

Out of the Cave: Understanding Rationality

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The history of philosophy is in many ways a history of how we understand rationality. However, philosophers have historically adopted a fairly narrow approach toward rationality, focusing almost exclusively on issues of structure and the justification of beliefs. In this essay, I argue that considerations of reflective equilibrium should lead philosophers to take into account the empirical features of rationality. After all, our philosophical understanding of rationality must ultimately reflect these features or risk failure. I consider what specific lessons philosophers might take from anthropology and psychology. Anthropology highlights cultural features of rationality which philosophers have tended to overlook, while psychology indicates that philosophers may be correct in emphasizing the importance of the self. Including such wider empirical considerations in their reflections, philosophers are forced to consider our more ordinary use of the concept of rationality, which often looks far different and requires a broader characterization than philosophical analysis allows. Shifting the focus in these ways allows us to re-focus what questions philosophy can ask about the nature of rationality.

In its broadest sense, rationality entails a responsiveness to reasons. However, not just any sort of responsiveness counts as rational. Identifying exactly what rational responsiveness amounts to has proved to be a rather thorny problem. Philosophers have proposed a variety of principles or criteria that supposedly govern this responsiveness, including behavioral, psychological, process, and capacity criteria. Regardless of the criteria proposed, however, it seems clear that whether we approach rationality from the well-beaten path of, say, decision-theory or from more substantive theories of justification, there are no necessary and sufficient conditions for rational thought or behavior. Furthermore, there are a variety of issues that make the problem of defining rationality (i.e., providing necessary and sufficient conditions) appear intractable. This list includes (but is not exhausted by): the self-referential nature of the topic (we must use reason to define reason); the assertion that there are limits (either transcendental or

empirical) that reason cannot breach; the fact that definitions of "reason" depend on the level at which we approach it (e.g., global vs. focal rationality); and the simple fact that reason is contextual (i.e., reason must, of necessity, respond to the environment; and the "rational response" cannot be determined by any simple rules or set of principles). Each of these obstacles is a significant hindrance to understanding reason, and each is deserving of the attention to which it has been given.

This being said, I make no attempt to resolve any of these problems. Instead, I wish to shift the focus of philosophical attention on reason with the goal of providing a broader view of rationality. I take my lead from Robert Nozick, who, at the end of *The Nature of Rationality*, writes: "Philosophers who write about reasoning tend to concentrate upon an exceedingly narrow range of thinking as the sole legitimate mode of reasoning" (1993, p. 164). He goes on to examine heuristic principles for the fruitful construction and resolution of philosophical problems. One of these heuristic principles is to examine models or analogies from other well-developed areas. Another heuristic principle is to "work backward from the goal and forward from the initial state" (1993, p. 170). The first of these principles, to examine models or analogies from other areas, I address in the first two sections below. In them, I consider anthropological accounts concerning the development of rationality in modern humans and psychological theories about the failure of rationality in schizophrenics. Each of these empirical sciences is concerned, at least in part, with reason at its limits. Each focuses on the point where we confront the differences between the rational and the non-rational. There are a variety of debates about rationality within these sciences. I address two of those debates here: first, the debate in anthropology about the emergence of modern human behavior and, second, the debate in psychology about why schizophrenic delusions are a failure of rationality.

In the final section of this essay, I consider what lessons philosophers should take from these empirical investigations and how models from the sciences help philosophers in working both backward and forward toward a more complete understanding of rationality. Instead of pursuing a straightforward inquiry into what reason itself is, my query is slightly more question-begging: Under what conditions do we attribute rationality to others? This approach may appear to put the cart before the horse. After all, the philosophical mindset insists that we first lay the conceptual groundwork. If we cannot provide clear philosophical definitions of reason, can we really say what we are talking about when we enter into empirical discussions? Given considerations of reflective equilibrium, however, it is useful to consider the empirical features of rationality. In the end, our philosophical accounts of rationality must ultimately reflect these features or risk failure. Philosophers need to consider that our ordinary use of the concept of rationality often looks far different and requires a broader characterization than philosophical analysis tends to allow. Shifting the focus

provides an opportunity to examine how well philosophy is asking the questions it needs to ask about reason.

