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Is Every Epistemology a Virtue Epistemology?

Lauren Olin

1.1 Introduction: From Epistemology to Virtue Epistemology—and Back

The epistemic regress argument, which dates at least to Aristotle's *Posterior Analytics* (72b), is a recurring, and central, theme in the history of epistemology (Klein 2007). As Bonjour (1985: 18) observes, the problem it poses remains “perhaps the most crucial in the entire theory of knowledge.”

The argument supposes that knowledge cannot be based on something less than knowledge. If the beliefs purported to be knowledge are based on other beliefs, these further beliefs must themselves be based on other beliefs, and so on again and again, resulting in an infinite chain or epistemic regress. The majority of epistemologists are united in their conviction that knowledge is possible¹—but how can it be possible if it requires reference to an infinite number of further beliefs?² Since non-skeptical theorists in epistemology have typically agreed that the regress argument is compelling, epistemological research has typically focused on questions about the nature of epistemic *justification* (Chisholm 1977; Kim 1988). For instance: *Under what conditions and circumstances are beliefs justified? When do particular beliefs count as instances of knowledge?*

Traditional foundationalist and coherentist answers to such questions diverge considerably, but both begin with attention to the properties of beliefs. Foundationalists interpret the regress argument as a *reductio* from the offensive possibility of infinite epistemic regress to the existence of non-inferentially justified foundational or “basic” beliefs; these are supposed to provide the required stopping points

¹ For the survey by Bourget and Chalmers, go to: <http://philpapers.org/surveys/results.pl>.

² A small minority of epistemologists deny that this is a problem, and regard infinitism as a viable third alternative. According to infinitism, epistemic justification requires, by necessity, chains that are linear and unending. See Klein (1999, 2007) for a sophisticated defense of the view.

in justificatory chains. On this view, all instances of knowledge and justified belief depend asymmetrically on a foundation composed of non-inferentially derived basic beliefs (Chisholm 1981; Pollock 1974; Alston 1986).

While coherentists agree with foundationalists that the possibility of *infinite* epistemic regress is to be avoided, they deny that there is anything objectionable about *unending* justificatory chains: justification need not proceed linearly in a way that invites concerns about infinite regress, and non-linear justificatory chains need not be viciously circular. According to coherentists, belief systems are structured webs of logical and inferential relations, wherein the justificatory status of any given belief depends on the strength of the web as a whole (Quine & Ullian 1970; Bonjour 1985; Lehrer 1974; Davidson 1984; Harman 1986; cf. Neurath 1959). Belief systems are justified when they are coherent, on this view, and individual beliefs are justified by virtue of their membership in coherent systems. In what follows, I will refer to standard interpretations of foundationalist and coherentist views as *belief-centered*.³

The psychological theories implicated in belief-centered epistemologies have received limited attention, even as the psychological suppositions of virtue epistemology have begun to generate spirited discussion (Alfano 2012, 2013; Olin & Doris 2014). This chapter argues that such discussions should be welcome, and are, indeed, mandatory. In his classic critique of belief-centered epistemologies, Sosa (1980a: 4) observes that both the foundationalist metaphor of the pyramid and the coherentist metaphor of the raft “concern the body or system of knowledge in a given mind [...] a more complex marvel than is sometimes supposed”; Henderson & Horgan (2009: 296) have more recently observed that “[m]ost contemporary epistemologists are committed to the epistemic significance of cognitive dispositions.” While virtue epistemologists have made this observation central to their accounts of knowledge and justification, foundationalists and coherentists do not often enough address the theoretical significance of their respective psychological commitments.

In the burgeoning literature on virtue epistemology psychological commitments concern a thesis about the proper direction of epistemic analysis: according to virtue epistemologies, the normative properties of beliefs derive from the normative properties of epistemic agents, not the other way around (Greco 2004: 1; Zagzebski 1998: 617; Axtell 2000; Baher 2008; Battaly 2008). Contemporary discussions of epistemic virtue began with Sosa’s suggestion that appealing to “stable dispositions for belief acquisition” may help resolve the impasse between foundationalist and coherentist approaches toward justification (Sosa 1980a: sec. 11). Virtue epistemologists have since put forward a diversity of alternative conceptions of virtuous epistemic dispositions.

³ Like virtue epistemology, foundationalism and coherentism are not aptly characterized as homogeneous traditions: both claim a diversity of adherents, and as labels like “foundherentism” (Haack 1993; see Audi 1993; Steup 2004; DeRose 2004) suggest, some theorists emphasize shared elements of the theories in cultivating their accounts. This essay elides the diversity, and instead explicates the sense in which representative versions of coherentism and foundationalism are fairly described as agent-centered.

Virtue *reliabilists* like Sosa (1980a, 1991, 2001), Greco (1992, 1993, 2000a, b, 2001, 2002, 2010), and Goldman (1992, 1996, 2008), are committed to the significance of reliable psychological capacities like memory, perception, and reason in their accounts of the virtues. These processes are supposed to be underwritten by non-motivational capacities or dispositions—capacities that naturally lead people to adopt a greater proportion of true relative to false beliefs.

