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EPISTEMIC DEPENDENCE

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ABSTRACT. The goal of this paper is to explore and defend the *epistemic dependence* of knowledge—roughly, the dependence of one’s knowledge on factors outwith one’s cognitive agency—and to situate this thesis within a wider framework for thinking about knowledge, one on which knowledge demands both cognitive agency and extra-agential factors. It is argued that the epistemic dependence thesis comes in both *positive* (knowledge-enabling) and *negative* (knowledge-precluding) forms, and that properly understood it runs contrary to a number of central movements in contemporary epistemology. Despite appearances, the question of whether one’s epistemology allows for epistemic dependence runs orthogonal to the epistemic externalism/internalism distinction. Instead, it reflects a rather different dispute between *epistemic individualism* and *epistemic anti-individualism*. A narrow form of epistemic individualism is contrasted with a broader form that allows for extended cognitive processes. While our initial focus is on perceptual knowledge specifically, it is also shown that with this framework in place, the prospects for a distinctively *social* epistemic anti-individualism are very sound. Furthermore, it is claimed that this result is not specific to a particular social kind of knowledge, but rather reflects a point about knowledge in general. This is brought out by considering *epistemic twin earth arguments* that demonstrate the general epistemic dependence of knowledge. Social epistemic anti-individualism is thus motivated on more general anti-individualist grounds, reflecting the wider reach of the epistemic dependence thesis. The rationale for this thesis within a broader approach to knowledge that allows for both agential and extra-agential factors to play a role—what I call *anti-luck virtue epistemology*—is then explored.

1. EPISTEMIC DEPENDENCE IN OUTLINE

I take it as relatively uncontroversial that the acquisition of knowledge requires the manifestation of relevant cognitive agency in arriving at the true belief in question.¹ In order for it to be one’s knowledge at all, it must in some robust way be the product of one’s cognitive agency. (For now we will be treating cognitive agency as a primitive notion; we will explore it further below). That places at least a minimal constraint on knowledge, which we can capture as follows:

A Weak Ability Condition on Knowledge

When one knows that p , a significant part of the causal explanation of one's cognitive success (i.e., one's true belief that p) is one's manifestation of relevant cognitive agency.²

Put another way, this condition states that if one's cognitive agency plays little or no explanatory role in one's cognitive success—if one's cognitive success is simply due to blind luck, say—then it can't amount to knowledge. The condition is weak, however, in the sense that it is perfectly consistent with this condition that other factors outwith one's cognitive agency can also play an explanatory role in one's cognitive success too. Relatedly, this condition is compatible with there being other epistemic conditions that must be met in order to gain knowledge, and some of these conditions might be such that they are independent of one's manifestation of cognitive agency (e.g., such as a modal epistemic condition, like a safety or sensitivity condition).³ My suggestion is that the ability intuition is sound, and that it at the very least imposes this kind of weak ability condition on knowledge.

One question we might ask at this stage is just how strong a relationship is there between knowledge and the manifestation of cognitive agency. In particular, could we think of knowledge as primarily about the manifestation of cognitive agency, such that extra-agential factors in fact play at most a minor role? I think many in epistemology are tempted by such a thought, at least as regards most forms of knowledge anyway. I will be arguing, however, that in fact the weak ability condition is the most demanding general constraint we should expect to be imposed on knowledge by the ability intuition alone. This is because knowledge in general often involves extra-agential factors.

Consider the following thesis that I will be defending, which I will call the *epistemic dependence thesis*:⁴

Epistemic Dependence Thesis

Whether or not an agent's undefeated epistemic support for her true belief that p counts as knowledge that p can significantly depend upon factors outwith her cognitive agency.

