CHAPTER 2

THEORETICAL RATIONALITY

Its Sources, Structure, and Scope

ROBERT AUDI

The concept of rationality applies to many different kinds of things. Its widest and perhaps most complex use is in reference to persons themselves. But the concept also applies to actions, beliefs, desires, and many other elements in human life. There are, for instance, rational societies, rational plans, rational views, rational reactions, and rational emotions. A comprehensive theory of rationality must take account of this enormous diversity.[1] A full-scale account of the rationality of even one element on this list is a large undertaking and cannot be attempted here. It is possible, however, to make a brief contribution to the topic of rationality if we distinguish, as Aristotle did, between theoretical and practical rationality and concentrate mainly on one of them. In outline, the distinction centers on the contrast between the rationality of cognitions, such as beliefs, in virtue of which we are theorizing beings seeking a true picture of our world and, on the other hand, the rationality of elements, such as actions, in virtue of which we are practical beings seeking to *do* things, in particular to satisfy our needs and desires. These two dimensions of rationality are widely regarded as interconnected, and we must consider some of the relations between them, but our main focus will be on theoretical rationality.

Belief is central for theoretical rationality. Our belief system represents the world—including the inner world of "private" experience—to us. Moreover, it is beliefs that, when true and appropriately grounded, constitute knowledge. Knowledge, in turn, is uncontroversially taken to be a "goal" of theoretical reason. Although representing theoretical reason as "seeking" a goal is metaphorical, the achievement of knowledge is widely viewed as a case of success in the exercise of theoretical reason. If, however, as skeptics have argued, our knowledge is far more limited than commonsense attributions of it would indicate, theoretical reason represents a capacity whose successful exercise is correspondingly limited.

The question of whether one or another kind of skepticism about knowledge is sustainable is large and difficult. Fortunately, it can be avoided in a brief treatment of theoretical rationality. For even if a belief does not constitute knowledge, it may be rational. I propose, then, to concentrate on conditions for the rationality of belief.[2] If these are well understood, we can account for theoretical rationality in a way that enables us to see how much of a success its exercise may be even if knowledge often eludes us. Even if skeptics are correct in claiming that our knowledge is at best highly limited, we can achieve a rational belief system whose intellectual respectability is clear.

I. Sources of Theoretically Rational Elements

A natural and promising way to begin to understand rationality is to view it in relation to its sources. The very same sources yield justification, which is closely related to rationality. These sources are also central for reasonableness, which implies rationality but is a stronger notion. Our reasonable beliefs, like our justified ones, are rational, but a belief that is rational—at least in the minimal sense that it is not irrational—may be (beyond avoiding inconsistency and other clear defects) simply plausible to one, sometimes in the way a sheer speculation often is, and may fail to be justified or reasonable, as one may later admit. At times I will connect rationality with these concepts, but to avoid undue complexity I will focus chiefly on theoretical rationality, with rational belief as the central case.

The Classical Basic Sources of Rationality

If, in the history of epistemology, any sources of the rationality of belief deserve to be called the classical basic sources, the best candidates are perception, memory,

consciousness (sometimes called *introspection*), and reason (sometimes called *intuition*). Some writers have shortened the list under the heading "experience and reason."[3] This heading is apt insofar as it suggests that there is some unity among the first three sources and indeed the possibility of other experiential sources of rational belief; it is misleading insofar as it suggests that experience plays no role in the operation of reason as a source of rational belief (and of justification and knowledge). Any operation of reason that occurs in consciousness—for instance, engaging in reasoning—may be considered a kind of intellectual experience. The reflection or other exercise of understanding required for "reason" to serve as a source of rational belief is certainly one kind of experience.

Let us first explore what it is for a source to be basic and some of the conditions under which beliefs it yields are rational. We can then consider what kind of source might be nonbasic and whether the four standard basic sources are the only basic sources of theoretical rationality.

I take it that a *source* of (theoretical) rationality (or justification) is roughly something in the life of the person in question—such as perception or reflection—that characteristically yields rational beliefs. I also take it that to call a source of theoretical rationality (or of justification) *basic* is to make a comparative statement. It is not to rule out every kind of dependence on *anything* else, but simply to say that the source yields rational belief without positive dependence on the operation of some other source of rationality (or of justification). We might begin with perception.

Perception

On the basis of perception, I might rationally believe and indeed know that the clock says ten; I know this by virtue of seeing its face displaying that time. On the basis of brief reflection, I might rationally believe (and know) that if one proposition entails a second and the second entails a third, then if the third is false, so is the first. To be sure, this belief is not possible without my having the concepts required to understand what I believe, but that conceptual requirement is not a positive dependence on a source of rationality.

It may seem that the perceptual belief can be rational only if I remember how to read a clock and that therefore perception cannot yield rational belief independently of memory, which is also a source of rational beliefs. It is true that rational perceptual belief may depend on memory in a certain way. But consider this. A being could acquire the concepts needed for reading a clock at the very time of seeing one, and hence would not need to *remember* anything in order to form the belief (at that very time) that the clock says ten. One possibility is the creation of a duplicate of someone like me: reading a clock would be possible at

his first moment of creation. It appears, then, that although perceptually grounded rational belief ordinarily depends in a certain way on memory, neither the *concept* of perception nor that of rational perceptual belief (or perceptual knowledge) is *historical.* That of memory, however, is historical, at least in this sense: one cannot remember something unless one has *retained* it in memory over some period of time.

One might think that perception is not a basic source of theoretical rationality because of the way it depends on consciousness. The idea would be that one cannot perceive without being conscious; hence, perception cannot yield rational belief (or knowledge) apart from the operation of another source of it. Let us grant that perception requires consciousness.[4] If it does, that is not because consciousness is a precondition or a causal requirement for perception, but because perception *is* a kind of consciousness: consciousness of an external object. The dependence would be constitutive rather than operational. We might then simply grant that perception is perceptual consciousness and treat only "internal consciousness" (consciousness of what is internal to the mind) as a source of rational belief (or of knowledge) distinct from perception.

Internal consciousness, understood strictly, occurs only where its object is either internal in the way images and thoughts are (roughly, phenomenal) or abstract, as in the case of concepts and (presumably) numbers. On a wider interpretation, internal consciousness might have dispositional mental states, such as beliefs, desires, and emotions, among its objects. But even when this occurs, it seems to be *through* consciousness of their manifestations that we are conscious of such states, as where we are conscious of anxiety through being aware of unpleasant thoughts of failure.

Philosophers in the sense-datum tradition have held that ordinary perception of physical objects is also in a sense indirect, being "through" acquaintance with "ideas" of them that represent them to us. But an account of theoretical rationality need not be committed to such a *representationalism.* One can plausibly hold both that perception requires a sensory experience and that external objects are directly perceived—and that in that sense we are directly conscious of them, as opposed to being conscious of some interior object that represents them to us.[5]

To be sure, one might also treat consciousness as a kind of perception: external perception where the perceived object is outside the mind, internal where that is inside. But abstract objects are not "in" the mind, at least in the way thoughts and sensations are. In any case, it is preferable not to consider consciousness of abstract objects as a kind of perception. One reason for this is that there is apparently a causal relation between the object of perception and whatever sensation or other mental element constitutes a perceptual response to it, and it is at least not clear that abstract entities have causal power, or at any rate the requisite kind.[6] This issue is too large to pursue here, but it may be enough to

note that not all mental phenomena seem to be either perceptual in any sense or to be directed toward abstract objects. Consider, on the "passive" side of mental life, an idle daydream, or, on the "active" side, planning. Neither need concern the abstract, nor must we suppose that there are objects in the mind having properties in their own right.[7] It would be unwise to assume that perception exhausts the activity of consciousness.