Virtue *responsibilists*, in contrast, emphasize the importance of social artifice and habituation in the cultivation of virtue, and focus on distinctively “ethical” or motivational traits like epistemic responsibility and contentiousness (Zagzebski 1996, 2001; Bonjour 1980; Code 1984, 1987). Responsibilist theorists agree with reliabilists, however, that the virtues must implicate a “reliable element.” According to Zagzebski’s account, for example, a virtue is “a deep and enduring acquired excellence of a person, involving a characteristic motivation to produce a certain desired end and reliable success at bringing about that end” (1996: 137).

Differences notwithstanding, virtue epistemologies are well characterized as *agent-centered*. As a group, virtue theorists maintain that the epistemic status of beliefs derives from the epistemic status of believers, and that the epistemic status of believers depends on their possession of virtuous dispositions: if a belief is formed through the appropriate exercise of epistemic virtue it counts as knowledge; if not, it does not.

Agent-centered accounts have been described as a “third way” beyond the foundationalist/coherentist gridlock—as *sig alerts* indicating routes beyond established and complex disagreements. Instead, this chapter argues, they are most perspicuously understood as providing frameworks within which the *existing* empirical commitments of foundationalist and coherentist theories of knowledge can be articulated and developed; sufficiently sophisticated variants of coherentism and foundationalism *invariably and centrally presuppose the existence of robust psychological dispositions*.

My claim is not that traditional foundationalist and coherentist views are explicitly agent-centered. On the contrary, as intimated above, foundationalist and coherentist epistemologies rarely involve explicit and detailed discussions of the cognitive materials required for belief, let alone justified belief and knowledge (Taylor 1990; Bishop & Trout 2005; Henderson & Horgan 2011). They appear to be, in Kitcher’s (1983: 14) terminology, “apsychologistic.” When concerns about psychological plausibility are raised, they are usually raised by *critics* of foundationalism and coherentism (e.g., Battaly 2008: 640).

In one way, the absence of such concerns is unsurprising: As Goldman (1986: 301; cf. 1987; Bealer 1987: 291; Taylor 1990) remarks, one “typical philosophical methodology is to try to construct a normative model without worrying too much about its instantiability by actual human agents.” It may therefore seem natural to think of “purely philosophical” theories of epistemic justification as being silent on questions about whether “there *are* justified beliefs” (Audi 1993: 133; Audi 1978). If one has the correct theory of knowledge, such reasoning goes, it remains the right theory of knowledge regardless of whether or not the standards it establishes are ones that actual

human beings can adhere to. Yet even epistemologists working squarely within belief-centered traditions have typically “had in view adult humans with normal ranges of cognitive capacities and possibilities” (Henderson & Horgan 2009: 298; Cherniak 1986; Harman 1986; Taylor 1990; Henderson 1995), and been concerned to give accounts of justified belief that explain why “we know, or are justified in believing, pretty much what we reflectively think we know or are entitled to believe” (Kim 1988: 382; Alfano 2012, 2013).⁴

The implications of this observation have been insufficiently appreciated. For example, while Sosa explicitly presents his appeal to the notion of virtue as an “alternative to foundationalism of sense experience” (Sosa 1980a: 23), Howard-Snyder (2012) notes that it is in fact an instance of it; an account of the epistemic virtues, on this reading, is one way of characterizing “The Foundations of Foundationalism” (Sosa 1980b). Similarly, as Henderson & Horgan (2009: 298) remark, “the traditional epistemology for which virtue epistemology provides an alternative is itself committed to the epistemic importance of dispositions.” Sosa himself claims that the introduction of virtue epistemologies represents a shift in emphasis rather than subject matter,⁵ and has recently characterized his own reliabilist virtue epistemology as an externalist version of foundationalism (Bonjour & Sosa 2003).⁶

A similar state of affairs is found in contemporary discussions of coherentism. In early formulations (Quine & Ullian 1970), as well as in more recent renderings (Bonjour 1985; Thagard 2000), coherentism requires not only that an agent’s beliefs are coherent at the level of content, but that those beliefs stand in coherent relationships with one another *in the minds of believers*. It is a direct implication of this view that believers are possessed of the dispositions that sustain these relationships: robust dispositions to classical inference. Dispositions to infer are sometimes mentioned in critical discussions concerned with the psychological plausibility of coherentism, though scant attention has been paid to questions about how those dispositions are supposed to function, or even whether believers typically possess them.⁷

To the extent that coherentists and foundationalists are concerned to address the possibility of actual human knowledge, then, they should be concerned about the

⁴ In fact, just as virtue epistemologists typically agree that skeptical questions require attention (Zagzebski 1996: 296–8; Sosa 1991: 168, 193; Greco 2000a: Ch. 7; Axtell 2010), foundationalist and coherentist epistemologies are typically formulated in direct response to the possibility of skepticism. This feature of coherentist and foundationalist views is perhaps most evident in arguments against infinitism. According to infinitists, knowledge *does* require endless and non-repeating justificatory chains (Klein 1999, 2007). Infinitism is typically rejected by both foundationalists and coherentists on exactly the grounds that human beings are not capable of mentally traversing “infinite series” (Aristotle *Post An.* 72b10): Human beings are possessed of *finite* minds, so any theory of justification that requires negotiating *infinite* chains most improbably secures the possibility of human knowledge.