A few comments about this thesis are required in order to understand what it demands. Note first that it is stipulated here that the agent in question has a true belief in the target proposition. This is important because that the truth of one's belief when one knows often depends on factors outwith one's cognitive agency is hardly controversial. Second, note that it is also stipulated that the agent's epistemic support for her true belief is undefeated. That defeaters, particularly normative defeaters,⁵ can influence whether one has knowledge is also fairly uncontroversial. In setting aside defeaters and stipulating that the belief in question is true, we are thus better able to bring to the fore what might be controversial about the epistemic dependence thesis. Finally, what is the

import of the word ‘significantly’ here? Perhaps not much. Indeed, one can almost certainly disregard it. It has been introduced in case there are views according to which there can be trivial ways in which the possession of knowledge depends on factors outwith one’s cognitive agency. If so, then we should set these trivial forms of epistemic dependence to one side, as it is only those extra-agential factors that significantly affect whether one knows that are relevant for our purposes.

With these preliminaries out of the way, consider now what the epistemic dependence thesis amounts to. It entails that two identical agents who exhibit the very same level of cognitive agency in bringing about their respective cognitive successes (and setting defeaters to one side) can nonetheless differ in terms of the epistemic standing of their beliefs on account of the bearing of non-agential factors. In particular, they can differ epistemically to the extent that while the one agent has knowledge, the other agent doesn’t. This is quite a striking thesis. While it is compatible with the weak ability condition on knowledge set-out above, it is likely to be in conflict with any more demanding version of that condition. The epistemic dependence thesis also runs counter to a number of contemporary epistemological proposals regarding knowledge. Moreover, as I shall explain in a moment, when epistemologists do endorse something like the epistemic dependence thesis, they do so only as regards a particular species of knowledge, such as testimonial knowledge (or even a specific kind of testimonial knowledge), and not with regard to knowledge in general. And yet I want to suggest that the epistemic dependence thesis captures an insight about knowledge *simpliciter*, and not merely as regards a particular kind of knowledge.

The epistemic dependence thesis can in fact be split into two sub-claims. They are as follows:

Positive Epistemic Dependence

Factors outwith one’s cognitive agency can enable one to gain (or retain) knowledge, even though one exhibits a level of cognitive agency that ordinarily would not suffice for knowing (i.e., typically, one’s counterpart, with an identical causal history and in the same environment, will lack knowledge).

Negative Epistemic Dependence

Factors outwith one’s cognitive agency can prevent one from gaining (or retaining) knowledge, even though one exhibits a level of cognitive agency that ordinarily would suffice for knowing (i.e., typically, one’s counterpart, with an identical causal history and in the same environment, will acquire knowledge).

The point is that the epistemic dependence thesis as formulated above leaves it open whether the extra-agential factors at issue are *preventing* knowledge or *enabling* knowledge. I think that they can do both. In certain cases one can acquire or retain knowledge that one wouldn’t otherwise possess due to extra-agential factors—this is *positive epistemic dependence*. In other cases one is prevented from acquiring or retaining knowledge that one would otherwise possess due to extra-agential

factors—this is *negative epistemic dependence*.⁶

Now one might think that the epistemic dependence thesis is only controversial to the extent that one is an epistemic internalist, in that epistemic externalists will have no problem endorsing this thesis. For our purposes we will take epistemic internalism about knowledge to be the view that knowledge entails internalist justification, where the latter is understood along either accessibilist or mentalist lines.⁷ Epistemic externalism, in contrast, we will take to be the denial of this thesis, and hence the view that one can possess knowledge even while lacking internalist justification. So construed, one can immediately see the *prima facie* tension between the epistemic dependence thesis and epistemic internalism, in that one would expect the satisfaction of the internalist justification condition to be a manifestation of the subject's cognitive agency, and hence for the possession of knowledge to vary in line with the possession of internalist justification.

Note, however, that it is only if epistemic internalism is understood as the view that undefeated internalist justification is *sufficient* for knowledge that it is incompatible with the epistemic dependence thesis. It would then follow that two agents with undefeated internalist justification for their respective true beliefs must be alike with regard to whether those beliefs amount to knowledge, contrary to the epistemic dependence thesis. But insofar as we characterize epistemic internalism as merely the demand that internalist justification is necessary for knowledge, then there is nothing to prevent such a view from incorporating further external epistemic conditions on knowledge (e.g., a modal condition, like safety or sensitivity) and thereby allowing extra-agential factors to play a role with regard to knowledge. It follows that epistemic internalism is at least in principle compatible with the epistemic dependence thesis.