It does appear, however, that we may take the concept of perception to be a partly causal notion. If you see, hear, touch, taste, or smell something, then it affects you in some way. And if you may be said to perceive your own heartbeat or even your own anxiety, this is owing to their causing you to have some experiential impression analogous to a sense-impression you might have through the five senses. Conceived in this way, perception is not a *closed concept:* it leaves room for hitherto unfamiliar kinds of experiential response to count as the mental side—the subjective response side, one might say—of perceiving an object and indeed for new or unusual kinds of objects to be perceptible.[8] This is not the place, however, to give an account of exactly what perception is. My point is that there may be perceptual sources of theoretical rationality other than the familiar ones. The concept of theoretical rationality is surely no more closed than is the notion of a perceptual source of belief.

Memory

If, in speaking of perception, we are talking about a capacity to perceive, in speaking of memory we are talking about a capacity to remember. But remembering, in the sense of having a veridical memory of something, does not exhaust the operation of our memorial capacity to the extent that perceiving, in the sense of having a veridical perception of something, exhausts the operation of the perceptual capacity. There is also *recalling,* which entails but is not entailed by remembering; *recollecting,* which is similar to recalling but tends to imply an episode of (sometimes effortful) recall, usually of a sequence or a set of details and often involving imagery; and memory *belief,* which may be mistaken and does not entail either remembering or even recalling. It seems, however, that remembering that p (where p is some arbitrarily chosen proposition) entails knowing it; and we also speak of knowing things from memory. When we do know things (wholly) in this way, it is not on the basis of other things we know. One may know a theorem from memory *and* on the basis of a simple proof from an axiom. But where one knows p wholly from memory—simply by virtue of remembering it—one does not at the time know it on the basis of knowing or believing anything else.

These points make it natural to think of memory as a basic source of knowledge as well as of rational beliefs that fall short of knowledge (say because they are false or based on too weak a memory impression). But I doubt that memory is a basic source of knowledge. It *is* an epistemically *essential source;* that is, what we think of as "our knowledge," in an overall sense, would collapse if memory did not sustain it: we could know only what we could hold in consciousness at the time (at least this is so *if* what we know dispositionally at a time must be conceived as held in memory at that time, even though it is true then that if we *were* to try to bring any one of the propositions to consciousness then, we would normally have it there then).[9] By virtue of playing this role, memory is an epistemic source in an important sense. But surely one cannot know anything from memory without coming to know it through some *other* source. If we remember it and thereby know it, we *knew* it; and we must have come to know it through, say, perception or reasoning.[10]

If, however, memory is not a basic source of knowledge, it surely *is* a basic source of theoretical rationality (and of justification for belief). Just how it plays this role is not easy to capture. But consider believing that last week one telephoned a friend. There is a way this belief—or at least its propositional object—can present itself to one that confers some degree of justification on the belief (I think it can confer enough to allow the belief to constitute knowledge if one is correct and there is no defeater of one's would-be knowledge, but there is no need to try to show that here). Someone might object that it is only by virtue of knowledge, through consciousness, of one's memorial images that we can be justified in such beliefs, but I very much doubt this.[11] A remembered proposition can surface in consciousness without the help of images, and often spontaneously, upon the need for the proposition in answer to a question about the relevant subject or as a premise for an argument that one can see to be needed to justify a claim one has made.

In the light of the points made about memory so far, I suggest that it is an *essential source of knowledge* and a *basic source of justification.* In the former case it is *preservative,* retaining knowledge already gained; in the latter it is *generative,* producing justification not otherwise acquired. Given the way that memory can preserve belief and indeed knowledge—retaining them even when any premises we may have initially had as a basis for them are forgotten—it has another positive epistemic capacity. It can be a preservative source of basic knowledge even without being a basic source of it. Knowledge from memory need not be based (inferentially) on other knowledge or belief and hence can be basic; but since the knowledge must be acquired through another source, memory depends operationally on that source and is not a basic source of the basic knowledge in question. Memory can, then, produce knowledge that is basic in the order of knowings even though memory itself is not basic in the order of sources.

Consciousness

Consciousness has already been mentioned as a basic source of rational belief (and of knowledge). It seems clear that if any kind of experience can yield rational belief, it is introspective consciousness of what is presently in one's mind. Even philosophers who take pains to give skepticism its due, such as David Hume, do not deny that we have knowledge—presumably noninferential knowledge—of our own current mental life.[12]

Suppose those who deny direct realism—roughly the view that we perceive external objects without the mediation of objects constituting mental representations of them—are right and some form of representative realism (the mediation view just sketched) is true. Then it is only consciousness of the inner world—or at least of whatever can exist "in" consciousness—that is a basic perceptual source, since outer perception (consciousness of the external world) is not a basic source. But the inner world is a very important realm. It might include abstract objects, such as numbers and concepts, as well as sensations, thoughts, and other mental entities. (This would not imply that abstract objects are mental; the sense in which they are in the inner world is a matter of their direct accessibility to thought, not of their mode of existence.) And for nonskeptics, even if we do not directly perceive external objects, we may still have knowledge of them through perceptual experience that, like experience of sense-data, represents them.

Reason

When we come to reason, there is, as with memory, a need to clarify what aspects of this general capacity concern us. Like "memory," the term "reason" can designate quite different things. One is reflection, another reasoning, another understanding, and still another intuition. We reflect on a subject, reason from a hypothesis to see what it implies, understand a concept or proposition (sometimes only after reflection), and intuit certain truths. These are only examples, and there is overlap. Any of the objects in question must be understood (adequately, though not perfectly) if it is to be an object of reason, and understanding the truth of a proposition—say that *p*—that one intuits may require reflecting on it: understanding may not come quickly or even easily.

It will help to focus on a simple example. Consider the logical truth that if all human beings are vulnerable and all vulnerable beings need protection, then all human beings need protection. We can reason from the "premises" (expressed in the *if* clause) to the "conclusion" (expressed in the *then* clause), but an assertive use of this conditional sentence need not represent giving an argument. Moreover, the proposition it expresses is not the kind that would (normally) be known by

reasoning. It would normally be rationally believed (and known) by "intuition" or, in the case in which such direct apprehension of the truth does not readily come to a person, by reflection that indirectly yields understanding. (The *conclusion*—that all human beings need protection—may of course be known wholly on the basis of reasoning from the premises. One's knowledge of it then depends on one's knowledge of them, and that knowledge surely requires reliance on a different basic source. But the proposition in question is the conditional one connecting the premises with the conclusion, and knowledge of *that* does not require knowledge of either the former or the latter.)

