

# Core and Ancillary Epistemic Virtues

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Received: 29 August 2017 / Accepted: 9 April 2018  
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**Abstract** We argue, primarily by appeal to phenomenological considerations related to the experiential aspects of agency, that belief fixation is broadly agentive; although it is rarely (if ever) voluntary, nonetheless, it is phenomenologically agentive because of its significant phenomenological similarities to voluntary-agency experience. An important consequence is that epistemic rationality, as a central feature of belief fixation, is an agentive notion. This enables us to introduce and develop a distinction between core and ancillary epistemic virtues. Core epistemic virtues involve several inter-related kinds of epistemic rationality in belief fixation. Other “habits of mind” pertinent to belief fixation constitute ancillary epistemic virtues. Finally, we discuss the relationship between both kinds of virtues, offering a unified account of epistemic virtuousness.

**Keywords** Epistemic virtuousness · Agency · Rationality · Truth · Ancillary epistemic virtues

## 1 Introduction

We will argue, primarily by appeal to phenomenological considerations related to the experiential aspects of agency, that belief fixation is broadly agentive; although it is rarely (if ever) voluntary, nonetheless, it is phenomenologically agentive because of its

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significant phenomenological similarities to voluntary-agency experience. An important consequence is that epistemic rationality, as a central feature of belief fixation, is an agentive notion. This enables us to introduce and develop a distinction between core and ancillary epistemic virtues. Core epistemic virtues involve several inter-related kinds of epistemic rationality in belief fixation. Other “habits of mind” pertinent to belief fixation constitute ancillary epistemic virtues. Finally, we will discuss the relationship between both kinds of virtues, offering a unified account of epistemic virtuousness.

## 2 Belief Fixation and the Exercise of Epistemic Agency

Belief fixation encompasses both belief formation and belief maintenance. In what respects, and to what extent, is belief fixation a matter involving epistemic virtue (or perhaps its absence)?

Virtuousness is a feature of *agents* and is a matter of exercising their agency in certain ways and being disposed to exercise it in those ways. One might think that exercises of agency are always *voluntary*, and that belief fixation per se is an involuntary matter. If so, then presumably epistemic virtue is entirely a matter of what is under one’s voluntary control in the conduct of inquiry, or perhaps even prior to it—and is not a matter of belief fixation directly.

We are among those who affirm that belief fixation is virtually always non-voluntary. But we contend, largely on phenomenological grounds, that belief fixation is *broadly* agentive—with voluntary agency being a species of the broader genus of agency per se. One experiences one’s occurrent beliefs not passively, but rather as being the products of one’s epistemic competence—one’s capacity to appreciate epistemic reasons, and to form and maintain beliefs because of their evidential import. Phenomenologically, therefore, exercises of one’s epistemic competence are broadly agentive, even though not voluntary.

This being so, *epistemic rationality* is also an agentive notion. Rational belief-fixation is a virtuous exercise of one’s epistemic agency, whereas irrational belief-fixation is not. (Both rationality and irrationality are matters of degree.) We will call rational belief-fixation *core* epistemic virtuousness.<sup>1</sup> Other habits of mind pertinent to belief fixation we will call *ancillary* epistemic virtues. These include frequently discussed particular epistemic virtues such as epistemic conscientiousness, intellectual sobriety, impartiality, intellectual courage (Montmarquet 1987, 1993), synoptic grasp, a sense for alternative points of view both perceptual and theoretical, salience recognition and focus, and practical wisdom (Eflin 2000, 2003).

Our principal topic here is core epistemic virtuousness, which is a matter of rationality in belief fixation, but we also will address the interconnections between core and ancillary virtuousness. We speak of “core epistemic virtuousness” rather than “core epistemic virtue” because, as will emerge, there are several intertwined kinds of core epistemic virtue, involving several intertwined kinds of epistemic rationality.

<sup>1</sup> This formulation will be refined below, in light of what we will say about multiple kinds of epistemic rationality and their connections to epistemic virtuousness.

## 2.1 The Phenomenology of Voluntary Agency

Toward the goal of fleshing out core epistemic virtuousness, we first highlight some of central characteristics of the phenomenology of voluntary agency, so that we can later compare it to what we call the “credentive” phenomenology of occurrent belief.