⁵ In particular, for Sosa, the shift marks out an “option in epistemology [that] puts *the explicative emphasis* on truth-conducive intellectual virtues or faculties” (1991: 64, *my italics*).

⁶ As Pritchard (2004: 320) observes, it is therefore odd that the subtitle of the book in which this characterization appears *contrasts* foundations and virtues.

⁷ Important exceptions in the *psychological* literatures include: Thagard 1992, 2000; diSessa 1993; diSessa et al. 2004.

psychological commitments of their respective accounts. And to the extent that those commitments implicate dispositions of the sort that feature in virtue epistemology, they should be concerned about the empirical challenges that have been explicitly raised for agent-centered views.

Finally, the following style of objection needs to be addressed: “This is a trivial matter of classification: of course there’s some broad category of epistemological theories ‘with empirical content’ that includes traditional versions of foundationalism and coherentism as well as virtue epistemology.” The point, however, is that the shared features of the psychological theories presupposed by foundationalists, coherentists, and virtue epistemologists actually bear on the advantages and disadvantages of the respective accounts. To the extent that the psychological commitments of coherentism and foundationalism implicate dispositions of the sort that feature in virtue epistemological accounts, they are already psychologically committed in exactly the way virtue epistemology’s thesis about the proper direction of epistemic analysis makes explicit.

Given the many recent successes of agent-centered approaches in epistemology, diagnosing the elements shared by virtue theories and more traditional approaches may signal positive developments. It seems plausible that foundationalism and coherentism are possessed of unappreciated resources for negotiating established problems in the literature on virtue epistemology, and vice versa: making the close relationships between these views explicit may facilitate a broader deployment of their distinctive theoretical resources. In what follows here, however, I’ll focus on the question of whether versions of foundationalism and coherentism are empirically committed, like virtue epistemology, in problematic ways. I’ll first explicate the empirical challenge recently encountered by agent-centered theorists in the literature on virtue epistemology, then assess whether and to what extent the psychological features of foundationalist and coherentist views are empirically vulnerable.

1.2 The Situationist Challenge to Virtue Epistemology

Contemporary renderings of virtue *ethics*, critics allege, presuppose psychological theories that are empirically endangered.⁸ Recently, a related criticism has been applied to virtue epistemology: just as empirical evidence on moral judgment and behavior raises suspicion about the psychological realizability of ethical virtue, empirical evidence on cognition and perception raises suspicion about the psychological realizability of

⁸ For situationist critiques in the ethics debate, see Alfano (2013), Doris (1998, 2002, 2005, 2010), Doris and Stich (2005, 2006), Harman (1999, 2000), Merritt (2000); Merritt et al. (2010), and Vranas (2005). For responses, see Adams (2006: 115–232), Annas (2005), Appiah (2008: 33–72), Arpaly (2005), Flanagan (2009: 54–6), Kupperman (2001), Miller (2003, 2009a, b, 2010), Montmarquet (2003), Russell (2009: 227–331), Solomon (2003, 2005), Snow (2010), Sreenivasan (2002), Swanton (2003: 30–1), Upton (2009), and Webber (2006a, b; 2007a, b). Doris (2005: 670; 2010) suggests that the critique may extend to virtue epistemology, and that case is developed in Alfano (2012, 2013) and in Olin & Doris (2014).

epistemic virtue. If epistemic virtue is required for knowledge and epistemic virtue is not typically psychologically instantiated, beliefs that are justified by virtue-theoretic lights will not be widely instantiated and skepticism, or near-skepticism, threatens. Because both reliabilist and responsibilist renderings of virtue epistemology appeal to the notion of robust cognitive dispositions in grounding their respective accounts of the virtues, both views encounter empirical difficulty.

Reliabilist virtue epistemologists must engage evidence suggesting that the human perceptual and cognitive capacities commonly cited as virtues vary, regards the epistemic status of their outputs, with epistemically irrelevant features of circumstance. Consider:

- People are more likely to accept equations as correct when they are presented in symmetric patterns than when they are presented in asymmetric patterns (Reber et al. 2008; Reber & Schwarz 1999).⁹
- People are more likely to judge that aphorisms are true when they are presented as rhymes—even when rhyming and non-rhyming versions are judged to be equally comprehensible (McGlone & Tofiqbakhsh 1999, 2000).
- When participants are presented with texts in fonts that are easy or difficult to read then, asked for judgments about the intelligence of the author, they typically attribute the ease with which the text was read to the intelligence of the author (Oppenheimer 2006).