Reasoning

It turns out, then, that "reasoning" is not a good term for the ratiocinative basic source we are considering. Indeed, if we distinguish reasoning from reflection of a kind that yields knowledge that *p apart from* reliance on independent premises, it is best not to use "reasoning" in describing this source. What seems fundamental about the source is that when knowledge of, or justification for believing, a proposition comes from it, it derives from an exercise of reason regarding the proposition. This may take no time beyond that required to understand a sentence expressing the proposition (which may be virtually none; nor need we assume that all consideration of propositions is linguistically mediated, as opposed to conceptual in some sense). Here it is natural to speak of intuiting. But the proposition may not be so easily understood, as (for some people) is the case with the proposition that if *p* entails *q* and *q* entails *r,* and either not-*q* or not-*r* is the case, then it is false that *p.* In this case it is more natural to speak of reflection. In either case the source seems to operate by yielding an adequate degree of understanding of the proposition in question and thereby knowledge. It does not appear to depend (positively) on any other source and is plausibly considered basic.[13]

It also seems clear that reason is a basic source of rational belief (as of justification and knowledge). Such simple logical truths as those with the form of "If all *As* are *Bs* and all *Bs* are *Cs,* then all *As* are *Cs*" can be both justifiedly believed and known simply on the basis of (adequately) understanding them. In at least the vast majority of the cases in which reason yields knowledge, it apparently also yields justification. It can, however, yield justification for a belief without grounding that belief in a way that renders it a case of knowledge. This may occur even where the belief is true.[14]

The more common kinds of justified beliefs that do not constitute knowledge are *not* true. Careful reflection can make a proposition seem highly plausible even where later reflection shows it to be false. If we are talking only of prima facie

(hence defeasible) rationality (and justification), there are many examples in logic and mathematics. Consider Russell's paradox.[15] There seems to be a class of non-teaspoons in addition to a class of teaspoons. The latter class, however, is plainly not a teaspoon, since it is a class. So, it is a non-teaspoon and hence a member of itself. The same holds for the class of non-philosophers: being a non-philosopher, it is a member of itself. It now seems that there must be a class of such classes—a class of all and only those classes that are not members of themselves. But there *cannot* be one: this class would be a member of itself if and only if it is *not* a member of itself. Thus, what appears, on the basis of an exercise of reason, to be true may be false.

It may be objected that it is only inferentially that one could here believe there is a class of all and only classes that are not members of themselves and that therefore it is not only on the basis of the operation of reason that one would believe this. But surely we may take reasoning to be *one* kind of such operation, particularly deductive reasoning. It is true that the *basic kind* of knowledge or justification yielded by a source of either is noninferential; there is no good reason, however, to rule that inferences may not be included among operations of reason.

To be sure, there is still the question whether inference depends on the operation of memory, in the sense that one may draw an inference from a proposition only if one *remembers* it. This seems false. One can hold some simple premises before one's mind and at that very time draw an inference from them. People vary in the relevant *inferential memorial capacities,* as we might call them. If we allow that rationality (or knowledge or justification) deriving from simple inferences such as those in question here need not depend on memory, we may conclude that it can be on the basis of inferential reason that the proposition in question is rationally believed. It is a contingent matter whether such an inference *does* depend on the operation of memory. If one must write down the premises to keep track of them, it would (unless visual or other sensory representation of them enabled one to keep them in mind as one draws the inference). If, however, one can entertain the premises and conclusion together and at that time see their logical relation, it does not. The distinction between these two cases is not sharp, but it is often quite clear.[16]

Fallibility and Defeasibility

Even reason should not be considered an *infallible source* of rationality (or of justification or knowledge): one whose every cognitive deliverance is true. One could think too superficially where one should know better, or infer a conclusion that obviously does not follow. In many such cases one might form a false belief. One might also form a belief that is not even rational (though it need not be

patently irrational either—I am thinking of cases of sloppiness or inattention that occur without blatant offense against reason). To call a source basic is to affirm a measure of epistemic autonomy; it is not to give a wholesale epistemic guarantee. It is perhaps not obvious that every cognitive "deliverance" of a basic source has prima facie rationality (or prima facie justification); but this is a plausible view, if we (1) take a cognitive deliverance of a source to be a belief *based* on it and not merely caused by it, and (2) allow that a belief can be prima facie rational even when its rationality is massively overridden. Let us assume (1) and (2). Plainly this would not entail indefeasible rationality (or indefeasible justification). If we suppose, then, that there would be no rational belief (or knowledge or justification) *without* basic sources of it, we still cannot reasonably conclude that every belief those sources deliver is rational on balance (or justified on balance or, if true, constitutes knowledge.)

To be sure, even simple logical truths can be rationally believed (or known) on the basis of testimony, as where someone who is logically slow first comes to know one through the testimony of a teacher. Here the immediate basis of the belief, the testimony, is empirical. But can such truths be known or justifiedly believed without someone's depending on reason *somewhere* along the line? It would seem that the teacher must depend on it, or on testimony from someone who does, or who at least must rely on testimony from someone else who depends on reason, and so forth until we reach a person who knows it a priori.[17] Knowledge through testimony, then, even if direct in the sense of "noninferential," might be called *secondary,* in contrast with the kind that does not depend (in the way testimony-based knowledge characteristically does) on any other knowledge (or justified belief) and is in that sense *primary.*

Might we, however, make the parallel claim for perceptual and introspective cases? Could anyone, say, know the colors and feel of things if no one had perceptual knowledge? If we assume the possibility of an omnipotent and omniscient God, we might have to grant that God could know this sort of thing by virtue of (fully) knowing God's creation of things with these colors and textures. Still, wouldn't even God have to know what these properties are *like* in order to create the things in question with full knowledge of the nature of the things thus created? Suppose so. That knowledge is arguably of a phenomenal kind; if it is, the point would show only that for a certain kind of knowledge consciousness is a *unique source:* the only kind capable of delivering it. Perhaps it is unique, and perhaps the same holds for rational beliefs of the kinds of propositions in question. If reason and consciousness are not only basic, but also the only unique sources, one can understand why both figure so crucially in the epistemology of Descartes, or indeed any philosopher for whom what is accessible to conscious experience and to thought is epistemically fundamental in the far-reaching way that is implied by the combination of basicality and uniqueness.

Testimony

The four standard basic sources do not include testimony. But I have indicated an important epistemological role for it. It is rightly taken to be a source of a great many of our rational beliefs. In human life as we know it, testimony (in the broad sense of people saying things to us) is essential for the rationality of a vast proportion of our beliefs about the world. It is not, however, a basic source of theoretical rationality. For one thing, it can yield justified belief (or knowledge) in the recipient only if perceived by that person, say heard or read. The basic sources, by contrast, operate autonomously in their respective realms. There is much to say about just how testimony figures in grounding theoretical rationality. To say that it is not basic is to describe how it operates; it is not at all to diminish the scope or importance of its role. It is time, however, to consider a different kind of source.