First is the aspect of *self as source*. One’s actions are not experienced passively, e.g., as bodily or mental events that are merely happening to oneself, or as the outcome of passively experienced state-causal processes one undergoes (e.g., a process consisting of an occurrent desire/belief combination state-causing an intention-formation or a bodily motion). Rather, one experiences one’s voluntary actions as emanating from *oneself* as their source—as opposed to experiencing them, passively, as the end products of an experienced state-causal process. Although one’s voluntary actions presumably are indeed state-caused—for instance, by pertinent belief-states and desire-states, and by brain states that realize such psychological states—one does not *experience* an action one performs as the experienced outcome of an experienced state-causal process. Rather, it is instead experienced under the aspect of self as source. (**Not** experiencing one’s act **as** state-caused—a way of *not* experiencing it—should not be conflated with experiencing it **as not** state-caused. Such a conflation, we contend, is committed by those philosophers who appeal to self-as-source phenomenology as allegedly favoring metaphysical libertarianism about voluntary agency.<sup>2</sup>)

Second is the phenomenological aspect of *optionality*. One’s actions are experienced as under one’s voluntary control, and thus as being such that in the circumstances one can/could act otherwise. The fact that experiences of agency normally have the aspect of optionality is obvious introspectively—even though introspection does not seem powerful enough to yield by itself a confident verdict about the satisfaction conditions of agentive-optionality phenomenology. In particular, introspection directed at one’s voluntary-agency experiences does not yield by itself an answer to the question, “Under what conditions would one’s behavior count as *really being* optional in the way one’s voluntary-agency experience presents it to be?” (To think that introspection reliably yields a metaphysical-libertarian answer to this question, we contend, would be to commit the conflation warned against above.<sup>3</sup>)

Third is the phenomenological aspect of *purposiveness*. Normally one experiences one’s actions as being done *on purpose*, and as being done for *specific* purposes both coarse-grained and fine-grained. For example, the coarse-grained purpose for which one enters one’s office in the morning involves further, more fine-grained aspects of purposiveness, such as pulling out one’s keys as one approaches one’s office, grasping one’s office key, extending it just so into the lock, and then twisting it just so.

<sup>2</sup> For more on the limits of introspection concerning the satisfaction conditions of voluntary-agency phenomenology, and on extra-phenomenological reasons to doubt that such phenomenology has metaphysical-libertarian satisfaction conditions, see Horgan and Timmons (2011) and Horgan (2011, 2012, 2015).

<sup>3</sup> We acknowledge that there are important open questions concerning the satisfaction conditions of optionality-phenomenology, and also concerning the satisfaction conditions of judgments to the effect that one “could do otherwise” given one’s current circumstances and one’s current psychological state. In our view, an important preliminary task here is to give a plausible account of the semantical workings of modal statements and counterfactual statements *in general*—an account under which such statements can be true even if determinism obtains. (Standard possible-worlds semantics does not do well in this respect.) Such an account then would be potentially applicable to agentive optionality.

Fourth is what we call *chromatic illumination* (cf. Horgan and Potrč 2010). Often, many of the purposes informing one's actions affect the character of one's agentive experience *implicitly*, without becoming explicitly present in consciousness. These purposes are phenomenologically operative as reasons for one's actions, coloring the specific character of one's agentive experience without being overtly "before the mind."

Fifth, the practical reasons (i.e., purposes) for which one acts, and which figure in the character of one's agentive experience, normally exhibit a means-ends teleological structure. In the familiar simplest case, one has a desire D for a particular outcome, and one has a belief B that performing action A is an available best-means to secure that outcome. This belief-desire combination constitutes a practical reason for performing action A. One acts in light of, and in response to, such a practical reason toward achieving an end. (Again, some aspects of the belief/desire combination might be present in conscious experience only implicitly, via chromatic illumination.)

Sixth, appreciation of a practical reason for performing an action A normally exerts a *motivational pull* toward A-ing. The appreciated reason is experienced as *authoritatively favoring* A-ing. In the case of ordinary practical reasons, this authoritativeness has a "hypothetical imperatival" character rather than a "categorical imperatival" character, because its authority is desire-dependent.<sup>4</sup> Such desire dependence is intimately connected to the experienced voluntariness of one's actions—the aspect of optionality. One's experience is as-of being free to act on one's desire or to refrain from doing so.

Finally, when one acts on the basis of a practical reason, normally one experiences oneself as so acting *because* of that reason, *qua* reason. (Again, this can be implicit, via chromatic illumination.) This "rational becausal" aspect of agentive experience is *not* an aspect as-of passively experienced state-causation—say, as-of one's belief-state and desire-state jointly state-causing one's body to move. On the contrary, the experience of performing an action *for* a reason has the phenomenological aspect as-of self-sourcehood—and, moreover, as-of *purposive* self-sourcehood, and, indeed, as-of self-sourcehood involving a *specific* purpose. That experienced purpose—the consideration that one experiences as the reason *for which* one now acts in the particular manner one does—is the "rational becausal" aspect. Phenomenologically, such experience resides squarely, indeed paradigmatically, in the "space of reasons," rather than residing in the "space of causes," i.e., the space of phenomena experienced passively as state-causal transactions.<sup>5</sup>

This is not to say that one's voluntary action is experienced as a behavioral episode that is *not caused* by states of oneself, but rather that the action is not experienced, passively, *as* a state-causal process. Agentive phenomenology is qualitatively different from phenomenology as-of state-causal processes, including being qualitatively different from phenomenology as-of psychological state-causation of one's own states of

<sup>4</sup> Moral-reasons phenomenology is different. Moral reasons are experienced as *categorically* favoring (or requiring) a given action, independently of one's pre-existing desires. We leave this issue aside in this paper (cf. Horgan and Timmons 2009, 206–208; 2010, 110–113; Mandelbaum 1955).