On balance, the empirical record indicates that both cognition and behavior are sensitive to epistemically irrelevant features of situations. In addition to data about reasoning, trivial variation in contextual features affects the functioning of low-level perceptual capacities. Consider vision:

- People perform more poorly in facial recognition tasks after working on cryptic crossword puzzles than they do after working on sudoku puzzles, literal crossword puzzles, or after reading (Lewis 2006; Perfect et al. 2007; Pacheco-Unguetti 2014).
- When a friend is physically present, people visually judge slopes as less steep than they would when alone (Schnall et al. 2008; see Proffitt 2006).

Responsibilist virtues also function in epistemically unsettling ways (Alfano 2012, 2013; Olin & Doris 2014). For example, epistemic virtues such as conscientiousness implicate distinctively motivational elements—that is, elements requiring that epistemic agents knowingly direct their energy and attention in ways that facilitate the acquisition of knowledge. To put it another way, the cognitive feats characteristic of knowledge sometimes require metacognitive feats: often, to acquire knowledge, people must think accurately about their own thinking. Unfortunately, psychological

⁹ Here is one example of stimuli used in Reber et al. (2008: 1175; top: symmetric patterns; bottom: asymmetric patterns).

research demonstrates that this is not something at which epistemic agents typically excel. For example:

- There is no relation between font size and memory success, but even when people are explicitly told that size doesn't matter, they are more likely to rate stimuli presented in larger fonts as memorable (Rhodes & Castel 2008).
- People are more likely to predict that they will remember words presented at higher volumes, even though presentation volume is unrelated to memory success. Significantly, this erroneous perception influences effort: when given the opportunity to engage in extra study time, people choose to devote additional time to words presented at lower volumes (Rhodes & Castel 2009).

A large body of evidence suggests that people are typically overconfident about their judgments—and the “overconfidence effect” applies broadly, from judgments of spelling performance (Adams & Adams 1960) to judgments of exam success (Kruger & Dunning 1999; see Einhorn & Hogarth 1978; Dunning et al. 1990; Gill et al. 1998). Findings indicate that people express more confidence in answers they retrieve quickly, regardless of whether those answers are correct (Kelley & Lindsay 1993; Koriat et al. 2006), and in some cases express lower confidence in propositions for which they have superior evidence. For example, Koriat et al. (2008) asked participants to select answers to a variety of general knowledge questions, then to provide reasons in support of their choices and to provide confidence ratings. When participants were asked to provide *one* supporting reason, their confidence was higher than in cases where they were asked to provide *four* supporting reasons. Darwin may have been correct, one fears, in stating that “ignorance more frequently begets confidence than does knowledge” (1872: 4).

For epistemologists unconcerned with questions about whether the epistemic dispositions featured in their theories are psychologically realistic, evidence like the foregoing might be disregarded. But knowledge *requires* virtue, according to virtue epistemology. So if the virtue epistemologist means to engage with the possibility of skepticism she must engage with questions about the extent to which human beings can be possessed of epistemic virtue, as well as the conditions under which, and the cognitive capacities whereby, virtue's exercise is facilitated. To the extent that traditional belief-centered epistemologies embrace commitments analogous to those embraced by virtue epistemologists, proponents of those views must also engage with questions regarding the nature of the cognitive capacities required by their respective accounts of justified belief and knowledge, and the conditions under which they can be expected to function well. In what follows, I consider these questions for foundationalism and coherentism in turn.

1.3 Basic Beliefs

For foundationalists, empirical commitments to robust dispositions are most prominent in notions of basic belief. On classical versions of foundationalism, basic beliefs

are self-evident or indubitable beliefs about one's own current mental state. Historical proponents of foundationalism have cited incorrigibility and infallibility as other properties distinctive of basic beliefs, and while there are countless variants, the general "Cartesian" emphasis on the privileged status of introspection went largely unchallenged during the latter part of the twentieth century (see Kim 1988). However, most classical versions of foundationalism—especially those requiring such epistemically hallowed grounds—have been rejected as too strong. And as developments regarding the unreliability of introspection intimate (Schwitzgebel 2008; see Rorty 1979; Sellars 1963), this has been a positive development for foundationalism.

Following the contributions of Alston (1976), Delaney (1976), and Pastin (1975a, b), classical renderings of foundationalism fractured into a sophisticated collection of "modest foundationalist" views according to which basic beliefs need not be regarded as composed of indubitable bedrock: so long as they are non-inferentially justified and "in the general vicinity" of knowledge, basic beliefs might well be composed of epistemic foundations strong enough to build on (Audi 1993: 129; see Armstrong 1968: 106–8; Alston 1986; see Sosa 1980b). For modest versions of foundationalism, justification requires only that basic beliefs have some *prima facie* claim to justification that does not depend on the epistemic relations they bear to other beliefs.