Rationality in Anthropology

Consider a group of anthropologists who come upon a cave littered with bone tools and inscribed ochre dating to 77,000 years ago.¹ The tools appear finely polished and the ochre is inscribed with triangles and horizontal lines. Is this evidence that modern humans, fully capable of rational cognition, inhabited this cave? This question does not arise at sites such as caves at Lascaux or with objects such as the Venus of Willendorf. Such works of art may be pre-historic, but the presence of rational activity is clearly evident and is never seriously doubted. The people who painted the Lascaux caves, for example, may be temporally removed from us, but we understand that their capacity for rational cognition is not at all removed from ours: it is the same capacity exhibited by artists today. This, of course, begs the question about what counts as rational cognition, but at least in these cases, there are no serious concerns about the rational capacities of the builders. What about sites that are much older and with much less obvious evidence of rational activity? What do we say about the inhabitants of those sites? These are questions that anthropologists have vigorously debated in recent years, and they have forced anthropologists to consider explicitly the nature of human rationality.

Among anthropologists there is no agreement on how we should characterize rationality, but a major task has emerged from the discussion: identifying those behavioral traits that are considered indicative of modern human intellect (Henshilwood and Marean, 2003; McBrearty and Brooks, 2000; Villa and D'Errico, 2001). What do anthropologists mean by "modern human behavior"? Modern human behavior may be: (1) behavior exhibited by biologically modern humans, (2) those features important to the human way of life, or (3) a list of behaviors that distinguish the Upper Paleolithic humans from Middle Paleolithic humans in Europe. Underlying each of these options for defining "modern human

¹I am referring specifically to Blombos Cave, discovered by Christopher Henshilwood in South Africa. I take no position on Henshilwood's conclusions since my only concern here is how the controversy over the discoveries at Blombos Cave impact larger discussions about the nature of rationality. Since the discovery of this cave, a heated debate has emerged in anthropology concerning the evidence for the emergence of fully modern human behavior. For further discussion of this debate see D'Errico (2003); Henshilwood, D'Errico, Marean, Milo, and Yates (2001); Henshilwood and Marean (2003); Klein (2000); McBrearty and Brooks (2000); Villa and D'Errico (2001). Also, adding to the discussion about the development of modern humans is a study on the origin of human clothing by Kittler, Kayser, and Stoneking (2003). Much of the work in anthropology focuses on behavior. In what follows, I am not advocating behaviorism. Nonetheless, behavior provides evidence of the cognitive abilities and functions that underlie the actions. It is the cognitive abilities with which I am concerned, but it is the behavior that gives us insight into those abilities.

behavior” is the assumption that to be human one must exhibit some of the following traits: “planning, sophisticated technology and resource use, and symbolic behavior in the form of decorative art” (McBrearty and Brooks, 2000, p. 457). Furthermore, the emphasis on characterizing behavior assumes that those behaviors are indicative of a certain mental development that distinguishes those humans who possess rational capacities from those who do not. The goal for anthropologists is to identify those key features that distinguish rational from non-rational behaviors and then to use these features to consider when and where modern humans developed.

In response to questions about the development of modern human behavior, archeologists and anthropologists have proposed specific criteria to characterize modern human behavior. These criteria are designed to separate biological humans (i.e., others in the genus *Homo*) from behaviorally modern humans by focusing on biology, behavioral traits, and ways of life. According to Klein (2000), the hallmarks of non-modern human behavior include:

relatively unstandardized (informal) artifacts, the remarkable uniformity of their artifact assemblages through time and space, their failure to produce unequivocal art or ornaments, the simplicity of their burials, their failure to build structures that retain archeological visibility, and their relatively limited ability to hunt and gather. (p. 17)

Conversely, fully modern humans exhibit behaviors indicative of certain cognitive capacities such as abstract thought, symbolic representation, ritual, art, structured living spaces, planning strategies, self-awareness, and technology (e.g., making blades).