<sup>5</sup> Our use of the notion "the space of reasons" is Sellarsian in spirit. Sellars related it to the notion of knowledge in stating that "in characterizing an episode or a state as that of knowing, we are not giving an empirical description of that episode or state; we are placing it in the logical space of reasons, of justifying and being able to justify what one says" (Sellars 1956, §36).

mind or one's own behavior. (As an example of the latter, consider the experience as-of the urge to sneeze (i) state-causing one's awareness that one is about to sneeze and then (ii) state-causing one's sneezing itself.) Although an episode of voluntary agency presumably is a matter of the internal state-causation of one's action-performance, the point is that voluntary agency is not experienced as a state-causal process.

## 2.2 The “Credentive” Phenomenology of Belief Formation

With the above points in mind about the phenomenology of voluntary agency, consider now the phenomenology of occurrent-belief formation.<sup>6</sup> To begin with, there is the following significant difference. Normally (or perhaps always), the onset of an occurrent belief lacks the phenomenology of optionality, and it is experienced as occurring non-voluntarily. Here we refer to experiential aspects of belief-formation proper—such as, upon looking through the window of the conference room toward Lake Bled, spontaneously forming a belief that there is a boat heading toward the island in the middle of the lake. (Of course, belief formation sometimes is preceded by certain voluntary acts, like looking through a window, or exposing oneself to evidence in texts, or willfully directing one's attention to certain pertinent considerations.)

But although episodes of belief formation are experienced as *non*-voluntary, they are not experienced as *in*-voluntary, because the latter is polar opposite of voluntariness. Rather, they fall into a third phenomenological category: experiences as-of exercising one's *credency* (as we call it). Such experiences are agentive *in a broad sense*, because of the important similarities they bear to experiences of voluntary agency. Indeed, belief-formation phenomenology exhibits the following analogs of each of other six features of voluntary-agency phenomenology that we described in Section 2.1. (We will describe these features in a different order.)

First, the credentive phenomenology of belief formation involves appreciation of reasons *qua* reasons—in this case *epistemic* reasons consisting in available evidence, rather than practical reasons.

Second, it resembles voluntary agentive phenomenology by involving the *motivational pull* of appreciated reasons—in this case, being pulled-toward-*believing* by one's evidence-appreciation. This motivational pull is experienced as desire-independent, and thus as *categorically* imperativ—rather than as merely hypothetically imperativ given some desire one has.

Third, credentive phenomenology resembles voluntary agentive phenomenology by involving a reasons-related “rational becauseal” aspect. This is not an aspect as-of passively experiencing one's state of evidence-appreciation state-causing the onset of one's belief. Rather, it is an experience as-of *autonomously* (albeit non-voluntarily) exercising one's credency—one's capacity to appreciate epistemic reasons, to be pulled-toward-*believing* by such appreciation, and to be (non-voluntarily) gripped by belief because of being so pulled.

Fourth (and closely related to preceding point), experiencing oneself being thus autonomously gripped—gripped into belief by one's appreciation of the evidential

<sup>6</sup> We focus on belief *formation* because belief maintenance is often just a default matter, without distinctive or salient phenomenology. And we focus on formation of *occurrent* beliefs because phenomenology accrues to occurrently conscious mental states.

force of one's reasons—has the phenomenological aspect of *self as source*, even though it lacks the optionality-component that the self-sourcehood aspect has in cases of voluntary agency. In belief formation, self-sourcehood is experienced as the aspect as-of *purposively* (albeit non-voluntarily) exercising one's rational epistemic agency—where the reason for which one adopts the belief, i.e., the epistemic “purpose” for thus believing, is one's appreciation of one's evidence for it. The onset of belief is experienced as occurring actively, in the “space of reasons”; it is not experienced passively, as occurring in the “space of causes.”<sup>7</sup>

Fifth, often some of these aspects of credentive phenomenology are only implicitly present in belief-forming experience, via chromatic illumination.

Sixth, credentive phenomenology figures in a distinctive kind of means-ends teleological structure, which we describe below. (Whereas in voluntary agency one's desires figure as components of one's practical reasons for action, here the teleological structure is different: on one hand, episodes of evidence-appreciation constitute reasons for belief all by themselves, but on the other hand this is so because believing has a constitutive *telos*.)

