ in causal and inferential powers, being readinesses to produce further beliefs, or overt actions, without the kinds of mediating events required to realize dispositions to believe; and, being expressions of our cognitive commitments and not just our cognitive leanings, beliefs play a different role in our rational make-up. They represent how we view the world, and not just how we are disposed to view it, and they determine the map that guides our movements in life, and not just our inclinations to draw one.<sup>20</sup>

### Notes

<sup>1</sup>One might be reminded of the *Meno*, where Socrates apparently attributes many antecedent beliefs to a slave on the basis of a similar readiness to affirm the relevant propositions. One could say it is *knowledge* Socrates is attributing, but I doubt that knowledge as he conceived it precludes belief in the generic sense relevant here. In any case, similar examples apply to what we call knowledge. For a recent conception of belief, on which spontaneous affirmation is sufficient for it, see L. Jonathan Cohen, "Belief and Acceptance," *Mind* XCVIII (1989): "Belief that *p*... is a disposition to feel it true that *p*... . You answer the question whether you believe that *p* by introspecting or reporting what you are disposed to feel about the matter" (p. 368). I conceive belief differently, but agree that it differs from acceptance. On both belief and acceptance cf. Robert C. Stalnaker, *Inquiry* (Cambridge: MIT-Bradford, 1984), esp. chs. 4 and 5.

<sup>2</sup>For examination of tacit belief and other topics bearing on this paper see William G. Lycan's "Tacit Belief," ch. 3 of his *Judgment and Justification* (Cambridge: Cambridge University Press, 1988). He notes that "theorists almost irresistibly suppose that tacit belief may itself be defined in terms of explicit belief or judgment, typically as the *disposition* to judge, but that is about as far as the discussion has gone to date" (p. 54). This paper extends that discussion and assesses the cited supposition insofar as tacit belief is equated with dispositional belief. Note, however, that Lycan uses 'occurrent belief' roughly as I use 'dispositional belief' and 'tacit belief' much as I use 'disposition to believe'. Cf. W. V. Quine and J. S. Ullian: "believing... is a disposition... to respond in certain ways when the appropriate issue arises. To believe that Hannibal crossed the Alps is to be disposed, among other things, to say 'Yes' when asked." See *The Web of Belief* (New York: Random House, 1970), pp. 3–4).

<sup>3</sup>This is not uncontroversial. Paul Moser, e.g., holds that "one comes to believe that *P* only if one assents to *P*. And... one's genuinely assenting to *P* requires one's understandingly affirming that *P*..." See *Knowledge and Evidence* (Cambridge: Cambridge University Press, 1989), p. 16. I doubt that belief formation entails assent, but if so—indeed, if even considering *p* is required—the work of this paper will be made easier.

<sup>4</sup>For discussion of this difficult issue see Fred Dretske's *Seeing and Knowing* (London: Routledge and Kegan Paul, 1969).

<sup>5</sup>There are complexities here; perhaps, e.g., a formative disposition to believe *p* entails being disposed to *some* degree to hold this belief, but may simply be outweighed.

<sup>6</sup>I leave open whether even this minimal case of action on a belief requires some *want*; it is arguable that unless one wants, e.g., to be cooperative, one will not even be disposed to avow that *p* when asked whether one believes *p*. But even if belief is never, apart from an appropriate want, a readiness to act, beliefs would still (a) lie closer to action than dispositions to believe and (b) differ from the latter in manifesting themselves only in combination with a want, a condition not necessary for a disposition to believe to be realized in belief formation. The relevant sense of 'want' is the broad one I explicate in "Intending," *Journal of Philosophy* LXX (1973).

<sup>7</sup>It is even possible for a belief unconscious in this sense to be "occurrent" and, in that way, in consciousness: one might contemplate its propositional object, believing, or being disposed to believe, that one does *not* believe it. This can presumably happen in self-deception, and it helps to explain how unconscious beliefs can have the causal influence they are taken to have.

<sup>8</sup>It is arguable that this fails for intrinsically motivated basic action, the kind one does neither for any *further* end nor *by* doing something else. But suppose I *intentionally* whistle just because I feel like it. Might I not have to believe something appropriate to the action, even if I have only a *de re* belief, such as believing *this* to be sufficient for *that*, where the former is just whistling and the latter is whatever it is about whistling that makes me want to do it? Perhaps not, but even if basic action for no further end is an exception, the main point could still stand for the vastly more common cases of action for a further end. Such problematic cases are examined in my "Acting for Reasons," *Philosophical Review* XCV (1986), pp. 542–544.