McBrearty and Brooks (2000) characterization of modern human behavior includes, in a much simplified form, the following features:

- Abstract thinking, the ability to act with reference to abstract concepts not limited in time or space.
- Planning depth, the ability to formulate strategies based on past experience and to act upon them in a group context.
- Behavioral, economic and technological innovativeness.
- Symbolic behavior, the ability to represent objects, people, and abstract concepts with arbitrary symbols, vocal or visual, and to reify such symbols in cultural practice. (pp. 491–492)

At the core of these behaviors we consider distinctively human lies the rationality one exhibits when pursuing one’s goals (i.e., means-to-ends reasoning). Such instrumental rationality may not be all there is to rationality, but it is undeniably a key component of rationality. In situations exhibiting abstract thought, planning depth, innovativeness, and symbolic behavior, there is a presumption that one has the ability to formulate goals and to develop adequate methods for pursuing those goals.

As the above list indicates, those goals include symbolic and social goals, which are not only an integral part of human life but may also serve to link anthropological concerns to philosophical ones. For example, Nozick explicitly argues that anthropology's concern with symbolic meanings speaks to decision theoretic accounts of rationality (1993, pp. 29–32). Even if he is wrong on the specifics of this claim, what Nozick recognizes is philosophy's weakness at dealing with the social and symbolic aspects of human life. Throughout its history, philosophy has proven to be especially ill-equipped (or perhaps just entirely uninterested) when it comes to considerations of symbolic and social goals. As a result, empirically oriented fields that focus on these concerns highlight central features of rationality much more clearly than philosophy has been thus far able to do.

Even though the anthropological list of behaviors is, of necessity, highly general and likely incomplete, it does inventory essential features of modern human, rational behavior. Someone who behaves in a way that fails to employ abstract or symbolic concepts, for example, or that fails to evidence a capacity to plan ahead or to learn from one's past mistakes will hardly be considered rational. On the other hand, it is surely the case that this list fails to establish individually sufficient conditions for attributing rationality. Non-rational animals can, and do, fulfill at least some of these conditions. In particular, they commonly exhibit planning strategies and innovativeness. For example, squirrels are highly capable of learning how to get the food in bird feeders (even supposedly squirrel-proof ones). Domestic cats learn to silence the bells put around their necks and to continue unimpeded in their hunting of mice, birds, and other prey. Lions develop group hunting strategies, and chimpanzees teach their children to use tools. Examples such as these abound in the natural world. What makes modern, presumably rational, humans any different from those species that exhibit such capacity for learning and strategizing?

One possible response to this question is the more demanding characteristics of rationality: abstract thought and symbolic behavior, characteristics that are essentially absent from all but human behavior. Henshilwood and Marean (2003) argue that "modern human behavior is . . . mediated by socially constructed patterns of symbolic thinking, actions, and communication that allow for material and information exchange and cultural continuity between and across generations and contemporaneous communities" (p. 635). Failure to exhibit such symbolic and social capacities speaks strongly against one's rationality. However, even in the simpler case of planning strategies and innovativeness, what is implicit in the discussion of rationality is the depth that rational behaviors require. While planning and innovativeness may be necessary conditions for rationality, they are certainly not individually sufficient. When we consider what it is to be rational, the mere ability to plan or to be innovative is not enough. The characteristics of rationality do not refer to the barest of such abilities. Rather, they demand formulating and acting upon strategies in group

contexts; they demand economic and technological innovations; and they demand behavioral innovativeness. They further demand that one's beliefs have some measure of justification (Audi, 2001, pp. 49–52). Yet aside from the epistemic considerations, the anthropological cataloging of behavioral criteria may only implicitly recognize that rationality admits of varying degrees, but the implicit recognition is there. Rationality is understood to be something more than simply satisfying some checklist of behaviors.

These criteria, then, do not apply individually but as a set. Furthermore, rationality includes the collective memories and social interaction of a community of actors that non-rational animals are, for the most part, largely incapable of achieving. As Katherine Nelson and Richard Nelson (2002) point out:

Although animals such as rats, or our primate relatives, clearly learn with experience, and may pass on learning to other animals with whom they are in contact, from everything we know, there is a vanishingly small amount of intergenerational cumulative learning that results in the improvement of practice over time even among the primates. (p. 719)

Other animals may express the capacity to innovate and plan, but they lack the cognitive and cultural abilities that modern humans possess. If we read more carefully the archeological signatures of modern human behavior given by McBrearty and Brooks, they clearly include the cultural transmission of human achievements. For example, the list of signature behaviors includes group (as well as individual) self-identification, long-distance exchange networks, and the ability to reify symbols in cultural practice (2000, p. 492). This puts the bar for robust rationality a bit higher than what most non-human animals are capable.