An illustration of non-voluntary belief formation, as an end-stage in a process of inquiry with various component parts some of which are voluntary actions, is the following fictional scenario involving Sherlock Holmes. Holmes, upon seeing bare footprints in the alley behind Alexander Holder's home, and with other pertinent evidential considerations in mind, immediately and non-voluntarily finds himself believing that the missing piece of the beryl coronet was stolen not by Holder's ne'er-do-well son Arthur (who has been arrested and imprisoned for the crime), but by Arthur's friend Sir George Burnwell, with assistance from Holder's niece Mary (Doyle 1892).

The broadly agentic phenomenological character of belief-forming experience, as the exercise of one's autonomous credency, renders the category of epistemic virtue applicable to belief fixation—even though belief fixation is rarely (if ever) voluntary. As a further prelude to addressing the topic of core epistemic virtuousness, we next consider belief's teleological structure.

### 2.3 The Telos of Belief and the Means-Ends Teleological Structure of Belief Fixation

Beliefs are psychological *commitment-states* of a certain kind: the belief that *p* (where “that-*p*” characterizes a possible state of affairs—a way the world might be) is a psychological commitment-state vis-à-vis *its being the case* that *p*. It is a commitment to the world's actually *being* this way. Because this is the nature of belief, believing has a constitutive telos: to believe *only what is true* and to do so via *a reliable belief-*

<sup>7</sup> Here too, it is important not to conflate the feature *not being experienced as the outcome of a state-causal process* with the putative feature *being experienced as not the outcome of a state-causal process*. Although the aspect of self-sourcehood in experiences of belief formation clearly involves the former feature, introspection by itself cannot reliably ascertain whether or not the second feature is present as well. And, since there are powerful extra-phenomenological reasons to hold that belief-fixation is indeed a state-causal process (for instance, the rich body of scientific knowledge about state-causal processes in the brain and central nervous system, with some of the pertinent brain-states implementing mental states like episodes of evidence-appreciation), there is also the following strong extra-phenomenological reason to deny that credentive phenomenology represents one's own belief-formation as a non-causal process: if the phenomenology did have such content, then it would be systematically non-veridical and systematically illusory.

*forming process*. We will call this the *truth telos*. (It is not also a constitutive telos to believe everything that is true, or to believe as much as one can believe that is true. One important reason why not is that for any person, there are numerous truths not worth knowing or believing.)

Given one's epistemic situatedness in the world, there is an entire structure of sequentially embedded means and ends, all constitutively related to one another. Humans are *perspectivally situated*, as epistemic agents, with respect to (i) their available evidence and (ii) their own deep epistemic sensibility regarding makes-likely-true relations. This situatedness, together with the fact that belief constitutively has the truth telos, generates the following nested hierarchy of constitutively connected epistemic means and ends, with each stage in the hierarchy having both a product aspect and a process aspect:

Goal: *Reliable veridicality*. Believing only what is true, by deploying a reliable process of belief fixation.

Principal Sub-Goal: *Objective rationality*. Believing only what is objectively highly likely to be true (relative to one's total available evidence), by appreciating the objective import of one's evidence and being gripped by belief through that appreciation. (This is one's constitutively best available primary sub-goal as means toward reliable veridicality.)

Secondary Sub-Goal: *Sensibility-based subjective rationality*. Believing only what is subjectively likely to be true according to one's own deep epistemic sensibility (relative to one's total available evidence), by appreciating the import of one's evidence (according to one's deep epistemic sensibility) and being gripped by belief through that appreciation. (This is one's constitutively best available secondary sub-goal as means toward objective rationality.)

Tertiary Sub-Goal: *Experiential subjective rationality*. Believing only what accords with one's all-in, responsible-seeming, *ultima facie*, epistemic seemings, by doing so on the basis of those seemings. (This is one's constitutively best available immediate sub-goal as means toward sensibility-based subjective rationality.)<sup>8</sup>

Some clarification is in order, regarding terms used in the specification of the tertiary sub-goal. An *epistemic seeming*, vis-à-vis a proposition *p*, is a state of mind consisting in *p*'s seeming to be true. An *all-in* epistemic seeming is a seeming that takes into account all pertinent available evidence and which might over-rule a more "local" epistemic seeming. (An example is an overall epistemic seeming, on the authority of a trusted mathematician, that the correct answer to the Monty Hall problem is  $\frac{2}{3}$ , even though one's immediate intuition about this (a *local* epistemic seeming) is that the answer is  $\frac{1}{2}$ .) A *responsible-seeming* epistemic seeming is an epistemic seeming that is

<sup>8</sup> It might initially appear that these successive objectives are not smoothly nested, because Goal is framed primarily in "reliabilist" terms whereas the other three objectives are framed primarily in "evidentialist" terms. On the contrary, however, reliabilist and evidentialist elements fit smoothly together in this means/ends hierarchy because one's *constitutive* best means vis-à-vis the primary epistemic *telos* of reliable generation of true beliefs involve reliance on one's available evidence.

present when one also has a seeming as-of having been duly careful, duly open-minded, etc. in the process of coming to believe *p*. (This overall process may well have had fully voluntary components.) And lastly, an *ultima facie* epistemic seeming is an epistemic seeming with the aspect of experiential “equilibrium,” perhaps after a period of deliberation in which one has experienced various *prima facie* seemings, with incompatible contents, exerting competing pulls toward belief upon oneself.