Just as one can in principle be an epistemic internalist and endorse the epistemic dependence thesis, so one can in principle be an epistemic externalist and reject this thesis. Consider, for example, such views as process reliabilism, proper functionalism, or virtue reliabilism.⁸ While some of these views incorporate a 'defeater' condition which is usually understood (at least in part) along extra-agential lines,⁹ once we set this to one side there is a general consensus that knowledge is straightforwardly a function of cognitive agency, such that counterpart agents who are alike in terms of their manifestation of cognitive agency in acquiring true beliefs will also be alike in terms of whether they know the propositions believed.¹⁰

This brings us to an important point about the notion of cognitive agency, which we have so far been treating as a primitive notion. For while epistemic internalists often make much of the importance of cognitive agency, at least in the form of taking epistemic responsibility for one's beliefs, appeals to cognitive agency in our understanding of knowledge are common to both mainstream epistemic internalist and epistemic externalist proposals. The difference is that epistemic externalists hold that cognitive agency need not be an especially reflective matter, but

may rather be due to the appropriate performance of the subject's cognitive processes, where these are processes that are stable cognitive traits which are sufficiently integrated with the subject's other cognitive traits to form part of her overall cognitive character. In this way, according to epistemic externalist proposals, such as virtue reliabilism, one's cognitive agency can play an explanatory role in one's cognitive success even though that cognitive success was produced by entirely unreflective cognitive processes.¹¹

In any case, the important point is that the issue of epistemic dependence is orthogonal to the epistemic externalism/internalism distinction, in that it is possible for proposals on either side of this division to accept or reject this thesis. For while both kinds of proposals tend to understand knowledge as a straightforward function of cognitive agency—albeit in such a way that each proposal characterises cognitive agency very differently—they could both opt to incorporate an extra-agential externalist epistemic condition, such as a purely modal epistemic condition, into their account if they wished. It follows that we shouldn't be casting the debate about epistemic dependence along epistemic externalist/internalist lines. Instead, I want to suggest that the best way to represent this debate is in terms of the distinction between *epistemic individualism* and *epistemic anti-individualism*.

2. EPISTEMIC INDIVIDUALISM/ANTI-INDIVIDUALISM

In the last section we unpacked the idea behind epistemic dependence in terms of a pairing of counterpart agents whose cognitive success was equally attributable to cognitive agency (defeaters aside). We noted that a consequence of the epistemic dependence thesis was a certain claim about identical agents exhibiting identical levels of cognitive agency nonetheless differing in terms of whether they possessed knowledge. It would be helpful to clarify the claim in play here, and I think the best way to do so is in terms of the particular supervenience thesis that is being rejected by epistemic dependence.

Consider the following thesis, which I will christen *unextended epistemic individualism*:

Unextended Epistemic Individualism

The epistemic support enjoyed by an agent's true beliefs weakly supervenes on the internal features of that agent.

This thesis demands that if two agents are identical in terms of their internal features—where this means, in particular, the internal physical features of the agent relevant to cognitive agency—and the environments in which they occupy, and they both truly believe that *p*, then they are also alike

in terms of whether they know that p . Note that this is a weak supervenience claim, in the sense that we are keeping the agents in identical environments. Indeed, strictly speaking, weak supervenience demands that the two agents occupy the same possible world, but for our purposes all that is important is that they occupy causal environments which are identical in all relevant respects, and that they also have causal histories that are identical in all relevant respects.¹² Note too that given how we are understanding this supervenience claim, we can now dispense with a *caveat* about defeaters. However one wishes to understand defeaters, agents alike in terms of their internal features, causal environments and causal history will presumably also be alike in terms of the defeaters to which they are subject (and responsive to those defeaters in the same ways).¹³

