Knowledge-First: An Introduction

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Knowledge-First: A background

'Knowledge-First' constitutes what is widely regarded as one of the most significant innovations in contemporary epistemology in the past 25 years. Knowledge-first *epistemology* is (in short) the idea that knowledge *per se* is an epistemic kind with theoretical importance that is not derivative from its relationship to other epistemic kinds such as rationality. Knowledge-first epistemology is rightly associated with Timothy Williamson (2000) in light of his influential book, *Knowledge and Its Limits* (KAIL). In KAIL, Williamson suggests that meeting the conditions for knowing is *not constitutively explained* by meeting the conditions for anything else, e.g., justified true belief¹. Accordingly, knowledge is conceptually and metaphysically prior to other cognitive and epistemic kinds. In this way, the concept *know* is a theoretical primitive. The status of *know* as a theoretical primitive makes it particularly suitable for use in making substantive constitutive and causal explanations of a number of other phenomena, including the nature of belief, the nature of evidence, and the success of intentional actions².

As just indicated, Williamson takes the view in KAIL that knowledge—considered as a kind or type—has no constituents. (This should not be confused with the view that *instances* of knowledge aren't at bottom physically constituted—Williamson is, in fact, a physicalist³.) This negative idea seems to be that there are no further kinds that constitute knowledge when collectively instanced; there is no correct theory that identifies the kind 'knowledge' with some mix of distinct epistemic and cognitive kinds meeting specifiable conditions. Nevertheless, in KAIL, Williamson also offers a positive characterization of knowledge as the most general factive mental state⁴. This further characterization of knowledge is interesting on at least two counts: first—and perhaps more controversially—because it implies that there *are* factive mental states—remembering that, seeing that, etc.; second, because it suggests that knowledge is, in some sense, the central or most general factive mental state since other factive mental states are more specific ways of knowing⁵.

¹ That meeting the conditions for knowing is constitutively explained by meeting the conditions for justified true belief (or: justified, true belief plus some further 'x') has been, especially since the latter half of the 20th century, the driving assumption behind the epistemological project termed 'the analysis of knowledge'. For a recent overview of the analysis of knowledge, as a theoretical project within mainstream epistemology, see Ichikawa and Steup (2014). Cf., Shope (1983) and Jenkins and Ichikawa (2016, this volume).

² Additionally, the status of *know* as a theoretical primitive makes it particularly suitable as a *normative constraint* or rule that governs certain actions (including speech acts such as assertion) and mental states, such as belief. For a recent overview of knowledge norms, see Benton (2015).

³ See, for example, Williamson (2000, §2.2).

⁴ Ibid., 34-37; 39-40.

⁵ For an earlier presentation of this idea, see Williamson (1995). The natural expression of a factive (stative) mental state in natural language is a *factive mental state operator* (FMSO); Williamson's position is that knowledge is the most general FMSO.

The suggestion that there are, among mental states, some that are factive is provocative. Although Putnam-Burge semantic externalism entails that a person's state of mind—in particular, what these states or mind are directed towards or about—depends on what kind of environment the person has interacted with⁶, one might—even after accepting this species of externalism—still resist the idea that a person's state of mind depends on what the facts—potentially outside of her—are. Moreover, while one might accept that whatever factive mental states there are derive from non-factive ones, this is clearly not Williamson's idea. Williamson takes factive mental states to be at least on a par with non-factive ones⁷. Moreover, with respect to the (allegedly) central mental factive state—knowing—and the central cognitive non-factive correlate—believing—Williamson is clear that the former is no less explanatory than the latter. Even if it is possible to understand knowing as a kind of "apt" believing⁸, it is also possible to understand believing as a kind of "botched" knowing⁹. If we are to understand what it is to believe at least partly through what it is to know, then, given the prominence of belief in contemporary theories of mind, knowledge appears to be central, not only to epistemology, but also to the philosophy of mind.