Anthropological discussion can no more provide an exhaustive list of behavioral traits or a set of sufficient conditions for rationality than can philosophy. However, it does highlight the multiplicity of traits and the various degrees of rationality possible by drawing attention to the importance of the social or communal component. These discussions also highlight rationality's enormous sensitivity to context. Finally, anthropological concerns illustrate the fact that a priori investigations of rationality can never give us the content that is central to determining the existence or appropriate characterization of rationality. Anthropology's emphasis on the social aspects of rationality has only recently become a point of emphasis for philosophy. Over the past several decades, philosophers have "raged against reason," but upon closer inspection, this rage is focused largely on Cartesian notions of reason. Few philosophers today believe rationality is disconnected from social and symbolic environments; yet philosophy is still uneasy with rationality's social and symbolic aspects. Anthropology, on the other hand, does focus on how community influences the development of rationality. As a result, it demands a sensitivity to precisely those social elements that philosophy has historically ignored. Such empirically

oriented debates will hardly resolve philosophers' a priori questions about the nature of rationality, but these debates can surely inform and expand our philosophical conceptions so that they better account for all aspects of rationality.

While the social aspects of rationality are only now emerging as a subject of philosophical concern, a further aspect of rationality with which philosophers have a long-standing interest is the concept of the self. Philosophers are in their element when it comes to investigating souls, cogitos, and transcendental apperceptions, so it would prima facie appear as if we would have less to learn from the empirical sciences when it comes to developing a conception of the rational self. Yet an implicit bias in philosophy's investigation of reason is its reliance on *good* reasoning as the standard or model. On the other hand, psychological models of rationality are often concerned with rationality's failures rather than its successes. In theories of how rationality fails, philosophers can learn something about the normative standards of rationality and the selves that are rational — or not.

Rationality and Psychology

Consider a person who comes to you claiming to have a photo album of God. This is the same person who speaks to Martians using her satellite dish and who, because she believes her neighbors are plotting against her, frequently barricades herself inside her house and threatens violence to anyone who comes near. Is this evidence for a lack of rationality?

With this imaginary scenario, as with the remains at Blombos Cave (see footnote 1), we are equally at the limits of rationality, but the question this time is one well-suited for the psychologist. While anthropology emphasizes the behavioral criteria indicative of rational activity at a cultural level, psychology tends to emphasize, appropriately enough, psychological criteria at a more individual level. Abnormal psychology, in particular, is directed toward the ways in which rationality is impaired, that is, with how the norms of rationality and cognitive processes break down in particular cases. Since impairments of rationality are central to many psychiatric symptoms, "the norms of rationality must be taken to play a vital role in the understanding of psychiatric disorders" (Bermudez, 2001, p. 461). Yet understanding how the norms of rationality break down requires that we have some idea of what rationality is in the first place.

The classical model of rationality, shared by both psychology and philosophy, includes two main concerns: the rules or principles that reasoning ought to follow (e.g., formal principles of logic and probability) and the content of reasoning (i.e., beliefs and desires). In other words, rationality can fail in at least two separate ways: (1) procedurally, that is, as a failure in correctly applying logical principles or standards (Samuels, Stich, and Faucher, 2004; Shafir and LeBoeuf, 2002) or (2) as a matter of content, that is, as a failure to form appropriate beliefs and desires

or as a failure to form them with appropriate content (Davies and Coltheart, 2000). Put simply, rationality can fail in following principles of inference or it can fail to make sense of empirical evidence.

Although it is well documented that there can be failures of rationality that concern both procedural rationality and content rationality, schizophrenic delusions do not clearly fall into either domain. In particular, schizophrenics do not demonstrate a global inability to maintain coherent beliefs or to cope with experience. "In general, schizophrenic subjects believe in eating food in order to satisfy hunger; in going inside to get warm; in taking the metro to get from place to place; and so on" (Gold and Hohwy, 2000, p. 160). So, if we assume that there is no fundamental or widespread flaw in a schizophrenic's ability to reason, where is the problem? Why is schizophrenia, in our everyday understanding, often seen as a model of irrationality?