II. Coherence

An alternative to the position developed so far is that a major source of theoretical rationality, and perhaps *the* basic source of it—particularly in the form of justification for belief—is coherence among one's beliefs. Consider my belief that the home team has won a football game, based on hearing revelers at the time the game was to end. Isn't my belief that they have won justified by its *coherence* with the beliefs that people noisily celebrate football victories, that there is no other explanation of the celebratory noises, that I have noticed such a pattern before in cases of victory? And suppose I lose justification, owing to undermining evidence, as where I suddenly see a wedding party. Isn't the justification of my belief that the home team won undermined mainly by its *in*coherence with my present beliefs that the noise is from a wedding party? Let us explore the role of coherence in justification.

Coherence, Incoherence, and Noncoherence

It is difficult to say what constitutes coherence. The notion is elusive, and there are highly varying accounts.[18] But this much is clear: we cannot assess the role of coherence in justification unless we distinguish the thesis that coherence is a basic

source of justification from the thesis that *in*coherence can defeat justification. The power to defeat is destructive; the power to provide grounds is constructive. To see that the destructive power of incoherence does not imply that coherence has any basic constructive power, we should first note that incoherence is not the contradictory of coherence, its mere absence. It is something with a definite negative character: two beliefs that are logically and semantically irrelevant to each other, such as my beliefs that the sun is shining and that I am thinking about sources of knowledge, are neither mutually coherent nor mutually incoherent. They are simply noncoherent. The paradigm of incoherence is blatant logical inconsistency; positive coherence is widely taken to be far more than mutual consistency, yet far less than mutual entailment.

Clearly, that incoherence can defeat justification does not imply that coherence can create it. If it does create it (which is far from obvious), seeing this point is complicated because wherever coherence is plausibly invoked as a source of justification, one or more of the four standard sources apparently operates in a way that provides for an explanation according to which *both* the coherence and the justification arise from the same elements responsible for we might call the *well-groundedness* of the belief in question.[19] This is best seen through cases.

Consider my belief that a siren is sounding, grounded in hearing the distinctive shrill crescendo. This appears to be justified by the relevant auditory impressions, together with background information about what the corresponding sounds indicate. If, however, I acquired a justified belief that someone is imitatively creating the blare, my justification for believing that a siren is sounding would be undermined by the incoherence now in my belief system. Does the defeating power of incoherence imply that my original justification requires coherence among my beliefs, including the belief that no one is doing that? Does one even *have* that belief in such a case? It would surely not be normal to have it when there is no occasion to suspect such a thing. But suppose the belief were required. Notice how many beliefs one would need in order to achieve coherence of sufficient magnitude to be even a plausible candidate to generate the justification in question, for example that my hearing is normal, that there is no other machine nearby that makes the same grating sounds—it is not quite clear how far this must go. Do we even form that many beliefs in the normal cases in which we acquire justified beliefs of the ordinary kind in question? To think so is to fall victim to a kind of intellectualism about the mind that has afflicted coherentist theories and opposing accounts of justification alike.[20]

A further analogy may help to show how incoherence can be a defeater of justification without (1) its absence, (2) beliefs that it is absent, or (3) justification for believing something to this effect being a source of justification. One's job may be the source of one's income, yet vulnerable to severe economic depression, since that might eliminate the job. It does not follow that the absence of a depression is a source of one's income. Surely it is not. Even positive economic

conditions are not a source, though one's source of income *depends* on them. The idea of (positive) dependence is central in understanding that of a source.

It must be granted that there is a negative sense in which one's job does depend on the absence of a depression; but that dependence—a kind of vulnerability—is too negative a condition to count as a source (much less a ground) of income. Even a good economy does not give one an income. Nor does it explain why one has the income. Similarly, we might say that one's justification negatively depends on the absence of defeaters and positively depends on one's sources. But negative dependence on incoherence does not imply positive dependence on anything in particular, including coherence, as a source, any more than an income's negative dependence on the absence of a depression implies any particular source of that income.

Epistemic Enablers versus Epistemic Grounds

Nothing can serve as a source of anything without the existence of indefinitely many *enabling conditions.* Some of these are conceptual. One may, for instance, be unable to believe a proposition even when evidence for it is before one. If a child has no concept of a flight recorder, then seeing one removed from the wreckage of an airplane will not function as a source of justification for the proposition that it was recovered. Other enabling conditions are psychological, concerning our dispositions relevant to forming beliefs. If my sensory receptors are malfunctioning, or if I do not respond to their deliverances by forming beliefs in the normal way, then I may fail to be justified in certain perceptual beliefs. In this way, *contextual* variables are crucial for determining whether a belief is rational (or justified) in a given case; but that point is one that both well-groundedness (and in that sense "foundationalist") views and coherentist views can accommodate.

Specifying a source provides both a genetic explanation of where a thing comes from and, through supplying a ground, a contemporaneous explanation of why it is as it is; enabling conditions, by contrast, provide neither. Taken together, they explain its possibility, but not its genesis or its character. It is neither correct nor theoretically illuminating to construe the absence of the enabling conditions as part of the source or as a ground. They are indispensable, but their role should be understood in terms of the theory of defeasibility rather than the theory of sources or of positive grounds.

The importance of incoherence as a defeater of justification, then, is not a good reason to take coherence to be a source of justification. This by no means implies that justification has no important relation to coherence. Indeed, at least normally, justified beliefs will cohere, in one or another intuitive sense, with other

beliefs one has, typically other justified beliefs. Certainly, wherever there is justification for believing something, there at least tends to be justification for believing a number of related propositions and indeed for believing a coherent set of them. This is easily seen by reflecting on the point that a single perceptual experience provides information sufficient to justify many beliefs: that there is a street before me, that someone is tooting horns on it, that this charivari is louder than my radio, and far more.

The conception of sources of rational belief (and of knowledge and justification) that I have sketched provides a way to explain why coherence apparently accompanies rational and justified beliefs—actual and hypothetical—namely that rationality and justification are ultimately grounded in the same basic sources. In sufficiently rich forms, coherence may, for all I have said, commonly be a *mark* of rationality and justification: an indication of their presence. The coherence conception of rationality and justification, however, does not well explain why they apparently depend on the standard sources. Indeed, as an internal relation among beliefs, coherence may be as easily imagined in artificial situations where the coherence of beliefs is unconstrained by our natural tendencies. In principle, wishful thinking could yield as coherent a network of beliefs as the most studious appraisal of evidence.[21]

Conceptual Coherentism

One kind of coherence, to be sure, is entirely consistent with the well-groundedness conception of theoretical rationality that goes with taking it to derive from basic sources in the ways I have suggested. To see this, note first that one cannot believe a proposition without having the concepts that figure essentially in it. Whereof one cannot understand, thereof one cannot believe. Moreover, concepts come, and work, in families. They do not operate atomistically. This point is the core of a coherence theory of conceptual function: of the acquisition of concepts and their operation, most notably in discourse, judgment, and inference. That theory—*conceptual coherentism,* for short—is both plausible and readily combined with the view presented here. For instance, I cannot believe, hence cannot rationally believe, that a siren is sounding unless I have concepts of a siren and of sounding. I cannot have these unless I have many other concepts, such as those of signaling, hearing, and responding. Granted, no one highly specific concept need be necessary, and various alternative sets will do. In part, to have a concept (of something perceptible) is (at least for remotely normal persons) to be disposed to form beliefs under appropriate sensory stimulations, say to believe a specimen of the thing to be present when one can see it and is asked if there is such a thing nearby. Thus, again it is to be expected that from a single perceptual experience, many connected propositions will be justified for the perceiver.