In prominent contemporary renderings, foundationalist epistemic chains terminate in beliefs thought to derive directly, or non-inferentially, from perceptual, memorial, and introspective experiences (Chisholm 1977; Russell 1921; Audi 1993; Pollock & Cruz 1999; Schroer 2008). Foundational beliefs are those basic experiential beliefs sourced in "cognitive ultimates" (Rescher 1974: 702) or "unjustified justifiers"—doxastic analogues to a proverbial unmoved mover (Chisholm 1977: 25; cf. Bonjour 1978: 1; Audi 1993: 134; Goldman 2008). The content of these perceptual, introspective, and memorial experiences is non-propositional but is nevertheless supposed to be directly or "immediately apprehended"; this dispositional relation in turn is supposed to justify beliefs partly involving perceptual experiential content (Chisholm 1977: 16–33; Alston 1976).

Modest foundationalism has seemingly little difficulty, relative to classical foundationalism, in allowing that ordinary perceptual beliefs are justified: perceptual experiences of "red" justify basic beliefs about seeing red because part of the content of those experiences is directly "transferred" to associated perceptual beliefs. Yet, by and large, proponents of foundationalism have not engaged the psychological literature in grounding their accounts of how basic beliefs arise: they tend to treat *experience*—particularly perceptual and memorial experience—as a "mirror of nature" (Audi 1993: 133; cf. Rorty 1979).

Given that modest foundationalism requires a notion of basic belief in order to stop the threat of infinite epistemic regress, and given that this notion must be grounded in claims about the nature of psychological dispositions to form basic beliefs, it is reasonable to ask whether these psychological claims are empirically defensible. While non-classical foundationalists can sidestep obvious worries about the psychological reality

of infallible beliefs, it is less obvious than commonly supposed that capacities for perception, memory, reason, and introspection function as modest foundationalisms require.

As Audi (1993: Chapter 4) emphasizes, there are two features of the mirror analogy that sophisticated foundationalists find attractive. First, it suggests that some perceptual experiences are actually produced or caused by external states of the world, “somewhat as light produces mirror images.” Secondly, the analogy implies that perceptual experiences to some extent “match” their causes. Together, these features suggest that perceptual experiences of the world are epistemically robust because they arise directly out of perceptual mechanisms, and hence have some claim to immediate justification.

Modest foundationalists require that the following sorts of psychological sequences occur in the generation of basic beliefs. First, a perceptual, memorial, or introspective state occurs and second, this psychological state causes a basic belief to arise directly from the psychological state. Typically, this close connection between the experience and the associated belief is supposed to confer immediate justification (Feldman 2003: 74–5; Pryor 2000, 2005; Huemer 2001). Internalist variants of foundationalism involve the further requirement that it is possible for agents to become aware of positive reasons for the resultant belief, and that they be unaware of any negative reasons against it (Bonjour 1978, 1985; Bonjour & Sosa 2003). For externalist variants, in contrast, the reliability of the process responsible for generating the belief is sufficient for justification.¹⁰ In each view, however, the link between perceptual or memorial states and basic beliefs is supposed to be direct and causal—the experiences cause the basic beliefs.

However, even perceptual dispositions are sensitive to contextual factors, and this sensitivity problematizes the notion of “direct” causality. There is a general agreement among researchers in visual perception, for example, that objects presented in familiar contexts are more quickly and more accurately recognized than objects presented with inconsistent or atypical backgrounds, or in the context of strange scenes (Oliva & Torralba 2007). In fact, evidence of such contextual influence abounds (Henderson & Hollingworth 1999):

- Prior exposure to images changes what people “see” when presented with ambiguous figures like the young girl/old woman illusion (Bugelski & Alampy 1961).¹¹
- Perceptions of steepness are inflated after an hour of exercise (Bhalla & Proffitt 1999).

¹⁰ For example, on Armstrong’s account there must exist a “law-like connection” between basic beliefs and the states of affairs in the world that make the beliefs true, in much the same sense as there exists a law-like connection between the readings of a reliable thermometer and the ambient temperature (Armstrong 1973: 157, 166).

¹¹ The illusion is associated with British cartoonist W. E. Hill, who published this version, titled “Wife and Mother-in-Law,” in 1915.

- Golfers who are playing well perceive the hole to be bigger than other golfers who are not playing well (Witt et al. 2008; Witt & Sugovic 2010; Witt 2011).

In addition to contextual variation, people's motivational states—for example their wishes and preferences—influence perceptual processing and associated perceptual experiences “from the top down”:

- When shown ambiguous figures—such as for example a figure that could be interpreted as the letter **B** or as the number **13**, subjects report seeing what they *wanted to*: when told that, depending on whether they were assigned a letter or a number, they would be asked to drink orange juice or a “noxious-smelling and vile-looking health food drink,” participants “saw” the figure associated with the more desirable beverage (Balcetis & Dunning 2006).
- People who are thirsty perceive ambiguous visual stimuli more “transparently”—in ways consistent with there being liquid in the foreground rather than the background—than do people who are satiated (Changizi & Hall 2001).