Knowledge-First: A motivation

A central project within epistemology is to understand the proper assessment of belief. A central project within the philosophy of mind is to understand what a belief is. A not wholly implausible idea is that these central projects are, in fact, related. To understand better what a belief is, one needs to think about what happens when belief goes right, and to understand better what happens when belief goes right, one needs to think about what beliefs are. If this idea seems odd, consider it in another context. To understand better what a president of the United States is, it helps to understand better what it looks like when the person occupying that office acts in accordance with the responsibilities and duties of the office. In principle, a person in office might try to violate the duties in any number of ways—he might refuse to give the State of the Union, for example. However, for the purposes of gaining a fundamental understanding, it helps to consider first not the abundance of ways a president might shirk responsibilities and duties, but rather the way a competent president might act. Indeed, it may help to focus first on a case where the surrounding government is also relatively competent. One can subsequently understand all varieties of presidential dysfunction by way of contrast with the case of a harmonious United States federal government.

For some time, the dominant approach to the theory of belief has been functionalism (at least broadly construed)—so that, to a first approximation, beliefs are what they do, i.e. believing any particular proposition is largely a matter of occupying a certain role¹⁰. Arguably, belief play a number of roles—assertions express them, actions are based on them, topical understanding consists in them, and so forth. Consequently, the approach of understanding belief by understanding its proper

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⁶ Putnam's (1975) classic externalist argument insists that mental content is individuated by features of one's *physical* environment, whereas Burge's (1986) argument adverts to features of one's socio-linguistic environment. For an overview, see Lau and Deutsch (2014, §2) Cf., Carter et al. (2014) for an overview of varieties of externalism in the philosophy of mind and epistemology, and how they interface with one another.

⁷ See, for example, (2000, §1.5).

⁸ For a notable recent defence of this proposal, see Sosa (2015, Ch. 1).

⁹ (Williamson 2000, 47).

¹⁰ For some seminal defences of this view, see Armstrong (1968); Fodor (1968); Lewis (1972). For a critical overview, see Schwitzgebel (2006, §1.4).

assessment might begin by considering what it is for belief to go right in each of these roles. In turn, we might gain some further insight about epistemic standards by considering what a person might want from her beliefs in each of these roles.

A natural suggestion—prompted, perhaps, by the fact that the most prominent tool in our conceptual repertoire for marking the quality of belief is the concept *know*—is that *going right* for belief is a matter of *knowing*. Williamson defends individual theses about the explanatory primacy of knowledge in KAIL—e.g., that it is the standard for proper assertion¹¹, that it is central to the explanation of action¹²—and others have defended further theses—e.g. that it is required for topical understanding¹³. Arguably, a unifying feature of these individual theses is that the phenomena at issue are closely associated with belief—so that belief might even plausibly be at least partly constituted by its role in each case. A knowledge-first addition to this last plausible idea is that the role that beliefs play generally is parasitic on the role that they play when things go right so that the belief qualifies as knowledge: there are surfeit of ways for a belief to fail in assertion, in action, in understanding etc., but we understand how beliefs can fail in these ways by considering what happens when they don't fail—because the subject doesn't merely believe but rather knows.

Of course, there are other theoretical alternatives for a belief's going right—perhaps most obviously, the belief's being rational or justified and the belief's being true 14. It is well beyond the scope of this introduction to assess in depth whether these alternatives might fare better. However, it may be worth briefly noting some possible deficiencies: a rational or justified belief can fail to be true and a true belief can fail to be rational or justified, but both rationality and truth have claims as minimum standards for a belief's having gone right. An irrational belief—even if true—is subject to revision should the subject ever become a better thinker or exert more effort to deliberating. If discovered by others as such, it may undermine one's credibility in making assertions, and it is hard to see how it could play a central role in one's understanding of some subject matter (e.g., economics). On the other hand, a false belief—even if rational—may not be the best one to transfer to another person through testimony. Moreover, any false belief may—through various inferences—ultimately lead to a further false instrumental belief—about how to satisfy some particular preferences—even when reasoning is good; and, false instrumental beliefs generally put one no closer to satisfying preferences when acted upon. Knowing has the virtue of entailing both that the belief is true and that the belief is rational, so it avoids all of these problems. In addition, it appears to have the very nice feature of being a widely available commodity—unlike, for instance, an alternative epistemic kind that requires Cartesian infallibility. There may be the additional difficulty in understanding why knowing—rather than mere justified true belief—should matter¹⁵, but there's at least the theoretical possibility that for a belief to go right, a certain harmony must obtain between mind and world—a certain harmony that does not obtain in "double-luck" cases of mere justified true belief.