The successively downward stages in the four-level hierarchy are *constitutively* related to those above them because, as a perspectivally situated epistemic agent, one cannot synchronically escape one’s own synchronic epistemic perspective—which includes one’s total available evidence, one’s deep epistemic sensibility, and one’s all-in, *ultima facie*, epistemic seemings. Given one’s epistemic perspective, and being an autonomous and epistemically responsible agent, at any time *t* one cannot do better (at *t*) *vis-à-vis* the truth *telos* than to believe that *p* only if believing *p* is objectively rational relative to one’s total available evidence (at *t*); and one cannot do better (at *t*) *vis-à-vis* this goal of objective rationality than to believe *p* only if doing so is sensibility-based subjectively rational relative to one’s total evidence (at *t*); and one cannot do better (at *t*) *vis-à-vis* this goal of sensibility-based subjective rationality than to believe *p* only if doing so is experientially subjectively rational (at *t*).<sup>9</sup>

It is important to stress that often one’s all-in, responsible-seeming, *ultima facie*, epistemic seemings will include seemings to the effect that certain testimonial sources are highly reliable—and thereby will also encompass such seemings regarding the veracity of what is affirmed by those sources. (We all rely *very* heavily on testimonial sources in our belief fixation, and rightly so.)

### 3 Core Epistemic Virtuosity

Since epistemic rationality is an agentive notion, and since there is a constitutive means/ends credentive hierarchy connected to the truth *telos*, it now emerges that there are four distinguishable kinds of core epistemic virtue, corresponding respectively to the four levels of the constitutive means/ends hierarchy elaborated above, namely:

- Level 1: the core epistemic virtue of experiential subjective rationality in one’s belief fixation.
- Level 2: the core epistemic virtue of (i) experiential subjective rationality, plus (ii) sensibility-based subjective rationality, in one’s belief fixation.
- Level 3: the core epistemic virtue of (i) experiential subjective rationality, plus (ii) sensibility-based subjective rationality, plus (iii) objective rationality, in one’s belief fixation.
- Level 4: the core epistemic virtue of (i) experiential subjective rationality, plus (ii) sensibility-based subjective rationality, plus (iii) objective rationality, plus (iv) reliable veridicality, in one’s belief fixation.<sup>10</sup>

<sup>9</sup> For elaboration and defense of these claims, see Henderson et al. (2017).

<sup>10</sup> These successively stronger attributes, each of which includes its immediate predecessor as a constituent, constitute *virtues* because of the agentive aspects of belief fixation that we are emphasizing in this paper.

Possessing a Level- $n$  core epistemic virtue is a matter of consistently forming one's beliefs in a manner that exhibits the features definitive of Level  $n$ . (Specific beliefs that are formed in a way that exhibits these features thus qualify as being Level- $n$  *virtuously formed*, rather than as virtues themselves.) The term "virtuousness," as we will use it here, is a generic expression meant to cover any or all of the four kinds of core epistemic virtue. And the modifier "core" is intended to indicate two things about these virtues: first, they are *constitutively* linked to the truth *telos* (via the constitutive means/ends hierarchy), and second, they concern one's best means for *synchronically*—i.e., "here and now"—pursuing the truth *telos*.

Because each level in the hierarchy is one's constitutive best means toward achieving the end that is the next-higher level, these successive kinds of core epistemic virtue are successively embedded. Although one can be epistemically rational in higher-level ways without being epistemically rational in lower-level ways, and although one can form true beliefs via fortuitously reliable but thoroughly irrational belief-forming processes, one cannot be epistemically virtuous in higher-level ways without being epistemically virtuous in lower-level ways. That is, each level of core epistemic virtue includes all lower-level virtues within it. Thus, in order to be Level-2 virtuous in believing  $p$ , one's all-in, responsible-seeming, *ultima facie*, epistemic seemings vis-à-vis  $p$  must constitute appreciation of what is sensibility-based subjectively rational vis-à-vis  $p$  (given one's total available evidence). In order to be Level-3 virtuous in believing  $p$ , one must be Level-2 virtuous in believing  $p$ , and one's all-in, responsible-seeming, *ultima facie*, epistemic seemings vis-à-vis  $p$  must constitute appreciation of what's objectively rational vis-à-vis  $p$  (given one's total available evidence). In order to be completely core virtuous (i.e., Level-4 virtuous) in believing  $p$ , one must be Level-3 virtuous in believing  $p$  and in one's actual global environment, objectively rational belief fixation must reliably yield true belief.<sup>11</sup>