So construed, many epistemological proposals regarding knowledge will accept this claim. That standard forms of epistemic internalism, like mentalism, will subscribe to it ought to be uncontroversial. But it is also widely held by epistemic externalists. Process reliabilism, for example, as defended by Alvin Goldman (e.g., 1986) and others, focuses on cognitive processes that are internal to the agent (i.e., under the skin and skull of the subject).¹⁴ Here, for example, is Goldman on this point:

“One thing we do not want to do is invoke factors external to the cognizer’s psychology. The sorts of processes we’re discussing are purely internal processes.” (Goldman 1986, 51)

Similarly, virtue reliabilists, like Ernest Sosa (1991; 2007; 2009; 2015) and John Greco (e.g., 2009), understand knowledge in terms of the manifestation of cognitive abilities that have a physical basis in the subject. Sosa, for example, understands cognitive abilities in terms of what he calls ‘competences’, which he characterizes as follows:

“[A] competence is a disposition, one with its basis resident in the competent agent, one that would in appropriately normal conditions ensure (or make highly likely) the success of any relevant performance issued by it.” (Sosa 2007, 29)

The epistemic dependence thesis is clearly in conflict with unextended epistemic individualism. The latter demands that identical agents who exhibit the same level of cognitive agency in bringing about their undefeated cognitive success should enjoy equal levels of epistemic support for their beliefs. And yet the former allows that these two agents could nonetheless differ epistemically in terms of whether or not they have knowledge.

We might wonder, however, whether the unextended epistemic individualism thesis is the right way to capture opposition to the epistemic dependence thesis. The epistemic dependence thesis, after all, just talks more generally about factors internal and external to cognitive agency, while the unextended epistemic individualism thesis makes a more specific claim about factors that are internal to the agent herself (i.e., physically internal). The reason why this distinction could be

important is that one can imagine views according to which one's cognitive processes are *extended*—i.e., they include as proper parts elements of the world that are outside of one's skin and skull. Although a controversial view in epistemology, extended cognition is widely endorsed in cognitive science circles. In any case, the point is that we can imagine a kind of epistemic individualism which makes an analogous claim to the unextended epistemic individualism thesis but which allows that the cognitive processes in question can be extended. We would thus get something like this thesis:

Extended Epistemic Individualism

The epistemic support enjoyed by an agent's true beliefs weakly supervenes on that agent's manifestation of cognitive agency.

In this formulation of epistemic individualism there is no demand that the supervenience is concerned with the internal features of the agent specifically, but only that it concerns manifestations of cognitive agency, leaving it open whether this manifestation of cognitive agency is unextended or extended. We also now have a clearer sense of what facts should be kept fixed when evaluating the epistemic standing of the true beliefs held by counterpart agents—*viz.*, those facts which are relevant to their manifestation of cognitive agency (which will of course include relevant facts about their causal environment, their causal history, and so forth).

Now one might balk at the idea that any epistemological view that endorses extended cognition is a genuine kind of epistemic individualism, on the grounds that this is to introduce 'external' factors into one's epistemology. But that is to misunderstand the extended cognition thesis. The reasoning behind this view, after all, is that cognitive processes that extend outside of the skin and skull of the subject are nonetheless as much a part of the subject's cognitive processes as those that don't so extend. In a sense, then, nothing 'external' to the subject's cognitive agency is being introduced by such views.¹⁵

The idea that epistemological proposals that incorporated extended cognition could still qualify as forms of epistemological individualism is further reinforced by considering particular possible views in this regard. To take an extreme—and admittedly rather implausible—example, imagine a mentalist who nonetheless endorses the extended mind thesis (where the latter is, note, a potentially much more ambitious thesis than the extended cognitive thesis).¹⁶ On this view, epistemic standing would still supervene on one's mental states, it is just that one's mental states now extend beyond the skin and skull of the subject. Crucially, however, epistemic standing is still supervening on the cognitive agency of the subject, it is just that we have an extended conception of cognitive agency. Or, to take another example, imagine an extended version of virtue reliabilism that allows in certain very specific epistemic conditions for a subject's use of an instrument to

count as an extended cognitive process. Again, epistemic standing is still on this view supervening on the cognitive agency of the subject, it is just that this cognitive agency is understood along extended lines. Note too that the cognitive extension needn't be restricted to instruments, but can also potentially involve other agents too, at least to the extent that one uses the other agent in ways comparable to an instrument (the reason for this *caveat* will become apparent below).