Thus—while the matter is far from settled—it may be a greater threat to the knowledge-first program that a belief might go right in a multiplicity of non-knowledge ways. More precisely, one might imagine that different activities—e.g. assertion, action, the pursuit of understanding, etc.—

¹¹ Other defenders of this view include DeRose (2002), Hawthorne (2004) and Stanley (2005).

¹² See Fantl and McGrath (2002), Hawthorne (2004), Hawthorne and Stanley (2008) and Stanley (2005).

¹³ See, for example, Sliwa (2015) and Kelp (Forthcoming).

¹⁴ This idea has been given both constitutive and teleological glosses, in the former case under the description of normativism about belief (e.g., Shah 2003; Shah and Velleman 2005) and in the latter case under the description of epistemic-value truth monism (e.g., Pritchard 2014).

¹⁵ For a recent discussion of this point, see Carter, Jarvis, and Rubin (2013). Cf., Pritchard and Turri (2014).

make different demands on beliefs with the result that the "optimal" way of going about believing is different for each and not necessarily oriented towards knowing. On the other hand, unless there's alignment—or at least an available optimal compromise—between these variety of demands on belief, it's not clear that it should really be belief (rather than some other cognitive output) playing this total variety of roles since it would appear that belief can only be manufactured and managed in one particular way.

In fact, it may be that a greater threat still to the knowledge-first program need not find fault with the idea that knowledge per se is the uniquely relevant way that beliefs generally go right, but rather takes issue with the idea that (on-off) belief itself is especially central in the theory of mind. If, for instance, credences—or graded belief—are more important to understanding assertion, action, understanding, theory revision, etc., then belief could even turn out to be epiphenomenal¹⁶. Given that it is not altogether clear whether evaluations of credence as knowledge make any sense, knowledge might turn out to be epiphenomenal as well. One way to understand the motivation for some work within the knowledge-first program, then, is to see it as attempting to undercut this kind of threat. Williamson's views in KAIL on knowledge and evidence may be a case in point vis-à-vis credence and evidential probability. However, we might pick a different example entirely to illustrate the same general point: Williamson's arguments against the "luminosity" of any mental conditions¹⁷—and, thus, in favour of fallible cognitive access to even "internal" sensations or feelings, e.g. of coldness or of pain—may serve to help undercut the possibility that experience might supplant belief as the most important information-carrying unit in psychology. Again, the underlying idea here: arguably, the knowledge-first program puts belief (rather than alternatives) at least very close to the center of cognition as well since, arguably, only beliefs are candidates for knowledge.

Knowledge-First: A research program

Timothy Williamson is the founder of the knowledge-first movement and has been its principal flagbearer. However, we think that it is useful to appreciate that the knowledge-first research program is itself distinct and largely independent from the collection of knowledge-first theses Williamson has defended. Because the knowledge-first approach to epistemology and mind is a research program, it is fairly resistant to refutation even if any of these particular theses turns out to be false.

By way of example, consider a version of the view that Williamson defends in KAIL about assertion. According to this view, knowledge sets the *quality* standard for assertion, assertions that fall short of this standard (because the assertor doesn't know) are *ipso facto normatively defective* (*qua* assertion) while assertions that meet the standard are not normatively defective in the same way, and this *quality norm* rather than any other norms, e.g. Gricean maxims¹⁸ of "quantity," "relation," or "manner," provides the real essence of an assertion, i.e. something is an assertion solely because this quality norm (rather than some weaker or stronger one) applies to it¹⁹. One might object to this view on the ground that it fails to account for the fact that assertion is multifarious²⁰. In certain contexts, assertion might be a

¹⁶ Cf., Carter, Jarvis, and Rubin (Forthcoming).

¹⁷ Williamson (2000, Ch. 4). For a recent defence of Williamson's anti-luminosity argument against various objections, see Srinivasan (2015).

¹⁸ E.g., Grice (1991).