A large body of evidence indicates that psychological states including beliefs, expectations, desires, moods, and fears influence both the content and character of perceptual experiences and resultant perceptual beliefs. Such factors are not well reflected in the *phenomenology* of experience. First, human beings possess little awareness of the cues driving their feelings of knowing and a poor sense of their evidential value (see Koriati et al. 2009). Second, there is evidence that it may not be possible for actual human beings to separate the contributions of different sensory modalities to subjective perceptual experience—and these contextually determined interactions themselves promote striking variation in dispositions to form beliefs on their basis. For example:

- Seeing a circular disc alters perceptual beliefs about the location of a “beep” sound (Howard & Templeton 1966).
- Presenting subjects with photographs of a hand alters reports about their own hand's location (Vroomen et al. 2001).
- When participants are presented with a disc flashing once on a screen and simultaneously presented with two brief “beeps,” subjects report *seeing* two flashes (Shams et al. 2000, 2001).

What about basic beliefs is sourced in memory? According to memory foundationalism (Russell 1921; Audi 1993; Pollock & Cruz 1999; Bonjour 2002), the experience of remembering *p* confers a *prima facie* justification for *p*. Phenomena such as confabulation and déjà vu give immediate reasons for doubting this, and such doubts appear justified: the subjective experiences of familiarity and perceptual quality associated with the idea of “immediately accessible” memorial experiences are often the products of unconscious, contextually sensitive attribution processes (Jacoby & Dallas 1981; Jacoby et al. 1989; Jacoby & Whitehouse 1989). Some key findings:

- Perceived and imagined events are often confused, and the perceived clarity or vividness of an event’s representation influences judgments about whether it has been imagined or actually remembered (Johnson et al. 1988; see Johnson & Raye 1981).
- People are likely to report having previously seen target words when they are presented with minimal, as opposed to significant, background noise, regardless of whether those words have in fact been previously presented (Whittlesea et al. 1990).
- When presented with discrepant words during a study phase, participants are later more likely to report having seen those words multiple times as opposed to having seen them just once (Kronlund & Whittlesea 2006).
- While subjects are accurate in their memories of a target person’s height when the target’s height matches their own, when the target is shorter or taller such memories are scaled significantly toward the subject’s own height (Twedt et al. 2012).¹²

Perceptual and memorial experiences need not always mislead, of course; the point is not that perception, introspection, reason, and memory have no defensible epistemic roles. The point is rather that just as virtue epistemologists with reliabilist inclinations must address the extent to which the functioning of capacities for perception and memory are contextually sensitive in epistemically unsettling ways, foundationalists must engage evidence suggesting that perceptual, introspective, and memorial dispositions to “directly cause” basic beliefs are in fact highly sensitive to the variation of irrelevant contextual factors.

1.4 Coherence

Coherentists, of course, eschew foundationalist commitments to the central importance of basic beliefs derived from perceptual, introspective, and memorial experience. Rather than insist basic beliefs are justified by virtue of their causal roots in experience, coherentists maintain that beliefs in general are justified by virtue of their membership in *coherent* systems.¹³ While a diversity of coherentist proposals exists,

¹² In addition to overt features of presentation context, there is evidence that epistemically irrelevant factors such as mood differentially affect memory and feelings of remembering. For example, emotionally charged events are remembered more vividly, more confidently, and with greater beliefs in accuracy than are more mundane events (Neisser & Harsch 1992; Neisser et al. 1996; Talarico & Rubin 2003). Rimmele et al. (2011) have recently reported a double dissociation between subjective feelings of remembering and the objective memory accuracy for the details of negative and neutral scenes: feelings of remembering for negative scenes are stronger than feelings associated with neutral ones, but memories of the details of negative scenes are less accurate than memories of the details of neutral scenes.

¹³ On some renderings, coherentism claims that justification requires coherence among both beliefs and experiences. For example, Kvanvig argues that appearance states or experiences should be counted among those things “over which coherence is defined” (2007 sec. 2.1: see Kvanvig & Riggs 1992; Lycan 1996: 21 n.10). Here, focus remains on standard versions of coherentism according to which justification requires coherence only among beliefs.

the requirement that beliefs are *mutually supportive* features in all prominent renderings of coherentism.¹⁴

This commitment is evident in Sosa's rendering of Neurath's raft analogy: "For the coherentist, a body of knowledge is a free-floating raft *every plank of which helps directly or indirectly to keep all the others in place*, and no plank of which would retain its status with no help from the others" (Sosa 1980a: 24). It is also explicit in Chisholm's assertion that concurrent sets of propositions are "related by mutual support" (1977: 83; see Harman 1984: 42; Moser 1985: 72), and in C. I. Lewis's account, in which "congruence" is defined in terms of a "set of statements [related such that] the antecedent probability of any one of them will be increased if the remainder of the set can be assumed as given premises" (1946: 338). While there are many versions of the basic coherentist proposal, to deny that mutual support relations obtain between beliefs would be tantamount to robbing coherentism of its guiding intuition (Hansson & Olsson 1999: 246; see Schubert & Olsson 2012: 114).