Identification of these four successively embedded kinds of core epistemic virtue leaves un-addressed the important further goal of epistemic *power*—viz., obtaining a sufficiently large number of the beliefs one would want. This is a *mixed* epistemic goal, in the following sense: what constitutes a belief that is epistemically "worth having" (for a given agent) depends upon two factors together: (i) the purely epistemic *telos* of believing only what is true and (ii) further aspects of practical rationality that are not themselves purely epistemic (such as the agent's non-epistemic desires and goals). The apt pursuit of epistemic power, we maintain, involves not core epistemic virtuousness alone, but rather the interaction of core epistemic virtuousness and ancillary epistemic virtues—a matter which we will address below. For now we remain focused on core epistemic virtuousness, which is oriented toward the synchronic pursuit of the purely epistemic constitutive *telos*, viz., doing one's best, here and now, toward reliably believing *only* what is true.

Support for the contention that each of the four kinds of epistemic virtue is embedded within the higher-level kinds arises from one's intuitive reactions to possible cases of mismatch between the levels. Our example will pertain to Level 4 and Level 3,

<sup>11</sup> For some epistemological purposes, Level-4 virtuousness is usefully subdivided into two sub-levels: Level 4.a, comprising (i) experiential subjective rationality, plus (ii) sensibility-based subjective rationality, plus (iii) objective rationality, plus (iv) reliability *in general* of the operative belief-forming process; and Level 4.b, comprising all this plus *truth* of the pertinent belief (i.e., reliability *here and now*). The latter sub-level embeds the former, but not conversely.

but one also can plausibly formulate cases regarding mismatch between other levels, and such cases will prompt similar intuitive reactions.

Consider the case of Betty and Bob, two newly envatted brains due to an unfortunate series of events. Just yesterday they were ordinary humans living ordinary human lives, but during the night they were drugged and anesthetized, and their brains were envatted and hooked to computers programmed to give them ongoing experiences just like the kinds of experiences they would be undergoing were they still embodied. There was an accidental glitch in the process with respect to Bob (but not with respect to Betty). Because of this glitch, Bob ended up being systematically paranoid in a specific way: he now firmly believes, despite a complete lack of evidence, that he *is* an envatted brain! He continues to carry on with his life in the “normal” way, since after all he does want things to go smoothly for him in his notional, experiential world. And they do. But all the while, he persistently believes, in a highly paranoid fashion, that it’s all a big illusion, that he really has no body at all, and that he is really a brain in a vat. Betty’s envatment, on the other hand, went well and she has external-world beliefs and self-embodiment beliefs much like the ones she had back when she was actually embodied.

Now, as far as Level 4 in the credency teleological hierarchy goes, Bob is doing just fine but Betty is doing very badly. Bob’s beliefs about himself and his environment are systematically veridical and are the product of highly reliable—albeit utterly paranoid—belief-forming processes. Betty’s beliefs about herself and her environment are systematically non-veridical; she is deceived in the classical, Cartesian sort of way. But, with respect to Level 3 in the credency hierarchy, on the other hand, Betty is doing fine but Bob is doing very badly. Betty’s external-world beliefs and self-embodiment beliefs are highly likely to be true relative to her total available evidence. Bob’s paranoid beliefs about these matters are highly likely to be false, relative to his own total available evidence.<sup>12</sup>

What should be said about Betty and Bob respectively, in terms of the notion of epistemic virtuousness and epistemic virtue? The intuitive answer seems clear and unequivocal. Bob does not count as epistemically virtuous *at all* in his paranoid beliefs—even though those beliefs are systematically veridical, and also are the product of a belief-forming process which, in him, is highly reliable. Given his epistemic situatedness in the world, as an epistemic agent he should be pursuing his constitutive best means toward the truth *telos*. He is doing miserably in this respect, despite the fact that his irrational paranoia quite fortuitously happens to reliably generate true beliefs.

Betty, on the other hand, is an exemplary epistemic agent who is situated in an extremely inhospitable exogenous environment; she therefore exhibits, in her non-veridical external-world beliefs, three out of the four kinds of core epistemic virtue: Level-1, Level-2, and Level-3. (Through no fault of her own, she fails to exhibit Level-4 core epistemic virtue: fine agent, lousy environment.)

Similar gaps and mismatches can occur also between other levels, further underscoring the fact that each of the first three levels of epistemic virtuousness is embedded within the subsequent levels.

<sup>12</sup> A natural way to understand the pertinent notion of likelihood is this: a given belief is highly likely to be true (/false) just in case it is true (/false) in a wide range of experientially possible global environments, and is only false (/true) in a narrow range of such environments (cf. Henderson et al. 2007 and Henderson and Horgan 2011, Chapters 4 and 5).