Of the possible answers, one of the more interesting responses is Frith's (1987) positing of the existence of a cognitive monitor that keeps track of both stimulus-intentions and willed-intentions. Consider for a moment stereotypical examples of irrational thought. For most of us, this includes schizophrenic delusions (e.g., thought insertion or alien control). Even in the absence of any personal experience, we have all seen films or television shows that depict people who hear voices or believe, say, that the CIA is sending them messages through an implanted radio receiver. We implicitly understand that in these cases some key element of rationality is missing. While the source and possible explanations for such delusions is controversial, Frith's (1987) hypothesis is that the self has a meta-representational faculty which allows it to keep track of, as well as distinguish, two distinct types of intentions: those driven by stimuli from the outside world and those driven by one's own goals and plans. Under normal circumstances, the rational agent is able to monitor the origin of her thoughts and intentions. And this is true of actions as well: "another important aspect of consciousness concerns awareness of our own actions and our sense of being in control of them (the sense of agency)" [Farrer and Frith, 2002, p. 596].

For example, if I decide I want a hamburger after watching a television commercial for a hamburger joint, I can generally recognize that the television commercial is, in all likelihood, fueling my desire, although whether I do have the recognition is another matter. Even if there is no link, or no link that I recognize, between the television commercial and my desire, I still recognize the desire as my desire for a hamburger — and my going out and eating a hamburger as my own self-directed action. The problem for schizophrenics, according to the self-monitoring hypothesis, is that there can be a failure of the self-monitoring process in the case of willed-intentions. Schizophrenics may not recognize their own willed-intentions as internally derived, and as a result, they posit an external source for those thoughts. With the previous example, the delusional explanation may be that the CIA, using television signals, implanted the desire for a hamburger in

my head. Of course, advertisers would like to do exactly this: implant desires on which we will then act. However, in the case of a desire generated through advertising, the difference between so-called normal reasoners and schizophrenic ones is whether or not one experiences the desire itself as alien. For most of us, it is *I* who wants the hamburger.

The hypothesis that schizophrenic thoughts violate egocentricity insofar as they are experienced as originating outside of one's mind is also developed by Gold and Hohwy (2000). Instead of attributing such failures to defective rational procedures or ineligible content, Gold and Hohwy argue that "it is the experience of non-egocentric thought as alien that is the delusion itself" (p. 162). In such cases, the failure of rationality lies in having the experience of a non-egocentric thought in the first place. In other words, the problem originates not in faulty structure or inappropriate contents but in the schizophrenic's ability (or lack thereof) to organize her experience. Were the synthesizing of her experience not subject to disorder, her thoughts would not be disordered.

One advantage of this view, an advantage which is consistent with standard philosophical explanations, is that it can explain why schizophrenics are clearly rational in many areas of their thoughts and behaviors. Our belief systems are supposed to explain our experiences, and it is rarely, if ever, rational to believe genuinely that one's experience is systematically incorrect. Given that schizophrenics do indeed have non-egocentric thoughts, it is perfectly reasonable that they should seek to explain the existence of such thoughts, even if that means positing seemingly wild hypotheses. To fail to explain these thoughts would itself fail to be rational on grounds of both structure and content. Instead, the schizophrenic has trouble with misrecognizing internally generated thoughts *as* internally generated. And if one cannot recognize one's *own* thoughts as one's own, the failure of rationality appears somewhat more significant than simply a failure of structure or content.

A further point worthy of noting is that schizophrenic delusions are considered irrational only when indexed to a particular social and historical context. There are no beliefs or actions that are irrational *simpliciter*. Given the times in which we live, surely there are conceivable (albeit not always likely) circumstances when it would be reasonable to believe the CIA has implanted a radio transmitter in one's head. Whether a belief is delusional or is reasonable depends a great deal on context. Nonetheless, context is not everything when confronting irrationality, especially in the case of schizophrenia.

According to Gold and Hohwy (2000), we (as outside observers) may naturally think that given a choice between believing that the CIA is inserting thoughts into one's head and believing nothing at all, that the more appealing choice is to believe nothing. However, these are not actually the choices facing the schizophrenic.