The coherence theory of conceptual function belongs more to semantics and philosophy of mind than to epistemology. But it has profound epistemological implications. That concepts are acquired in mutual relationships may imply that rationality and justification do not arise atomistically, in one isolated belief (or desire or intention) at a time. In that minimal way, they may be "theory-laden"—though the term is misleading in suggesting that having a family of concepts entails having a theory. None of this implies, however, that once a person acquires the conceptual capacity needed to achieve justification, justification cannot derive from one source at a time (nor need we suppose that concept-formation develops earlier than, or in isolation from, the formation of rational belief). This theory of conceptual acquisition and competence is also quite consistent with the view that, far from deriving from coherence, justification, by virtue of the way it is grounded in its sources, brings coherence with it.

III. Theoretical Rationality and the Structure of Cognition

We have seen what sorts of bases ground the rationality of beliefs and, often, justification and knowledge as well. But a person does not achieve theoretical rationality simply by having beliefs properly grounded in one or even all of the basic sources. Those beliefs are, as we saw, noninferential. If we never formed beliefs on the basis of those, it would be as if we laid only the foundations of a building and never erected even a single story upon them. Even if one could survive simply on the ground, there is much that cannot be seen without ascending to higher levels. Some things we cannot know or even rationally believe except by inference (or through a similar building process) from what we believe through the basic sources. Perception alone, for instance, yields no theories, and intuition unaided by inference, even if it provides premises for the branches of mathematics, does not automatically yield any theorems.

Inference and Inferential Grounding

It is largely because inference is so pervasive in our lives as rational beings that *reasoning* is considered so important for our rationality. For inference is the central case of reasoning and, if the latter term is used strictly and contrasted with "thinking," arguably the only case. I have already suggested that no process of

reasoning is required for a belief to be based, in an inferential way, on one or more others; but in fact it would be at best abnormal for any of us *never* to do reasoning, conceived roughly as passing, under the guidance of an appropriate principle, from considering one or more propositions ("premises") to another (the "conclusion"). We cannot say "from at least one *believed* proposition," because there are inferences we make simply to see what follows from something—sometimes with a view to refuting it by deriving a contradiction. Here we may make a *non-belief-forming inference:* we infer the contradiction only to reject it—and indeed thereby infer (and believe) the negation of the proposition being tested. And we cannot say that the person must *believe* the appropriate principle, since one may be guided by a principle one is just trying out or, as is common with children learning to reason, one may be guided by a principle one cannot formulate and before one has internalized it in the way required for believing it.

There is no precise limit to the number of beliefs that can be inferentially grounded on beliefs that are "basic" in the sense of "noninferential," and no limit to the length of a chain of inferences. One can infer conclusions from one's conclusions, further conclusions from them, and so forth. Our rationality is not directly proportional to the number of beliefs we have, nor even to the sheer quantity of our rational beliefs or knowledge. Some rational beliefs and knowledge are trivial, say that there is more than one speck of dust in this room. Moreover, a person who is theoretically rational must have a belief system with certain structural features. Let me describe these in outline.

I have already indicated that some degree of coherence among beliefs is to be expected in rational persons. We may add that other things equal, a more coherent set of beliefs tends to be more rational overall and to bespeak greater rationality in their possessor than a less coherent set. But there is a further point of major importance. There is a sense in which rational beliefs must cohere *with experience.* If I am visually experiencing black printing on white paper, I should (normally) believe that such print is before me, at least if I consider whether it is; and I (normally) must not believe that I am seeing red print. If thunder rattles the windows, I should normally believe they are rattling, or something to that effect. Experience of the inner world is similarly a basis with which rational beliefs must normally cohere. If I am silently reciting some lines of poetry, then (at least if I consider the matter) I should normally believe that I am silently reciting some lines.

Some Modes of Belief-Formation

A more general way to put the point is to say that belief-formation and indeed belief-retention should be adequately responsive to experience. This does not re-

quire that in the course of ordinary experiences we form the vast numbers of beliefs we can form, say at least one for all the truths about a room that are in some sense perceptually represented to us upon entering it—that the sofa is blue, that there are three scatter rugs, that the straight chair is at least a foot taller than the sofa, that the carpeting is seamless.[22] But we must be *disposed* to form beliefs of propositions that our present experience makes evident to us and *not* to form beliefs of obvious contraries of those propositions.

The kind of responsiveness to experience I am describing may be viewed as a kind of coherence; but if it is so viewed, we must not conclude that its importance supports epistemological coherentism, conceived as roughly the view that the *basis* of cognitive rationality and cognitive justification is coherence among beliefs. That rational beliefs must in general cohere with experience, far from implying that their mutual coherence produces rationality, expresses a constraint on the kinds of beliefs whose mutual coherence is a reason to expect them to be rational.[23] For if none of our beliefs is grounded in experience—including the kind of reflective experience that yields beliefs of self-evident propositions—then any coherent set might be considered rational, including one that is internally coherent but inconsistent with what is supported by the person's experience, as in typical cases in which a mental illness leads to an elaborate system of delusions.

Foundationalism

The grounding role that experience plays in determining theoretical rationality is central for foundationalist theories of that notion. A moderate kind of foundationalist theory of rationality that seems highly plausible says that if there are any rational beliefs at all, there are some that are noninferential, and that any other rational beliefs derive enough of their justification from support they receive from one or more foundational beliefs so that if (other things remaining equal) they lost any support they have from other sources, they would remain rational. By contrast, a moderate coherentist theory of rationality would deny that noninferential rationality is needed and would give to coherence among beliefs the same importance foundationalism gives to their experiential grounding. This is not the place to compare and contrast the two theories in detail; I am here suggesting that for some of the reasons indicated above, a moderate foundationalist approach provides a more plausible account of theoretical rationality. Such an approach is compatible, it should be added, with reliabilism, virtue epistemology, contextualism, and other plausible epistemological perspectives.[24]

If theoretical rationality requires a certain kind of responsiveness to experience, and if the beliefs that are direct (noninferential) responses to it are basic in one's cognitive structure, then our belief system should be expected to have certain

psychological features. Some of our beliefs should be noninferential and others based on them. Many may be based on a single one; many basic ones may support a single belief. There is no precise limit here. Nor is there any precise limit to how many links there can be between a basic element and elements based on it.

Belief-Change

One's system of beliefs, may, moreover, change greatly over time. A belief that is noninferential at one time may be inferential later, when one has acquired a premise for it. A belief inferentially based on premises may be retained in memory long after the premises are forgotten and hence be noninferential—memorially direct, we might say. Where the memory impression grounding the belief meets certain conditions (say, is steadfast and not in conflict with any other impression or belief one has), retention of the belief may be rational. Here both a kind of coherence and a connection with foundational elements is pertinent. For instance, if the belief is the kind I can rationally suppose I acquired from adequate evidence, as with a strong memory belief that a certain novel is by Balzac, I have no need for a premise. Retaining the belief coheres with what I (rationally) believe about my evidence base, and memory impressions themselves play a positive role in grounding the rationality of beliefs.