¹⁹ See, however, Benton (2014) for further discussion and qualification on this point. Cf., Lackey (2007; 2008) for notable criticisms to both the necessity and sufficiency legs of the knowledge norm of assertion.

²⁰ For a more revisionary line on this score, see Cappelen (2011).

tool for transferring beliefs—or perhaps more clearly, even knowledge²¹—from one person to another; in such cases, the quality standard of knowledge might well be appropriate and applicable. In other cases, however, assertion might merely be tool for trying out ideas (that one may not even believe), tentatively arguing for a hypothetical position, or even indirectly informing a person about one's beliefs by directly stating (something like) their contents. In these kinds of cases, other quality norms are applicable.

Suppose, for the sake of argument, this particular objection succeeds; the targeted knowledge-first thesis is mistaken precisely because assertion is multifarious. Even still, it would not be clear how much the success of this objection would damage the knowledge-first program. To at least some extent, the objection succeeds because (1) the kind assertion is less natural than one might have initially thought, and relatedly (2) assertion is less straightforwardly and closely related to belief than one might have thought. In particular, we are imagining that assertion turns out chimerical rather than, for instance, always and everywhere an outward reflection of belief that is subject to similar standards as belief is 22. If the kind assertion is less natural than one might have thought, it becomes considerably less important to have an elegant theory of it—let alone a knowledge-based one. Indeed, it might be impressive enough to have a knowledge-based theory of some variety of assertion. Moreover, if assertion in general is not especially closely tied to belief, then, of course, belief—and, consequently, knowledge—might be marginally less important from a theoretical perspective than it might have been otherwise. But, the same condition also considerably lowers the expectation we should have about whether there should be a fully general knowledge-based theory of assertion. All in all, the hypothetical failure of this one particular knowledge-first thesis (about assertion)—at least in this particular way—seems to bear very little on the overall prospects of the knowledge-first program.

The more important general point is that it is always possible in principle to refute a knowledge-first thesis by showing that belief itself is not the cognitive vehicle that is most or even especially central to the phenomenon at issue in all possible cases. If this is true in every instance, then both belief and knowledge turn out not to be very interesting. But, as long as it is only true in a fairly restricted range of instances, the knowledge-first program is not especially in peril. It would be in peril if, even within the range of cases where belief is important, knowledge is also not important. But, this is not easy to show either. There are usually a number of different ways that knowledge could be of central important for any phenomenon where belief plays an important role. It's certainly possible that the knowledge-first program will turn out to fail, but it is not a simple matter of refuting a certain number of the knowledge-first theses that Timothy Williamson has defended.

Finally, it is worth emphasizing that, in our opinion, the knowledge-first program does not hinge on accepting every element of Williamson's metaphysical picture of (the state or concept of) knowledge. For instance, Williamson seems to place great emphasis on the fact that knowledge is not "factorisable." On at least some understanding of "factorisable," knowledge would appear to be factorisable if the following biconditional were true:

A subject, S, knows if and only if:

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²¹ This is, for example, the view advanced in Stalnaker's (1978) knowledge-transfer model of assertion.

²² For instance, this might be the case if we had compelling reason to reject the 'belief-assertion parallel' according to which, as Williamson puts it, 'believing p stands to asserting p as the inner stands to the outer' (255-56). See also Benton (2014, §3a).

- (1) S believes p>
- (2) S's believing p> is a cognitive success in the sense that p> is true
- (3) S believes as the result of exercising epistemic competences
- (4) (2) is attributable (3).

This "robust competence" theory appears to be a version of the JTB+ theories that Williamson generally dismisses²³. One might argue that success of the knowledge-first program hinges on rejecting this theory as a theory of knowledge, but rejecting this theory as a theory of knowledge does not obviously require rejecting the biconditional itself. Arguably, it only requires rejecting the knowing as the *analysandum* of the theory. One might accept the biconditional as part of a theory of epistemic competences or even as part of a theory of belief.²⁴ Indeed, as long as the order of explanation or analysis does not flow exclusively from left to right, knowledge may be first in the (ordinary) sense that nothing else comes before it.²⁵ Perhaps, in the context where knowing is not the analysandum of the biconditional, it is misleading to say that knowledge is factorisable; nevertheless, it is arguably strictly true that, so long as the biconditional is true, knowing is a conjunction of four factors (whether or not knowing has any explanatory or analytical priority). So, it's not clear that knowledge being first—or the relative priority of knowledge—especially depends on Williamson being right about factorization.