An important moral of this successive embeddedness is that exhibiting Level-1 core epistemic virtue is a prerequisite for being core epistemically virtuous in any way at all. Thus, arises the following key normative principle, concerning belief fixation:

*Potrč's principle*: It is wrong always, everywhere, and for anyone to form beliefs, or retain them, in ways that go contrary to her/his *experiential best take* on the import of the available evidence—with this best take being constituted by one's all-in, responsible-seeming, ultima facie, epistemic seemings.

Potrč's principle is formulated with a nod to Clifford (1877). van Inwagen (1996), addressing Clifford's paper entitled "The Ethics of Belief" in the course of discussing the issue of peer disagreement, formulates *Clifford's principle* in the following manner: "It is wrong always, everywhere, and for everyone to believe anything on insufficient evidence." Belief-fixation in accordance with *Potrč's principle* is aptly describable as *good faith* belief-fixation, whereas withholding belief in *p* when one's total evidence seems to render *p* sufficiently likely to be belief-worthy would be a form of epistemic *bad* faith. Epistemic responsibility requires good faith in belief-fixation and eschews bad faith. Thus, being experientially subjectively rational in one's belief-fixation is required for being responsible as an epistemic agent—even though belief-fixation presumably is not under direct voluntary control.

One might object as follows. Epistemic agents *cannot fail* to be epistemically virtuous at Level-1, i.e., one cannot believe that *p* unless *p* accords with one's all-in, responsible-seeming, ultima facie, epistemic seemings. But how could a mode of belief-fixation count as virtuous *in any sense* if one cannot fail to conform to it?

In fact there are at least two ways in which an epistemic agent can fail to be Level-1 virtuous in certain kinds of belief-fixation. First, the pertinent seemings vis-à-vis *p* might not seem to the agent to be *epistemically responsible*—not even implicitly, via chromatic illumination. And perhaps the agent doesn't care at all about being epistemically responsible in beliefs of this kind.

Second, a person of normal intelligence, with standard kinds of access to pertinent information, might have epistemic seemings reflecting an epistemic sensibility that is badly skewed even relative to a low baseline standard for what constitutes a *minimally evidence-sensitive* epistemic sensibility in a person of normal intelligence with standard kinds of access to pertinent information. (The person either possesses that highly deficient epistemic sensibility or else systematically experiences epistemic seemings that constitute performance errors relative to the person's own epistemic sensibility.) Call such seemings "epistemically benighted." (A candidate example is the belief that human-caused global warming is a hoax, as held sincerely and reflectively by people of normal intelligence who have the same kinds of access as the rest of us to the widely and easily available relevant evidence.) Potrč's principle should be understood as being qualified in the following way: the pertinent epistemic seemings are not epistemically benighted.

Although Level-1 core virtuousness in one's belief that *p* is a prerequisite for any of the other three kinds of core virtuousness vis-à-vis that belief, nevertheless, it is possible for one's belief that *p* to be Level-1 core virtuous while yet failing to be core virtuous in some or all of the other three ways. And ceteris paribus, it is certainly better to exhibit more of these kinds of core virtuousness, rather than fewer. Nonetheless,

one's belief fixation should *at least* be Level-1 core virtuous, because otherwise it fails to be epistemically core-virtuous in any way at all.<sup>13</sup>

Often, though, there are steps one can take and should take, by way of seeking to calibrate one's own psychology in ways that are apt to improve alignment between Level-1 epistemic rationality and the other three kinds. This leads us to the matter of ancillary epistemic virtues and to the interconnections between the core virtues and the ancillary ones.

#### 4 Ancillary Epistemic Virtues

Because the four successive levels of core epistemic virtue are embedded each within the next, one cannot synchronically improve the overall quality of one's belief fixation by deviating from Potrč's principle. On the contrary, one always, in the then-current moment, is doing one's constitutive best *vis-à-vis* the truth *telos*, and also *vis-à-vis* the successive constitutive sub-goals at Level 2 and Level 3, by forming and maintaining beliefs that accord with one's all-in, responsible-seeming, *ultima facie*, epistemic seemings. This is the sense in which the virtues discussed above are *core* epistemic virtues.

Nonetheless, there are a host of ways that various ancillary epistemic virtues can improve the overall quality of an epistemic agent's belief fixation, thereby rendering it more effective in the pursuit of truth. We call these further virtues "ancillary" not because they are of secondary importance *vis-à-vis* the truth *telos*, but because they *enhance*—rather than displace—belief fixation that accords with Potrč's principle. This is a large and fertile topic, which we can only touch on very briefly here. Two broad categories of ancillary epistemic virtue deserve mention, each being a genus with numerous potential different species within it. (Perhaps, there are other broad categories too, especially if the constitutive *telos* of belief includes epistemic goals other than truth, such as understanding and/or unity.)