Since I am leaving skepticism aside, I am assuming that our rational beliefs, whether basic or not, can be an adequate ground for either inductive or deductive extension. We can acquire new rational beliefs—for instance, by inference to the best explanation, as where we come to believe that a train is late because that best explains why a visiting speaker is late for the seminar. We can also acquire them by deduction, as where we infer theorems from axioms. To be sure, one can be rational in holding a belief at one confidence level but not at a higher one. I have been for the most part ignoring this variable, as well as the related notion of *degrees of belief;* but this notion can be accounted for using the raw materials we have been considering.[25] Other things equal, the better one's grounds for *p,* the greater the confidence one may rationally have toward it.

Plainly, extension of our rational belief system may also occur as a result of testimony. There is some controversy over whether the resulting beliefs are genuinely noninferential.[26] I do not see that they need to be; but in any case, since their source is (in my judgment) not basic, they are best conceived as instances of extension beyond the beliefs that arise as responses to experience in the realm of the basic sources. An immensely wide and indefinite variety of rational beliefs may arise from testimony. Not just any testimony is credible, of course; but perhaps we might say that normally, we may rationally believe what people attest to unless we have reason to doubt it. It is a contingent matter how often that is in a given person's social experience.

IV. The Scope of Theoretical Rationality

We have now seen what sorts of grounds, basic and inferential, theoretically rational elements have, and what kind of structure a system of rational elements has in a rational person. So far, however, the scope of theoretical rationality has been left largely open. Are there propositions, such as simple logical truths, that any rational person must believe? And are there limits to the range of propositions that can be objects of rational belief in persons like us? (I assume that omniscience is not possible for finite minds like ours.) Let me address these in order.

Beliefs versus Dispositions to Believe

I have already noted that being guided by a logical principle can apparently precede the believing of it. Moreover, there are propositions of many kinds that a normal rational person will believe upon considering them, say (for readers of this page) that there are more than 103 letters written here. But although our potential for forming beliefs is incalculably wide, we are highly limited in what propositions, particularly logical truths and elementary propositions made obvious by our experience, we can *disbelieve.* Nonetheless, even if this requirement carries with it a strong *disposition to believe* the negations of those propositions, actual belief of the latter is not a condition for rationality. On the overall view I have been stressing, theoretical rationality is above all a kind of responsiveness to grounds (the kind in virtue of which cognitions are justified). In the basic cases, it is responsiveness to experiences, in particular to experiential *grounds;* in the other instances it is above all responsiveness to *beliefs* formed on the basis of experience (the second case is typically one of inferential responsiveness). The basic cases of responsiveness to experience apparently do not require believing any particular propositions.

Indeed, it appears that the experiential responsiveness central for rationality does not even entail *having* beliefs, as opposed to dispositions to form them, at all. The brain could be manipulated in such a way that for a short time one is left with no beliefs, but only capacities and dispositions to form beliefs. It is not clear what consciousness would be like at such a moment; but a model for understanding it might be an exercise in which, perhaps with the help of skeptical reflection, one suspends judgment on a plausible proposition one is considering. There may be a limit to which this ability can be developed in a rational person, but perhaps with the aid of skillful brain manipulation nonbelief could be induced relative to all of the propositions in one's belief system.

Whatever we say about the question whether a theoretically rational person must have beliefs, and indeed some that are theoretically rational, it is plain that the central question here concerns what is required for appropriate responsiveness (direct or indirect) to experience. If that is possible for a person having no beliefs, but instead only suitable capacities and dispositions to form beliefs, then a rational person need not have beliefs.

Some Limitations on Rational Belief

Our second question about the scope of theoretical rationality is even more difficult. It might seem that we could say that the scope of theoretically rational elements possible for us is limited only by our finitude. After all, isn't it possible that an omnipotent God may simply endow one with a rational belief of any proposition that, given one's finite capacity for understanding, is comprehensible to one? This is not unconditionally so (at least on the plausible assumption that divine power operates within the domain of the logically possible). We would not rationally believe a proposition simply because God had implanted the belief in us or even because it is an a priori truth. Rational belief (and indeed rational cognition of any kind) requires adequate grounds, not just causation by a perfect being or eminently credible true content. It turns out, I suggest, that the limits of our rational beliefs extend no further than our rationality-conferring grounds.

Given this dependence of rationality on grounds, the scope of theoretical rationality for one person will be quite different from its scope for another. Each of us has different experiences, and people differ widely in inferential powers. An intellectually normal person, however, must have both a minimal responsiveness to experience—including the intellectual experience of reflection on simple a priori matters—and minimal logical powers of inference. This has been illustrated with respect to sensory experience and the consideration of such simple a priori truths as that if *x* is longer than *y,* then *y* is shorter than *x.* There will, then, be considerable overlap in the propositions ordinary rational persons rationally believe, particularly if they share the same environment and are similarly educated.

Implicit in the conception of theoretical rationality I am outlining is the idea that there should be a great deal of overlap in the rational beliefs of persons who experience the same phenomena or consider the same self-evident or even broadly a priori propositions.[27] I am assuming, of course, that we *can* experience the same colors and shapes, sounds and textures, tastes and smells, and the same kinds of pleasures and pains, and that we can consider the same a priori propositions, such as certain logical and mathematical ones. If this is so, then not only is there

substantial overlap in the theoretically rational cognitions of sensorily and intellectually normal persons; we can also increase that overlap by the kind of positive communication constituted by testimony and decrease it by certain kinds of elaboration of our differences.

Closure Conditions for Rationality and Justification

There is a further question that arises when we consider the extent to which principles of rationality are properly modeled on those of logic. To philosophers, at least, it might seem that there should be at least this much parallel: just as logical entailment always preserves truth, logically valid inference always preserves rationality. If *p* is true and entails *q,* then *q* is true; if I rationally believe the former and validly infer the latter from it (and, as would be usual, hold it on the basis of the former), then I rationally believe the latter. I have already suggested that this *closure principle* (so called because it says that the class of rational beliefs is "closed" relative to the kind of inference specified) seems to hold for a great many cases. But it is not self-evident that there are no exceptions to it.[28]

The closure principle just formulated concerns *closure of rationality for inferential belief.* But our concern with the scope of theoretical rationality also extends to what propositions are *rational for a person* (to believe). We are interested not just in actual beliefs but also in theoretical rationality as applied to potential beliefs. In this light, we might hold that if one rationally believes that *p*, and *p* self-evidently entails *q*, then (other things equal) one *would be* rational in believing *q* on the basis of *p.* There are many closure principles that concern theoretical rationality. One is that if one has grounds on which believing *p* would be rational but one does not believe *p,* then, if *p* self-evidently entails *q,* one would be rational in believing *q* on the basis of *p* should one believe *p* on those grounds. This is plausible but not self-evident. What may be said with some confidence is that there are some appropriately qualified closure principles—including some that are inductive rather than deductive—that enable us to see a great number of propositions as theoretically rational *for* a person who has rational beliefs, or even just good grounds *for* rational beliefs, to start with.