A similar point could be made about Williamson's ontological categorization of knowing as part of the mental domain²⁶. Categorizing knowing in this way might well boost knowledge's credentials as a state worth understanding for the purposes of understanding the mind. However, if, for example, the appropriate way to understand belief is as an attempt at knowing (where mere belief is simply "botched" knowing), then knowledge looks to play an important role within the philosophy of mind whether or not it is a mental kind *per se.* Again, the general point is that one has to be careful not to assume that any particular part of Williamson's metaphysics of (the state or concept of) knowledge is essential to the knowledge-first program.

Williamson's complete picture of knowledge—including not only the metaphysics, but the variety of individual explanatory theses involving knowledge that he defends—is interesting in its own right. Our point in this section is not to dismiss either its truth or appeal. Rather, we wish to point out that, when it comes to the knowledge-first *programme*, Williamson's particular picture is important as a paradigm, not as the substance. In fact, his picture seems to constitute a particularly strong version of a knowledge-first approach—which is particularly useful for appreciating what a knowledge-first approach might be, but may or may not be the most plausible version. After all, it is possible to think that knowledge is at the centre of a wider or narrower range of phenomena, and—as some of our contributors will emphasize—there are a variety of ways in which knowledge exhibit priority (e.g. explanatory, conceptual, ontogenetic, epistemic, metaphysical, etc.) over other phenomena. We think, then, that it is actually a disservice to Williamson's remarkable contribution to associate the knowledge-first program too closely with the particular way that he has carried it forward.

Knowledge-First: The volume

²³ Proponents of this kind of view, also referred to as robust virtue epistemology, include most notably John Greco (e.g 2010; 2012) and Ernest Sosa (2009; 2015).

²⁴ Cf. (Carter, Jarvis, and Rubin 2013).

²⁵ Cf. Ichikawa and Jarvis (2013, 138).

²⁶ Williamson 2000 (Ch. 1).

Given that there are a wide range of ways in which the knowledge-first program (or something approximating it) might succeed at least in part, there are a wide range of ways to engage with the program as well. A few of our contributors have elected to say something highly general about the program, but many have chosen to focus on specific knowledge-first theses or other aspects of knowledge that may be turn out to be relevant to evaluating the program at a later stage. In two cases—including with the contribution from Williamson himself—authors have considered turning the methodology Williamson has applied to the study of knowledge to other phenomena (action and perception). We think this too may provide some insight about the knowledge-first program. However, given the diversity of topics covered within the volume, we also hope that the contributions not only help advance the understanding of knowledge-first program, but also are of interest to philosophers and other researchers curious about other phenomena—including assertion, action, normativity, or mentality—independent of any particular interest in knowledge itself.

The articles in this volume fall well short—even collectively—of systematically addressing the virtues and vices of the knowledge-first program. However, we believe this result is appropriate. The purpose of the volume was to provide a relatively open-ended forum for creative and original scholarship that might ultimately bear on the knowledge-first program rather than to provide a complete summary of knowledge-first debates up until the present. Moreover, given that we believe the knowledge-first program is not only ambitious, but also flexible and resilient, it comes as no surprise to us that the volume falls well short—in our minds at least—of vindicating either the program's adherents or opponents. Our intent was only to make some progress in shedding some further light on the subject matter. We think (and hope) that the volume succeeds in that modest aim.

Overview of chapters

In what follows, we offer brief overviews of each specific chapter in the volume, thirteen in total. Though the contributions to the volume differ substantially with regard to which aspects of the Knowledge-First programme receive special focus, we think nonetheless that the contributions fall generally within two broad categories: (i) *foundational issues* with knowledge-first philosophy (including defences and critiques of core elements of the project), and (ii) *applications* and new directions. The first half of the book contains papers which cluster around the former theme, and the second half the latter.