In any case, the epistemic dependence thesis is not just in conflict with the unextended epistemic individualism thesis, but also the extended epistemic individualism thesis. Epistemic dependence, after all, insists that two agents alike in terms of their manifestation of cognitive agency (extended or unextended), and also alike in all other relevant respects, can nonetheless differ in terms of whether they have knowledge. Henceforth when I refer to epistemic individualism I will have the extended epistemic individualism thesis in mind. The question in hand is whether we should endorse this thesis or instead embrace epistemic dependence and thereby become epistemic anti-individualists.

3. SOCIAL EPISTEMIC ANTI-INDIVIDUALISM

Although I have argued above that the dominant view in epistemology as a whole is epistemic individualism, it should be admitted that there is a particular region of epistemology where one does encounter mainstream versions of epistemic anti-individualism. This is in the literature on the epistemology of testimony.

There are various reasons for this. One motivation relates to the fact that in a testimonial exchange one's informant—perhaps even one's epistemic community more generally—seems to be able to bear some of the epistemic weight as regards the epistemic status of my testimonial belief. Indeed, if this is not so then it is hard to account for the fact that agents often acquire testimonial knowledge without having very much by way of rational support and without more generally doing very much in terms of exhibiting cognitive agency. Thus, while a weak ability condition on knowledge is satisfied, it would be implausible to suppose that the testimonial knowledge so acquired was solely or even primarily the result of the agent's manifestation of cognitive agency. Thus there seems to be a form of positive epistemic dependence in play, such that extra-agential factors ensure that very little by way of manifestation of cognitive agency can suffice for knowledge.

Consider, for example, so-called 'transmission' views of the epistemology of testimony whereby if one stands in the right kind of relationship to one's informant then in believing that testimony one can acquire the informant's epistemic basis for belief.¹⁷ On this view it is clearly the

case that the epistemic standing of my belief can depend on factors outwith the manifestation of my cognitive agency, since it depends on the epistemic standing of one's informant's belief. Two agents could thus be alike in all relevant respects, and yet differ in terms of whether they have testimonial knowledge on account of facts to do with their respective informants.¹⁸

Or consider the kind of view defended by Sanford Goldberg (e.g., 2011) whereby it is not just the epistemic standing of one's informant's belief which has a bearing on the epistemic standing of one's own testimony-based belief, in that one's social environment can also play a role. In particular, Goldberg tells a persuasive story about how social practices of monitoring and policing testimony within a community can have a bearing on the epistemic standing of one's testimonial beliefs. This would be a straightforward kind of positive epistemic dependence with one's social environment playing the extra-agential role, in that where these social practices tend to weed-out unreliable testimony, so one is able to acquire testimonial knowledge without having to exhibit very much by way of cognitive agency (and certainly much less than is typically required for knowledge).¹⁹ Accordingly, two counterpart agents displaying equivalent levels of cognitive agency could nonetheless differ in terms of whether they acquire testimonial knowledge.

Notice that on both views it is important that the recipient of testimony does not treat their informant as a mere instrument. If that were the case, then the epistemic weight may well solely lie on the shoulders of the recipient of the testimony. On both views the claim is rather that there is something about the particular social fabric against which this testimonial interaction is occurring which ensures that one's informant, or even one's wider social environment, can carry part of the epistemic load. Indeed, it is worth noting in this regard that insofar as one is merely treating an informant as an instrument, then the case for offering a specific epistemological account of this knowledge (*qua* testimonial knowledge) is not very pressing. That is, why should knowledge gained from an informant in this way be significantly different from, say, knowledge gained from a thermometer? In particular, if epistemic individualism is applicable in the latter case, then why not also the former case? Relatedly, it is also worth noting that insofar as one embraces extended cognition, then it is open to one to treat the instrumental use of an informant as being, in the right epistemic conditions, a form of extended knowledge which is on a par with non-social kinds of extended knowledge. As such, it would be entirely compatible with epistemic individualism, as we noted above.²⁰