The schizophrenic in fact faces the choice of having some account of what is happening to him — some account of the structure of his experience — and being utterly at a loss to understand that experience. In asking the schizophrenic subject to refrain from explaining his experience, we would be asking him to forgo any story about why his experience is so strange, and that seems to be a demand that no agent — at least no agent that approximates actual human agents — could meet . . . Given that our account is naturalistic, it should not posit a violation of a norm that no actual agent could ever meet. (p. 159)

Implicitly, one of the strongest requirements of rationality is that we explain our experiences. This is particularly true on naturalist interpretations of reason. Assuming reason developed as a faculty that helps us cope with the changing world of experience, it would be odd indeed to require of any person that she refrain from seeking an explanation for any particular experience. Given that schizophrenics do have delusional experiences, it appears that it is only rational for them to seek an explanation for the experience. Gold and Hohwy (2000) go on to claim:

A delusional account offers the subject the possibility not only of explaining his experience but of doing something about it, and that sort of motive is a powerful one for normal agents. It seems wrong-headed to claim that a widely shared motive among normal agents constitutes a form of irrationality in schizophrenics. (p. 159)

In generating delusional accounts, schizophrenics are simply doing what all rational agents do when confronted with some experience — they attempt to explain it. While schizophrenics *could* explain these thoughts by concluding that their experience is untrustworthy (which would, under the circumstances, seem the most rationally appropriate explanation), that is a difficult conclusion to draw. Probably the first person to have seriously considered this possibility was Descartes when he generated his evil deceiver hypothesis. Yet even Descartes understood that maintaining such a belief is practically impossible. One cannot sustain a belief that one's experiences are untrustworthy.

As a result, schizophrenics are not irrational for incorporating their delusional experiences into their belief systems, and it appears reasonable to attribute the failure of rationality in these cases to a lack of egocentricity. Whether or not this model of schizophrenic delusion is entirely accurate, it does highlight an important feature of rationality, one that is often left out of the discussion: the self. In the absence of a coherent notion of one's self that can distinguish the various sources of beliefs and desires, we find failures of rationality. Additional evidence for this claim can be found in McClelland (2010), who uses recent brain science, clinical traditions, and empirical psychology to argue that self-representation is necessary for normal narcissistic functioning in humans. According to McClelland, our sense of agency requires a cohesive self-representation, and when this self-representation fails, the results are disorders such as borderline personality disorder. In the case of healthy or normal narcissism,

as well as schizophrenia, we have empirical grounds that not only demand a conception of the self but also can explore the results when personal identity fails.

For philosophers, the irony of these empirically driven observations concerning the self is that they have emerged at the same time philosophical notions of the self, which have been of central importance through much of the history of philosophy, have fallen on difficult times. I suspect that this is largely due to the rejection of Cartesianism in the last several decades. A central theme of the modern era is preoccupation with the self. Descartes' turn inward toward the *cogito* entails a separation between mind and body that is widely considered untenable, even though it is a separation that has proven to be quite persistent. However, the idea of the self to which the psychological hypothesis of self-monitoring refers is not necessarily a Cartesian self. The conclusion supported by the empirical evidence is that we cannot do without the self *and* be rational agents, but it does not require the much maligned *non-material* self of Descartes.

Re-visioning Philosophical Rationality

So, what is the philosophical moral of this story? A hallmark of philosophical investigation is that it is a priori and not dependent upon empirical sciences. Yet, this does not imply that philosophy is entirely decoupled from empirical investigation. Since rationality has a wide scope and admits of empirical as well as a priori investigation, philosophers can surely learn something from other areas of research. And given that the current state of philosophical theories of rationality find them either awash in technical details or suffering a rage against them, we presumably have good reason to believe that a different approach, one inspired by empirical investigation, might be exactly what we need to re-think how best to account for rationality. As Nozick reminds us, when philosophical problems resist solution, perhaps we should change our focus: in this case, we should shift our focus toward both the cultural and individual limits of rationality.

One caveat before continuing, however, concerns the notion that philosophers should change their focus when it comes to understanding rationality. The idea that it is time to look at reason differently is by no means a new idea. The past several decades have seen a "rage against reason," in large part because philosophers have come to find that the dominant Cartesian framework of rationality has outlived its usefulness. Lakoff and Johnson (1999) argue that we need to change our understanding of reason in response to research into cognitive science, research that tells a quite different story from the Cartesian one. Included in their discussion are the following divergences from Cartesian, or more broadly modernist, conceptions of rationality:

Reason is not disembodied . . . but arises from the nature of our brains, bodies, and bodily experience

Reason is evolutionary . . . [i.e., it develops within and in response to the environment].