Speaking more generally, we might say that for anyone with the range of theoretically rational elements that it is plausible to attribute to most people who have even a good grammar school education, theoretical rationality has indefinitely wide scope with respect to propositions that one can rationally believe by inferentially extending one's belief system. Every ground for a rational belief can render more than one belief based on it rational; every rational belief is a basis for inferences that can yield indefinitely many more rational beliefs.

The Practical Authority of Theoretical Rationality

One further question should be briefly addressed here. How much scope does theoretical rationality have in practical matters? This question has aspects that we cannot approach here, but several points can be made briefly and will round out the treatment of theoretical rationality I am presenting. An extreme view—sometimes ascribed to Hume—is that there is no practical rationality, hence no particular ends we ought to seek in life; rather, action is guided by beliefs, and its success depends on whether it satisfies the agent's "basic" desires. Thus, if you want to fulfill your desires, you should try to have rational beliefs to guide them, since these are more likely than nonrational ones to be true. One could reject this extreme view and hold instead that actions (and desires) are rational wholly on the basis of actual or potential rational beliefs. (The latter case may occur where one has the grounds for a belief that one should *A,* but has not formed the belief, which is at the time a *potential* rational belief). A more plausible position would be that an action is rational if and only if the person has grounds on which it is theoretically rational to believe that one may rationally perform it. This does not require that the action actually have a *basis* in theoretical reason. It also allows that a child can act rationally before having concepts adequate to form beliefs about rational action, as opposed to beliefs about means and ends. The point is only that practical rationality is a status that *can* be justifiably attributed to actions on the basis of theoretical reason.

A quite different view is that there are experiences, such as eating a delicious meal when hungry, that it is rational to want to have for their own sake, and there are actions connected with them, such as eating a delicious meal, that it is rational to perform for their own sake. Associated with this view is the position that it would not be rational to believe we should have such experiences if they were not already "worth wanting" and hence constitute appropriate grounds for the practical rationality of desire and action directed toward them. We need not assess all these ideas here. There are two points that would hold in any case regarding the scope of theoretical rationality in respect of its authority over practical reason. First, no one doubts that action and desire should be guided by theoretical reason, roughly in the sense that we should be guided in seeking our goals by *rational* means-ends beliefs. Second, few if any doubt that if we hold certain kinds of negative beliefs about an action, such as that performing it will be painful or will cause us to fail to get important things we reflectively want, then the would-be practical rationality of the action can be defeated.

The authority of theoretical reason over practical reason, then, is considerable. We cannot reach any destination without a route, and we cannot choose routes well unless we are guided by theoretically rational beliefs. On the other hand, we can have an excellent map without having a destination, and if none were worth visiting on its own account, why should we go anywhere? If nothing were worth

wanting or doing on account of what it is, why should we do anything? It seems unlikely that it would be rational to want to do it just on the basis of what we believe about it simply as a means to something else. This is a deep issue, however, particularly if we consider cases of actions required by morality. Fortunately, action and desire can receive support *both* from rational beliefs about them and from experiences of their intrinsically rewarding features or of sufficiently similar elements. Here we would have a case of wide scope for theoretical reason together with its cooperation with elements, such as enjoyable experiences, that support practical rationality in their own right.

At this point it is natural to ask whether a belief may be rational on a practical basis, as where one might be said to have a practical reason to hold it. One might, for instance, have excellent reason to think that believing one will survive a disease will help one do so. On some views, this is a pragmatic reason to believe that one will survive, and if we so regard it we might think such reasons can in some cases render a belief rational.[29] We can distinguish, however, between a *reason for believing p* and a *reason for causing oneself to believe p*. It is true that causing oneself to believe *p* may *produce* a reason to believe it—as where one's believing one will survive the disease actually makes this likely—but once the basic distinction between the two kinds of reasons is observed, it seems doubtful that practical reasons of the kind in question—reasons for action—can double as theoretical reasons—reasons for belief.[30]

V. Theoretically Rational Persons

It might seem that once we understand theoretical rationality for individual cognitions, paradigmatically, beliefs, we can understand the notion of a (theoretically) rational person by simply specifying that a suitable proportion of the person's beliefs (or at least dispositions to form them) are rational and—depending on the person's experiences—perhaps also require beliefs of certain sorts.

Degrees of Rationality

Even if there is disagreement about the minimal proportion of rational beliefs required for (theoretical) rationality, we could at least define the notion of one person's being *more rational* than another (or than that person at a different time) in terms of the *number* of rational beliefs. But brief reflection shows that this will

not do. For one thing, some beliefs are more important to one's rationality than others. One silly superstitious belief might be a mere stain on an otherwise reasonable cognitive record; a belief underlying the gambler's fallacy (which would have, say, a six on a fair toss of a die become more likely given its absence for a dozen successive tosses) can discolor large segments of that record. Moreover, even a large number of beliefs important in the relevant respects might exhibit little interconnection. Think of great mathematical knowledge isolated from beliefs permitting its applications (if this disconnection is even possible), or of a fine set of moral beliefs in the absence of related beliefs about human psychology. People with disconnected beliefs of these sorts might fail to be theoretically rational in an overall way.

Rational Integration

There is a kind of *cognitive integration* that is required in a person who is rational from the point of view of theoretical reason, as well as a twofold requirement: of an adequate proportion of rational cognitions and of the absence of certain kinds of "vitiating" irrational beliefs, such as those that violate logical principles or prevent an appropriate response to experiential grounds of rational belief. There is no way to be quantitative here, but we may say that at one end is minimal theoretical rationality and at the other the kind that would be exhibited by a perfectly omniscient God.

Reasonableness

A theoretically rational person need not meet a high standard of rationality, say in exhibiting a critical mind or good judgment. In between minimal rationality and intellectual excellence is *reasonableness* in theoretical matters, a status above the former but not requiring satisfaction of the high standards essential for the latter. Similarly, a belief may be minimally rational, yet not reasonable, as where someone is influenced by arguments that, though not without plausibility, can be seen on careful reflection to be specious. For each of these cases, the relevant baseline depends heavily on the person's experience. The more limited a person's experience, the less in the way of rational belief we should expect the person to have, other things equal. But in a rational person there should still be an overall coherence not only within the system of beliefs, but also between it and the person's experience. When this pattern is combined with such intellectual assets as perceptiveness, good judgment, and a significant capacity for good reasoning, we may speak of a theoretically reasonable person.

Global Rationality

Reasonableness in the theoretical domain does not entail global rationality, the kind that implies one's practical rationality as well. Even if certain beliefs imply motivation, there is no guarantee that a person reasonable in the domain of belief will have sufficient motivation—and appropriate emotions and attitudes—to qualify as a rational person overall. We cannot succeed as practical beings in the absence of theoretical rationality, but for practical success we need more. As to achieving theoretical rationality itself, true beliefs, no matter how numerous, are not sufficient; well-grounded beliefs, no matter how rich or insightful in content, do not imply it apart from integration, and even when integrated they may also fail to render a person rational overall. Logical powers, in the absence of suitably grounded beliefs to provide rationally held premises, are like an engine without fuel.