(i) Foundational issues

We begin with Clayton Littlejohn's staunch defence of Knowledge-First epistemology, in 'How and Why Knowledge is First'. Littlejohn's dialectical aim has, as its focus, a sustained defence of the claim that one cannot have a reason in one's possession unless it is something that one knows. This view is claimed to have advantages over a different way of thinking about epistemic status. On the 'reasons-first' approach to epistemic status, reasons and the possession of them are prior to epistemic status. In reversing this picture, Littlejohn reveals an important sense in which knowledge comes first—viz., in that we first come to have reasons in our possession by coming to know that certain things are true; there is nothing *prior* to knowing that puts these reasons in our possession. In the course of advancing this picture, Littlejohn furthermore offers a sophisticated defence of Williamson's knowledge-evidence equivalence, (E=K).

In 'Against Knowledge-First Epistemology', Mikkel Gerken attacks, on several fronts, what is often cited as a theoretical advantage to regarding knowledge as a theoretical primitive—namely, that knowledge can be used to reductively analyse other epistemic phenomena. As Gerken sees it, proponents of such an approach commit a similar mistake to the one that they charge their opponents with—viz., the mistake of seeking to reductively analyse basic epistemic phenomena in terms of other allegedly more basic or fundamental phenomena. After levelling this charge against reductionist brands of knowledge-first epistemology, Gerken then challenges—taking the knowledge norm of assertion as his critical focus²⁷—non-reductionist brands of knowledge-first epistemology. Gerken by articulating an alternative to knowledge-first methodology with what he calls 'equilibristic epistemology'. According to equilibristic epistemology there isn't a single epistemic phenomenon or concept that is 'first'. Rather, there are a number of basic epistemic phenomena that are not reductively analysable although they may be co-elucidated in a non-reductive manner.

In 'Mindreading Knowledge', Aidan McGlynn, like Gerken, is critical of a core element of the Knowledge-First programme—in McGlynn's case, the thesis that knowledge is a mental state in its own right²⁸. McGlynn challenges this thesis by way of calling into doubt a prominent empirically oriented strategy for defending it, one which has been advanced in recent work by Jennifer Nagel (2013). Nagel draws on work in developmental and comparative psychology with the aim of establishing that the concept of knowledge is acquired before the concept of belief, and she regards this conceptual priority claim as evidence for the metaphysical thesis that knowledge is a mental state. McGlynn argues that, on closer inspection, the results established in the developmental and comparative psychology literature fall well short of conclusively supporting Nagel's conceptual priority claim, much less the stronger metaphysical claim that knowledge is a mental state in its own right.

Martin Smith is also critical of the core Knowledge-First thesis that knowledge is a mental state. In his contribution 'The Cost of Treating Knowledge as a Mental State', Smith insists that embracing the mental state thesis carries certain costs that have not been widely appreciated. Of particular interest for Smith are costs associated with departing (as Knowledge-First proponents do) with internalism about the mental, where internalism is the thesis that one's mental states are determined by one's internal physical state. Internalism about the mental has been widely rejected amongst contemporary philosophers of mind²⁹. However, Smith argues, although philosophers of mind have converged on the falsity of internalism, the Knowledge-First proponent's claim that knowledge is a mental state effectively takes us much *further* from internalism than anything philosophers of mind have converged upon.

In 'On Putting Knowledge "First", Jonathan Jenkins Ichikawa and Carrie Ichikawa Jenkins claim that various views which travel under the banner of 'knowledge first' epistemology betray subtle differences in just how it is that they respectively regard knowledge as 'first'. These differences, they argue, are problematic, in part because it is not straightforward to draw connections between certain of these views, which are under closer inspection more independent than they are often assumed to be. Ichikawa and Jenkins's aim is, in the main, to tease apart various 'knowledge first' claims, and

²⁷ For the classic defence of this position, according to which assertion is normatively constrained by the rule that one should assert only what one knows, see Williamson (1996). Other prominent defenders of the view include DeRose (2002); Hawthorne (2004) and Stanley (2005).

²⁸ For detailed criticisms by McGlynn of other aspects of the Knowledge-First programme, see McGlynn (2014).

²⁹ For an overview of externalist approaches to mental content, see Lau and Deutsch (2014).

explore what connections they do or do not have with one another, in the service of a clearer understanding of just what the knowledge first theses are and how these theses might be evaluated.