Reason is not universal in the transcendent sense; . . . it is [however] a capacity shared universally by all human beings

Reason is not completely conscious, but mostly unconscious.

Reason is not dispassionate, but emotionally engaged. (p. 4)

Each of these claims about reason stands in contrast to the Enlightenment conception of reason introduced by Descartes, and each of these shifting ideas can be found in contemporary philosophical accounts of rationality. The fact is that philosophers have already begun shifting their focus from the picture of rationality we have inherited from the Enlightenment.

Still, the view philosophers take can be rather narrow and focused on the more literal aspects of rationality. Whatever changes there are in our current conception of rationality (and there clearly are substantial differences between current and modernist understandings), what remains largely unchanged is the "classical model of rationality." On this model, the two main components of rationality are formal logical principles and the justification of beliefs/desires. The first concerns the procedures according to which we either deduce or infer beliefs; the second concerns the grounds for the content about which we reason. Philosophers still tend to focus on these two components. After all, philosophy is perfectly suited to tackle these aspects of rationality. But the structure of rationality is not the full story. Considering simply the structure or justification of a person's beliefs will not resolve all issues of rationality.

One reason for believing that structure alone will not get us a full understanding of rationality is that there is no one set of principles that structures (or even rationally structures) beliefs. It has become increasingly apparent that, as Putnam (1992) puts it, "there is no one form in which all human beliefs are cast" (p. 88). Assuming that there really are rules of rationality, it is clear that many of these rules are empirically grounded. Because they are often determined by culture, rationality is, at least in part, culturally determined. Even philosophers entrenched in the technical and philosophically conservative decision-theoretic approach to rationality are recognizing the need to account for more subjective and relative elements within rationality. Nozick (1993) actually admits what is, at least until the past several decades, a philosophical anathema: "sometimes it will be rational to accept something because others in your society do" (p. 129). What his admission highlights is philosophy's recent understanding that resolving issues of rationality solely through structural considerations requires, at minimum, grasping the open-ended possibilities of how reason can be culturally structured. While there may be some a priori rules of rationality, it appears increasingly unlikely that they could alone provide a sufficiently complete understanding of rationality. Conversely, even if we could come up with a single form of rationality (either a priori or empirical), there is

a problem thinking this form could exhaust our understanding of rationality. Logical structures, even culturally determined ones, can only take us so far. One can be perfectly logical about the most bizarre of propositional contents, which means we must then consider the justification of those contents.

Justification concerns having adequate reasons for forming and holding a belief. Even from a solely philosophical perspective, there is more to rationality than simply having justified beliefs. Not every unjustified belief will be irrational. Whether a belief or desire is rational is a different issue than whether a belief or desire is justified. Rationality relies on content differently, and in a less demanding manner, than does justification. For example, take the case of a landscape full of barn façades. If I point to a façade and claim “That is a barn,” my belief may not be justified, but it is certainly rational. In fact, the kinds of considerations that often go into considering epistemic justification might actually be quite irrational if applied in everyday life. A case in point is Cartesian skepticism. Descartes himself understood that his method of doubt would be disastrous if carried outside the theoretical world of philosophy and into the world of actions. However much the skepticism of the first *Mediation* suggests that we are unjustified in trusting our senses, there is never any argument that trusting one’s senses (even if unjustified) is an irrational behavior. In fact, as any introductory philosophy student is likely to see with absolute clarity, implementing Cartesian skepticism in the real world is irrational. On the contrary, one generally has to convince students that Descartes has a legitimate point. Philosophers who are overly focused on conditions of justification can easily miss the bigger picture in which not every unjustified belief is thereby irrational. Philosophers need to more fully consider the broader strokes of rationality, in addition to considering its technical details.