What psychological dispositions are required in order to vindicate the coherentist claim that human beings are possessed of coherent systems of belief—systems in which all beliefs are mutually supporting? Some coherentist views, critics have alleged, unreasonably require that human beings are capable of examining the contents of *all* their beliefs simultaneously. *Global* coherence is what is relevant for justification and, as Bonjour insists, such "justification must, in principle at least, be accessible to believers" (1985: 89; see 43). Cherniak (1986: 70; see Quine 1961: 42–4) argues for similar reasons that Quine's coherentist proposal requires conceptualizing "the entire belief system as contemporaneously fully activated or processed in parallel: the content of the short-term working memory would be the complete long-term memory."

Such requirements have guided multiple attacks on coherentism's psychological plausibility (Bender 1989). As a result, traditional versions of coherentism, like classical versions of foundationalism, have been largely abandoned as "too strong." More recent coherentist accounts remain committed to the idea that beliefs stand in mutually supportive inferential relationships within the minds of believers (Bonjour 1985: 91), but allow that local coherence, in addition to global coherence, is of justificatory value. The burden on these coherentists—if they are concerned with skepticism—is to provide an account of the dispositions involved in the generation

¹⁴ Perhaps most influentially, A. C. Ewing defines coherence in terms of mutual derivability (Ewing 1934: 229). But regardless of the specific account of mutual support one favors, its importance to coherentism is implied by the further requirement that coherence cannot be collapsed into a weaker requirement of consistency. As Bonjour (1985: 95) has claimed, "it is abundantly clear, as many coherentists have pointed out, that a system of beliefs might be perfectly consistent and yet have no appreciable degree of coherence." Statements can be logically consistent or in agreement even where no inferential or explanatory relationships obtain at the level of their content.

Lycan (1996: 10) makes a similar point in arguing that not every instance of inconsistency implies incoherence. Belief systems, in his view, can be compartmentalized such that justification obtains even when odd beliefs such as that "aliens from the planet Werdna are both round and square in shape" are added to an otherwise coherent set. Recent formal studies of coherence confirm that standard ways of understanding the notion of coherence involve mutual support (Douven & Meijs 2007; see Schubert & Olsson 2012).

and retention of mutually supportive beliefs in particular domains or “epistemic neighborhoods” (see Henderson 1995). As a psychologically plausible account of epistemic justification, then, coherentism requires that human beings are possessed of *inferential dispositions*: dispositions that ensure belief systems are composed of beliefs with mutually supportive propositional contents (Chisholm 1977; Lewis 1946; Audi 1978). According to Rescher’s (1973) view, the content relation is cashed out in terms of factual theses, and the relationships between those theses is inferential in nature; on explanatory views such as that defended by Harman, abductive as well as inductive and deductive inferential relations are “coherence giving” (1986: 72; Lycan 2012).

It therefore seems reasonable to be concerned about whether believers have the psychological capacities required to sustain such relations: if knowledge requires coherent belief systems and human epistemic dispositions don’t support such systems, skepticism follows. Are human beings possessed of the dispositions for reasoning and inference required for the creation and maintenance of coherent systems of belief?

One long tradition in the psychology of reasoning suggests a positive answer to this question. In Western cultures, at least, reasoning appears to be guided by a commitment to something like the principle of non-contradiction; a cultural adherence to the idea that propositions cannot be both true and false is often supposed to explain the Western penchant for “self-consistency” (see Norenzayan et al. 2002). Consider:

- When people are *rewarded* for saying things contrary to their privately held opinions, the degree to which they are rewarded correlates *inversely* with the degree to which those privately held opinions change as a result (Festinger & Carlsmith 1959).
- If someone is forced to improvise a speech designed to advocate a point with which they do not agree, privately held opinions shift to make ones beliefs and behaviors more consistent (Janis & King 1954: see King & Janis 1956; Festinger 1957).

In standard interpretations, consistency-restoring inferential mechanisms drive effects such as those just outlined, and these mechanisms might be thought to underwrite coherent systems of belief. Unfortunately, recent research indicates that these mechanisms are better understood as designed to protect deeply held values or “worldviews” in the face of potentially threatening evidence. Coherence may be a central doxastic motive, but the sort of coherence in question often fails to inspire true beliefs (Steele 1988; Steele et al. 1993). In short: while it appears that human beings may be coherentists of a sort, they’re not coherentists of the right sort.