Understood in an overall sense, then, theoretical rationality requires the kind of well-groundedness of beliefs that is possible only given sensory and reflective experience as a basis; but an integration among the beliefs so grounded and the logical capacity to build inferentially beyond them are also needed. When theoretical rationality is well developed, the person will also have a measure of imagination, the kind that enables us to frame hypotheses, elaborate ideas, and even construct theories. But imagination, even if it normally bespeaks some degree of theoretical rationality, can also yield irrational beliefs or hypotheses. The bad as well as the good can emerge from good grounds, but there is no limit to what can be built from them, nor any fixed direction in which rational speculation and imaginative flights may go. Theoretical rationality entails some degree of connection between our beliefs and basic sources, and it requires some integration among the elements that develop, at however great a distance, from them, but these constraints are not rigid. Theoretical rationality is compatible with many different kinds of content; it can burgeon in people with many different sorts of psychological dispositions; and it can improve indefinitely over time.

NOTES

An earlier version of this essay was given at the Universities of Frankfurt and Rome, and I am grateful for extensive audience discussions on both occasions. I also want to thank Alfred Mele for helpful comments on an earlier draft.

1. I have developed a detailed and comprehensive theory of rationality, applicable to practical as well as theoretical reason, in Audi 2001, and some of what I say here is drawn from that book and defended there.

2. A longer treatment of theoretical rationality would also consider conditions un-

der which *change of belief* is rational, e.g., ceasing to believe a proposition in favor of a different one. For some philosophers, such change is the primary focus of rationality, roughly in the sense that belief change, but not "ongoing" belief, characteristically stands in need of justification. One question here is whether change of belief is a kind of action. If so, it should be governed by standards of practical reason; if not, then arguably it is rational when the person has better reason for holding a new belief than one it would replace. A detailed account of rational belief change that makes that notion epistemologically central is offered in Levi 1991. For pertinent discussion of conditions for rational belief change, especially through making inferences, see Harman 1999, especially chaps. 1 and 4. Also relevant are Kaplan 1996 and van Fraassen 1984.

3. "Experience and reason" is a phrase often used by Roderick M. Chisholm among others; see, e.g., Chisholm 1966, 59.

4. If "blind sight" is a case of perception, this may not be so (though it is arguable that the subject simply does not believe there are visual sensations or any other experiential element corresponding to perception).

5. An interesting question that arises here is whether *perceptual* consciousness, which has an external object, can be, except in a hybrid way, a mental state. For a case that it (and indeed knowing in general) can be a mental state, see Williamson 2000. What is said about rationality in this essay is largely neutral with respect to that issue; but I take it that the view that something internal to the mind is what grounds rationality is consistent with the view that consciousness of external objects, whether a purely mental state or not, is direct.

6. The apparent noncausal character of abstract entities is a main reason that knowledge of them—indeed their very existence—is often considered problematic. For one kind of challenge to the causal inertness claim, see Plantinga 1993a, 115–17.

7. For introspection and consciousness, as for external perception, one can devise a plausible adverbial view, as described in Audi 1998, chap. 1.

8. See Dretske 1981 and Alston 1991 for indications of how broad the notion of perception is.

9. The need for "if" here has been suggested already: a duplicate of me would, at the moment of creation, know dispositionally a great deal I now know from memory (not all of it, of course, because some depends on my actual history and it has no history as yet); but it is unclear how this depends on memory. Perhaps we should say that it does not depend on *remembering*—hence does not require the *operation* of memory—but does depend on *memorial capacity,* since it would not be true of me that if I needed to bring a certain item of knowledge to mind I would, unless I have sufficient memorial capacity to retain it from the moment of need, e.g., seeking a phone number I want, to the "next" moment, at which I bring it to mind.

10. Granted, I could memorially believe *p* but not know it (having too little evidence, say) and then be told by you that *p.* But if I now know it, this is on the basis of your testimony; I don't know it from memory until I retain the knowledge and not just the belief. Believing from memory can instantaneously become knowing, but does not instantaneously become knowledge from memory.

11. For a detailed discussion of the epistemology of memory, with many references to relevant literature, see Audi 1995b.

12. Consider, e.g., Hume's extraordinary affirmation of privileged access in the *Treatise*—"Since all actions and sensations of the mind are known to us by conscious-

ness, they must necessarily appear in every particular what they are, and be what they appear" (1978, book 1, part 4, 190). This double-barreled claim is discussed in detail in Audi 1998, chap. 3.

13. The relevant kind of understanding and the notions of a priori knowledge and justification in general are discussed in detail in Audi 1998, chap. 4, and Audi 1999b.

14. For instance, one might look at a clock that one has reason to think is running. Suppose one knows it is *about* ten o'clock. If it is ten just as one looks at the clock, one might have a justified true belief that it is just ten, but does not know this. A brief treatment of such cases and many references to the literature are given in Audi 1998, chap. 8.

15. There is a large literature on (Bertrand) Russell's paradox and on the theories of types devised, initially by him, to deal with it. A short account is provided in Barker 1964, 83–89.

16. Thus, for God or any being with infinite memorial capacity, no use of reason *essentially* depends on the exercise of memory. I might add that even if the points made here about inference and memory are mistaken, the overall point that reason may ground justification for *p* without yielding knowledge of it can be illustrated by many other cases, presumably including that proposition that some classes are members of themselves (since this embodies a type-error).

17. This point must be qualified if W. V. Quine is right in denying that there is a viable distinction between the empirical and the a priori—at least one would have to speak in terms of, say, differences in degree. For extensive criticism of Quine, see BonJour 1998, and for the notion of a priori justification see also Audi 1999b.

18. For some major accounts see Harman 1973, Lehrer 1974, Davidson 1983, and BonJour 1985; and for much critical discussion see Bender 1989. It should be noted that in BonJour 1999, BonJour has since abandoned coherentism.

19. This is suggested and to some degree argued in Audi 1998 and 2001.

20. That we do not form beliefs of all the kinds we are sometimes thought to form—particularly all those we would have if we believed whatever we would readily assent to upon simply considering it—is argued in detail in Audi 1994.

21. If it is taken to be an internal relation among beliefs, their content does not matter, nor does their fit with experience. This sort of thing has been widely noted; see Moser 1993 and Bender 1989 for some relevant points and many references.

22. This is defended in Audi 1994.

23. For a detailed critique of coherentist theories supportive of the points made here, see Plantinga 1993b and Bender 1989.

24. For a statement of reliabilism, see Goldman 1986; for accounts of virtue epistemology see, e.g., Sosa 1991, Zagzebski 1996, and Greco 2000. A brief statement of contextualism is given in DeRose 1992. Audi 2001 makes it clear how each of these kinds of perspective is compatible with a moderate foundationalism.

25. The notion of degree of belief is treated in detail in Levi 1991, Kaplan 1996, Harman 1999, and Joyce, chap. 10, this volume.

26. This issue is discussed in Audi 1997. A contrasting view is developed in Fricker 2002.

27. Self-evidence is analyzed and distinguished from other cases of the a priori in Audi 1999b.

28. For my own attempt to show that there are exceptions, see Audi 1995a. For supporting works see Dretske 1970, Nozick 1981, and Klein 1995.

29. For one kind of case for the possibility that practical reasons can support the rationality of belief, see Foley 1993.

30. This issue is explored, and the suggested conclusion defended, in Audi 1999a.