First, often there are steps one can take (typically voluntarily) to improve the power of one's belief-forming processes, thereby contributing to the formation of a larger number of beliefs worth having than would otherwise be formed just by exercising epistemic core-virtuousness. In the short term, for instance, often one has known available ways to acquire further pertinent evidence concerning some issue that one regards as worth having a belief about. *Ceteris paribus*, in such circumstances one should avail oneself of such opportunities for evidence acquisition. (And if one does not, then in some cases it should seem that one has failed to be duly responsible in one's inquiry concerning a given proposition *p*; conformity to Potrč's principle might then require suspending judgment concerning *p*, or at least believing *p* less strongly than one otherwise would.) In the longer term, there may well be steps one can take to cultivate habits of mind that make one more attentive to potential sources of evidence in one's

<sup>13</sup> This is the needed refinement, anticipated in note 1 above, to our initial characterization of core epistemic virtuousness, in Section 2, as "rational belief-fixation." *Core-virtuously* rational belief-fixation can be minimal (only experiential subjective rationality, without either of the other two kinds), partial but non-minimal (only experiential subjective rationality plus sensibility-based subjective rationality, without the third kind), or complete (experiential subjective rationality plus sensibility-based subjective rationality plus objective rationality).

ambient environment, thereby improving the power of one's belief-fixation processes. (Think, for instance, of steps one can take to require expertise in perceptual recognition of salient kinds of entities in one's environment, and in perceptual discrimination among different such items—say, elms and oak trees, if one has practical or aesthetic reasons to care about recognizing and discriminating them.) Dispositions to take such self-improvement steps will be ancillary virtues, as will be the resulting habits of mind themselves. Potrč's principle will not be displaced by these new virtues, but instead will apply more widely than otherwise—thereby generating a larger stock of beliefs worth having.

Second, as intimated at the close of Section 3, often there are steps one can take (typically voluntarily) to instill in oneself habits of mind that tend to make it the case that one's beliefs that qualify as Level-1 core virtuous are also core virtuous at higher levels as well. Dispositions to take such steps toward better inter-level calibration will be ancillary virtues, as will be the resulting habits of mind themselves. Here too, Potrč's principle will not be displaced by these new virtues; rather, beliefs that conform to the principle now will align more closely than before with sensibility-based subjective rationality, with objective rationality, and (barring one's being in a radical-deception scenario) with reliable veridicality.

As we said, each of these two categories of ancillary virtue is a broad genus that can include numerous distinct species within it. (The two categories are not mutually exclusive; a more specific ancillary virtue could belong simultaneously to them both.) At the more fine-grained level, not all ancillary epistemic virtues will be relevant in all epistemic situations. Some situations, but not others, call for epistemic courage. Different situations, but again not others, call for epistemic integrity—or for epistemic humility, or for inquisitiveness, etc. But again, two broad factors unify the various fine-grained epistemic virtues. First, specific ancillary virtues can contribute to the power of an epistemic agent's core-virtuous belief-fixation, thereby contributing to the generation of an adequate stock of virtuously formed beliefs. Second, specific ancillary virtues can bring lower-level core virtuousness into better alignment with higher-level core virtuousness.<sup>14</sup> The epistemic ideal here is a suitably rich stock of worthwhile beliefs that are formed in a way that is not only Level-1 core virtuous, but also is core virtuous at Level 2, Level 3, and Level 4 as well.

## 5 Conclusion

Epistemology has paid insufficient attention to the phenomenology of occurrent-belief formation. Attention to it reveals that such phenomenology is broadly agentive, even though experiences of occurrent-belief formation are rarely, if ever, voluntary; we have dubbed this the phenomenology of "credency." The broadly agentive, credentive, phenomenology of agency gives rise to a distinction between two categories of epistemic virtue: on one hand, core epistemic virtuousness, comprising several levels embedded one within another, and each involving a specific kind of epistemic

<sup>14</sup> Here is a similar thought as voiced by Blackburn. "For there is an account of how a trait gets to be on the list of epistemic virtues. It will be there because it promotes an alignment of belief and truth." (Blackburn 2001, 21)

rationality; and on the other hand, ancillary epistemic virtuousness, comprising a range of more specific virtues that enhance both the power of an epistemic agent's belief-forming processes and the extent to which such processes bring into better alignment the various different levels of core epistemic virtuousness. Once one acknowledges the agentive character of belief-forming phenomenology, and hence the agentive character of epistemic rationality, it becomes clear that the notion of virtue is centrally important in epistemology—even more important than many advocates of “virtue epistemology” have recognized.

### Compliance with Ethical Standards

**Conflict of Interest** The authors declare that there is no conflict of interest.

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