Rounding out the papers focusing on foundational issues is Joshua Schechter's 'No Need for Excuses: Against Knowledge-First Epistemology and the Knowledge Norm of Assertion'. In this essay, Schechter offers a two-tiered critique of the knowledge-first programme. Firstly, he surveys some of the 'big-picture' objections to knowledge-first epistemology, and argues that they are not conclusive. In the second part of the paper, Schechter shifts his critical attention to a specific thesis endorsed by many knowledge-first epistemologists – the knowledge norm of assertion, and in particular, to the objection that it is intuitively appropriate for someone who has a strongly justified belief that p, but who doesn't know that p, to assert that p³⁰. Schechter argues that a standard reply to this objection on behalf of knowledge-first proponents—viz., that such assertions are improper but that the subject has an excuse and is therefore not blameworthy for making the assertion—is ultimately unworkable.

(ii) Applications and new directions

In KAIL's opening paragraph, Williamson takes, as a starting point for discussion, an analogy between knowledge and action.

Knowledge and action are the central relations between mind and world. In action, world is adapted to mind. In knowledge, mind is adapted to world. When world is maladapted to mind, there is a residue of desire. When mind is maladapted to world, there is a residue of belief. Desire aspires to action; belief aspires to knowledge. The point of desire is action; the point of belief is knowledge (2000, 1).

The principal aim of Williamson's contribution to this volume, 'Acting on Knowledge', is to develop and refine this analogy between knowledge and action in KAIL, the general schema of which is: knowledge is to belief as action is to intention. As Williamson himself articulates his project:

The analogy reverses direction of fit (mind to world, world to mind). The knowledge/belief side of the analogy corresponds to the inputs to practical reasoning, the action/intention side to its output. Insofar as desire is an input to practical reasoning, it belongs to the former side (the desire-as-belief thesis is considered sympathetically). When all goes globally well with practical reasoning, one acts on what one knows. Beliefs play the same local role as knowledge, and intentions the same local role as action, in practical reasoning. This is the appropriate setting in which to understand knowledge norms for belief and practical reasoning. Marginalizing knowledge in epistemology is as perverse as marginalizing action in the philosophy of action.

An advantage Williamson claims of developing this analogy rigorously is that opponents of knowledge-first epistemology are challenged to produce an equally systematic and plausible account of the relation between the cognitive and the practical.

³⁰ The blamelessness reply to this line of objection is defended by, along with Williamson (2000, 256-7), also DeRose (2002) and Hawthorne and Stanley (2008).

Heather Logue, like Williamson, investigates an analogy—in her case, an analogy between knowledge and *perception*. In short, Logue asks: if knowledge is unanalysable, might also *perception* be? After all, the history of attempts to analyse the perceptual relation have been subject to counterexamples in such as way as to broadly mirror the track record of the post-Gettier literature³¹. To the extent that the failure of the post-Gettier project motivates a knowledge-first approach, it is natural to wonder whether an analogous sort of failure to analyse (in a fashion that avoids counterexamples) the perceptual relation motivates a *perception-first* approach. Logue however argues that *even if* the perceptual relation turns out to be unanalysable, this does not necessarily mean that we should embrace a perception-first approach. Though, as she suggests, there might nonetheless be an alternative motivation for a perception-first approach.

Duncan Pritchard and Jesper Kallestrup, in 'Epistemic Supervenience, Anti-Individualism and Knowledge-First Epistemology', investigate connections between Knowledge-First epistemology and a metaepistemological thesis they've defended elsewhere (and in opposition to robust forms of virtue epistemology³²) under the description of *epistemic anti-individualism*³³. Epistemic anti-individualism is a denial of the epistemic individualist's claim that warrant—i.e., what converts true belief into knowledge—supervenes on internal physical properties of individuals, perhaps in conjunction with local environmental properties. Kallestrup and Pritchard have two central aims. First, they argue that 'epistemic twin earth' thought experiments which reveal robust virtue epistemology (RVE) to be problematically committed to epistemic individualism also show that *evidentialist mentalism*³⁴ is likewise committed to individualism. Second, they argue that, even though a *knowledge-first* approach in epistemology is in principle (unlike RVE and evidentialist mentalism) consistent with epistemic *anti-*individualism, this approach fails to offer a plausible account of epistemic supervenience. This point is, they suggest, a reason to pursue epistemic anti-individualism outside the knowledge-first framework.