<sup>9</sup>Consider how Descartes (in Meditation IV) explains his errors: "...since the will is much wider in its range and compass than the understanding, I do not restrain it within the same bounds, but also extend it to things which I do not understand..." (trans. by Haldane and Ross). This does not imply the extreme voluntarist view that *all* beliefs are formed by assent, but it suggests a strong enough voluntarism for my illustrative purposes. Cf. the quotation from Moser in note 3.

<sup>10</sup>Locke, e.g., remarked, "Let us suppose the Mind to be...white paper, void of all Characters, without any *ideas*. How comes it to be furnished? ... From *Experience*: In that, all our knowledge is founded..." See the *Essay*, Bk II, ch. I, section 2. Thomas Reid goes further: "the clear and distinct testimony of our senses carries irresistible conviction along with it...perception commands belief upon its own authority and disdains to rest its authority upon any reasoning." See *Essays on the Intellectual Powers of Man*, Essay II, ch. 5. Indeed, he defines perceiving partly in terms of beliefs about its object: of the olfactory sensation produced by a rose, Reid says, "This quality in the rose is the object perceived; and that act of the mind by which I have the conviction and belief of this quality, is what I call perception" (Essay II, ch. 26).

<sup>11</sup>We can *indirectly* produce beliefs in ourselves and can voluntarily open ourselves to believing some propositions and close our minds to others. It is believing "at will" that I reject as an account of (at least normal) belief-formation. For many relevant points see W. P. Alston, "The Deontological Conception of Epistemic Justification," *Philosophical Perspectives* 2 (1988).

<sup>12</sup>Belief formations are only "normally" discriminative responses to experience because, e.g., beliefs could be formed artificially by neurological induction. I have explicated an action-theoretic parallel to this doxastic discriminative response view, the idea that (intentional) action is a discriminative response to the agent's reasons, in "Acting for Reasons," cited above.

<sup>13</sup>I doubt that it is. Consider an example of Lycan's: replying to David Armstrong's suggestion that for a moral property to be real it must have causal power *qua* moral [i.e., not just in virtue of its supervenience base properties, I take it], Lycan says, "a watermelon dropped on a philosopher's head from a third-story window does not have its lamentable effect *qua* watermelon, or *qua* fruit" (op. cit., p. 210).

<sup>14</sup>In "Causalist Internalism," *American Philosophical Quarterly* 26 (1989), I discuss the relevant kind of accessibility and reflection, but nothing here turns on the details being omitted.

<sup>15</sup>This is the sort of analysis implied in an equivalence proposed, as an axiom, by Ronald de Sousa: "*Bp* [believing that *p*] is a *disposition to assent*" to *p*. See "How To Give a Piece of Your Mind," *Review of Metaphysics* 25 (1971), p. 64. Cf. Lawrence Powers, "Knowledge by Deduction," *Philosophical Review* LXXXVII (1978).

<sup>16</sup>For indications of this kind of view see the citations and quotations in notes 1 and 15.

<sup>17</sup>For a number of philosophically relevant, psychologically sophisticated, papers on this controversy see *Connectionism and the Philosophy of Mind*, *Southern Journal of Philosophy* XXVI Supplement (1987). Also relevant (and discussed there) is J. A. Fodor and Z. W. Pylyshyn, "Connectionism and Cognitive Architecture: A Critical Analysis," *Cognition* 28 (1988).

<sup>18</sup>See, e.g., Paul Smolensky, "The Constituent Structure of Connectionist Mental States: A Reply to Fodor and Pylyshyn," *Southern Journal of Philosophy* XXVI Supplement (1987).

<sup>19</sup>Some of the impetus toward eliminative materialism may come from attributing to folk psychology generalizations that do not seem plausible in the light of the distinction. In "Eliminative Materialism and the Propositional Attitudes," e.g., Paul M. Churchland suggests, as a folk-psychological generalization, that if *S* believes both *p* and that if *p* then *q*, then "barring confusion, distraction, etc." *S* believes *q*. *Journal of Philosophy* LXXVIII (1981), p. 71. Even with the qualification (and a reasonable reading of 'etc.'), beliefs are not closed in this way (as Churchland seems to see); but it is plausible to ascribe to *S* a disposition to believe *q*.

<sup>20</sup>A much earlier version of this article was an invited paper at the Central Division Meetings of the American Philosophical Association in 1990. I thank my commentator, William G. Lycan, for many helpful comments and regret lacking space to respond to them in detail here. I have also benefitted from discussions at Ohio University, SUNY at Buffalo, the University of Minnesota, the University of Nebraska, and the University of Texas at Austin and from comments by Edward Becker, Panayot Butchvarov, Timothy Day, Jesse Hobbs, James Hudson, Eric Kraemer, Pat Manfredi, Thomas Satre, Barbara Van Eckhardt, Paul Weirich, and readers for *Noûs*.