The functioning of inferential dispositions is heavily influenced by context, prior beliefs, and strongly held values (Kahan & Braman 2006). The experimental literature on deductive reasoning is rife with data indicating that deductive inferences are highly sensitive to such non-logical contextual influences. One prominent example concerns syllogistic reasoning (Evans et al. 1983; Klauer et al. 2000; Newstead et al. 1992). In

typical experiments from this tradition, participants are asked to determine whether some given conclusion follows logically from some given premise or set of premises. Even with explicit reasoning instructions, participants in these experiments endorse more conclusions as valid when they conform to prior beliefs—*especially* in cases where that conclusion is a possible fallacy. Such findings are among those that led Stanovich (1999) to argue that humans are equipped with a fundamental psychological “belief bias” that promotes contextualizing problems on the basis of prior knowledge and belief—a bias toward endorsing believable conclusions.

Even setting belief biases to one side, evidence that dispositions to infer are sensitive to logically irrelevant contextual features abounds:

- Syllogistic reasoning is biased by logically irrelevant syntactic factors such as which quantifiers are featured in the premises (Chater & Oaksford 1999) or the order in which terms are mentioned (Johnson-Laird & Bara 1984).
- People fail to draw *modus ponens* inferences in cases where an additional logically irrelevant premise is presented (Byrne 1989, 1991; cf. Johnson-Laird & Byrne 1991).

In addition to evidence concerning *contextual* variability, research on the *cultural* variability of competing worldviews bears lessons for the functioning of epistemic dispositions: depending on the cultural milieu in which one develops, it appears that demands on the coherence of one’s belief system *itself* varies. For example, a significant body of research indicates that Western worldviews, on which stability and the avoidance of contradiction are important aspects of Western “self-concepts,” promote the internal consistency and coherence of belief systems. “Holistic” worldviews characteristic of many East Asian cultures, in contrast, appear to facilitate increased tolerance of contradictions, increased acceptance of cognitive dissonance, and less consistent views of the self (Heine & Lehman 1997).

As Whitman (2001: 53) said: “I contradict myself. Very well. [...] I contradict myself. I am large. [...] I contain multitudes.” Tolerance of contradictory beliefs may be thought a consequence of possessing a holistic worldview. But importantly, even the beliefs one is likely to hold given a holistic worldview are sensitive to the *contexts* within which new candidates for belief are encountered. As evidence indicates, the tendency to tolerate contradictions prevalent in East Asian cultures is itself subject to boundary conditions: when contexts require that apparently conflicting ideas be resolved, even highly tolerant attitudes towards contradiction can be “trumped” (Spencer-Rogers et al. 2007).

In the context of Western traditions dominated by “analytic” worldviews, acceptance of contradictions is mediated by the particularities of circumstance. For example, Kahan & Braman (2006), Kahan et al. (2011; see Douglas 1971) found that individual cultural values—values falling on the cross-cutting axes of *hierarchy-egalitarianism* and *individualism-communitarianism*—explain patterns of belief about phenomena such as global warming, capital punishment, and vaccination policy more strongly

than do *any other* beliefs or individual characteristics. Depending upon the contexts in which facts about such issues are framed—in ways that affirm or challenge those cultural values—they are treated differently as evidence. Strongly held cultural values, core attitudes, and self-conceptions mediate appraisals of candidate beliefs and evidence in ways suggesting that *asymmetric* rather than *mutually supportive* inferential relationships best characterize actual systems of belief.

So it doesn't appear that beliefs are related to each other via the kinds of dispositions to infer presupposed by proponents of coherentism: beliefs are not organized on the model of a raft in which each plank supports and is supported by all of the others. To put it another way, the relations of mutual support among beliefs frequently fail to instantiate anything that can plausibly be thought of as epistemic value. Rather, belief systems are organized and updated asymmetrically in ways designed to support prior beliefs and overarching values or worldviews. And these beliefs and systems of value are themselves highly sensitive to cultural and contextual factors—sensitive in ways suggesting that coherentist presuppositions regarding the inferential dispositions required to sustain mutually supportive relationships between beliefs do not, in fact, obtain.

1.5 Conclusions

I first argued that traditional versions of foundationalism and coherentism are, like virtue epistemology, aptly characterized as *agent-centered*. I then explored the question of whether proponents of these traditional views must engage with an empirical challenge akin to that which has been explicitly raised for virtue epistemology, and answered affirmatively: to the extent that non-skeptical theories in epistemology require that agents are possessed of robust psychological dispositions, they invite skepticism.

Before concluding here, it is worth emphasizing that, as Heil (2005: 343; see Martin 1994) notes, “[d]isposition is a term of art: you can define dispositions as you please.” The point of the foregoing is not that the agent-centered direction of epistemic analysis is incorrect—on the contrary, it seems plainly correct. The point is that the nature of the cognitive dispositions that are in fact implicated in the justification of beliefs and the acquisition of knowledge remain obscure in the context of contemporary philosophical discussions. Extant foundationalist, coherentist, and virtue-theoretic accounts of epistemic dispositions do not explain human epistemic achievement, or the reasons it is valuable.¹⁵

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