In 'Knowledge-First Virtue Epistemology', Christoph Kelp connects what have thus far been independent knowledge-related research programmes: *virtue epistemology*, which offers an account of knowledge in terms of agents' intellectual virtues or abilities, and knowledge-first epistemology. Kelp's primary aim in the paper is to develop a knowledge-first virtue epistemological accounts of knowledge and justified belief³⁵ and to show that these accounts compare favourably with their traditionalist cousins.

Anne Meylan, in her paper 'In Support of the Knowledge-First Conception of the Normativity of Justification' explores knowledge-first epistemology in connection with the New Evil Demon Problem (NEDP)³⁶. In particular, Meylan argues that the knowledge-first solution to the NEDP fits well with a particular conception of the normativity of justification. This is the conception defended by Williamson (*forthcoming*)—according to which a justified belief is one that satisfies some sort of "ought" or "should", a view which runs contrary to the more established view of justified belief, as

³⁴ The most classic defence of this view is developed in Conee and Feldman (2004)

³¹ For an overview, see Shope (1983). The *locus classicus* of the Gettier problem is Gettier (1963). For an overview of various attempts to characterise the perceptual relation, see Crane and French (2016).

³² Prominent defenders of robust virtue epistemology include Greco (2010; 2012); Sosa (2009; 2010; 2015); and Zagzebski (1996).

³³ See, for example, Kallestrup and Pritchard (2012; 2013; 2014).

³⁵ For a complementary discussion of a knowledge-first approach to justified belief, see Kelp (2016).

³⁶ For notable presentations of this problem, see Lehrer and Cohen (1983) and Cohen (1984). For a recent critical overview of the problem, and a survey of responses, see Littlejohn (2009).

neither obligatory nor forbidden³⁷. The position she advances is that knowledge-first conception of the normativity of justification, which is the one on which the knowledge-first solution to the NEDP relies, is superior to the more traditional view.

In 'Sustaining Rules: A Model and Application', John Turri places knowledge-first, in a hitherto unexplored way, as a normative standard for belief. One familiar way to think of knowledge as normative standard for belief is as a rule that governs the propriety of believing, for example: one must: believe that p only if one knows that p³⁸. Turri's project explores a comparatively broader sense in which knowledge might be the normative standard for belief: by normatively sustaining cognition, and thereby, inquiry. This result is part of a wider project: to offer conditions under which *any* rule sustains a practice (cognitive or otherwise). On Turri's proposal, a rule normatively sustains a practice when the value achieved by following the rule explains why agents continue following that rule—in a way that sustains the pattern of activity.

Finally, in "More Likely Than Not" Knowledge First and the Role of Bare Statistical Evidence in Courts of Law' Michael Blome-Tillmann argues that embracing a knowledge-first approach can help to resolve important epistemological problems in legal philosophy³⁹. Blome-Tillmann takes as a starting point a puzzle arising from the evidential standard *Preponderance of the Evidence* and its application in civil procedure. The evidential standard captured by *Preponderance of the Evidence* is usually glossed as 'greater than .5 given the admissible evidence'. But this characterisation generates puzzles⁴⁰, where our intuitions about whether a defendant should be found liable diverge in case pairs where the evidential probability captured this way is the same. Blome-Tillmann argues that the tension generated by such puzzles can be resolved fairly straightforwardly within a knowledge-first framework.

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³⁷ This is a view that has been defended in various places by, among others, William Alston, e.g., (1989).

³⁸ As Williamson puts it, 'Knowledge sets the standard of appropriateness for belief'. For discussion on this point, see Williamson (2000, 47) and more recently Mchugh (2011) and Littlejohn (2013). Cf., Benton (2015, §3).

³⁹ See also Blome-Tillmann (2015).

⁴⁰ For example, the 'Gatecrasher Puzzle', as noted in L. J. Cohen (1977).

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