Here is where anthropological considerations can be of use to philosophers. Recall that one suggestion for the characterization of modern human behavior included abstract thinking, planning depth, innovativeness, and symbolic behavior. The concept of justification is relevant to these characteristics, and might possibly be sufficient to account for the first two characteristics, but alone it surely cannot capture the latter two. In the case of innovativeness (which includes behavioral, economic, and technological innovativeness), there is something akin to the much maligned division between the contexts of discovery and justification going on. Often times, innovativeness is justified in the long run, but at the time the innovation is conceived and first tested, it may appear (if not actually be) quite irrational. For example, Alfred Wegener’s proposal of continental drift comes to mind: at the time he proposed the idea, it not only lacked justification, it seemed (if not entirely irrational) to stretch the limits of credulity. Yet the idea is one we see today as entirely rational — and justified. Those who innovate must, by definition, move beyond ideas previously thought or considered possible. Such ideas may be justified (or not) in

the long run, but whether such ideas are ultimately justified is not what makes innovativeness a hallmark of rationality. In fact, innovativeness is often accompanied by a willingness to violate established rules. As a result, it is not something that can be easily captured by looking at the grounds for the formation or justification of a belief. It is possible to do so, but the effort will leave out the creativity involved in the concept.

The remaining anthropological characteristic of rationality, symbolic behavior, can be even further removed from justification than is innovativeness, although it need not be so removed. Symbolic behavior that is closely tied to justification can be found in Nozick's account of symbolic utility, in which the expected utility generated by decision-theoretic principles follows not only causal connections but also symbolic ones. In fact, Nozick views symbolic utility specifically as a way to link rational choice theory to anthropological concerns. The idea is that if we incorporate symbolic utility, we can then explain how cultural meanings, which are the concern of anthropologists, are mediated in individual behavior (Nozick, 1993, pp. 32–33). Here, principles function as transmission devices for utility, including symbolic utility, and principles are where philosophy usually focuses its attention.

However, there is also reason to believe that not all symbolic endeavors can be appropriately captured by rational choice theory, or by other theories of justification. Creative artistic endeavors, for example, often lack rules (or at least rules known beforehand). In other words, there are generally no established rules that an artist must follow in creating a work of art. A good example is Marcel Duchamp's "ready-made" *Fountain*, which was actually submitted to an art show with the intent of being provocative and (in the spirit of Dada) irrational. The reaction that *Fountain* has received was never envisioned by Duchamp. In this case, the acceptance of the urinal as a work of art introduced a standard that later artists have followed. But until Duchamp challenged our conception of art, there was no principle that would allow unmodified ordinary objects to count as "art." Those engaged in creative symbolic expression do not always know what they are aiming for in creating their work for it is not until the work is executed that it can be properly evaluated. Symbolic expression requires a context in which there are rational structures and principles for justification for both belief and action, but such expression is not bound by these structures and principles. As with innovativeness, it seems oftentimes the case that the more one follows rules, the less one is considered a true artist.

Part of the lesson to be learned from empirical sciences, then, is that philosophy needs to expand its perspective beyond issues of logical structures and justification of beliefs. In addition, empirical research can also demonstrate where philosophical attention has been appropriately focused. Philosophy has long asserted a unitary self which acts as the seat of rationality. This idea has been under attack of late, but research into schizophrenia offers grounds for holding onto the idea

of the self, or at least some central seat for ordering rational cognition. More importantly, the “self” supported by psychological inquiry is not particularly a Cartesian self. Cartesian selves are solitary and independent of their social surroundings. By contrast, the selves in psychological theories require us to involve social constructs in coping with experience and maintaining coherent beliefs. And psychological evidence fits with non-Cartesian ways of thinking about selves as being, to some extent, socially constructed. The key question concerns the qualifier “to some extent.” How much are we socially constructed? And how does such social construction affect rationality — and its derivative concept, autonomy? Given the philosophical nature of these questions, psychology will probably fail to give us complete answers. Nonetheless, its hypotheses concerning schizophrenia, if correct, demonstrate a need to retain the idea of a meta-representational cognitive monitor as a central element of rationality.

Even if we are ultimately not successful in re-visioning rationality, we still have good reason to consider psychological theories concerning rationality. Rationality is not solely the domain of philosophers. We may have a particular affinity for rationality given its centrality to our discipline, but there are more aspects to rationality than are dealt with in philosophy. Philosophers concerned with rationality should at least consider the ongoing issues and concerns of other disciplines. What they discover about rationality, after all, can help us in our quest to understand its nature and can provide helpful details with which we can test our own rather abstract accounts.

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