Of course, such views are thought controversial in some quarters, but it is not my current concern to defend epistemic anti-individualism as regards the epistemology of testimony, but rather to merely register its existence. I want to make two observations here. The first is the straightforward point that the proponents of epistemic individualism that we noted above—a

broad class of positions, as we saw—simply cannot accommodate the kind of testimonial knowledge that prompts epistemologists of testimony to opt for anti-individualist accounts. They will either need to redescribe such cases such that high levels of cognitive agency are on display, despite appearances, or else deny that the agents in question do gain *bona fide* knowledge.²¹

My second observation is more substantive. It is that we should not think that the phenomenon of epistemic dependence, if genuine at all, is specific to testimonial cases. That is, one might suppose that while there are grounds for epistemic dependence, and thus epistemic anti-individualism, they only concern testimonial knowledge on account of its specifically social dimension (the epistemic dependence in question being an epistemic dependence on social factors, such as regarding one's informant or one's wider epistemic community). If this were correct, then it would at least marginalise epistemic anti-individualism. As I will be arguing in the next section, however, epistemic dependence is a genuine phenomenon, and moreover it is one which has application to knowledge in general, and not just testimonial knowledge.

4. EPISTEMIC TWIN-EARTH

Standard twin earth arguments run as follows.²² Despite appearances there is no water on twin earth. Water is essentially H_2O , and all the watery stuff on twin earth has the different microstructure XYZ—earthlings call that 'twin-water'. When S on earth utters 'water is wet', she expresses the proposition that water is wet, but when S 's intrinsic physical duplicate on twin earth utters the same sentence, twin- S expresses the proposition that twin-water is wet.²³ In order to keep the argument as clean as possible, we will stipulate that S shares an identical causal history to twin- S , bar concerning their interactions with water/twin-water. We will also stipulate that S and twin- S are ignorant of chemistry. Since S and twin- S refer to different kinds of stuff when they token 'water', the truth-conditions of their respective utterances differ. Assuming that the contents of their beliefs are fixed by the truth-conditional contents of the sentences that they use to express those beliefs, then these contents also fail to supervene on their intrinsic physical properties. Indeed if belief states are individuated in part by their contents, then what belief states S and twin- S are in fail to supervene on their intrinsic physical properties. Instead these states depend partially for their individuation on which patterns of causal relations S and twin- S bear to their respective physical environments.

Consider now *epistemic twin earth* on which most watery stuff is H_2O . In between there is some scattered twin-water the exact location of which varies from case to case. My contention is that we can run an epistemic twin earth argument which shows that whether a subject's epistemic

support for a true belief amounts to knowledge can depend on factors outwith her cognitive agency. In short, an epistemic twin earth argument motivates the epistemic dependence thesis and hence epistemic anti-individualism. Moreover, crucially, this argument will be concerned with perceptual knowledge, and will be clearly also extendable to other varieties of knowledge. Hence we will have shown that epistemic anti-individualism has application beyond just the social anti-individualism advocated in the epistemology of testimony literature.²⁴

Let's divide epistemic twin earth into three regions. The subject's *local environment* is where the subject is currently located. It contains the objects and properties that are the proximate causes of her current perceptual experiences, experiences that prompt her to form a belief in the target proposition (p). Other features of the local environment have to do with aspects of the perceptual process and various background conditions on perception—e.g., distorting noise, brightness, and so on.

The subject's *regional environment* is neither where the subject is currently located, nor where she typically forms any beliefs. Still, it contains the objects and properties with which she might easily have been causally connected. The regional environment thus concerns modally nearby perceptual possibilities, but they play no causal role in producing the subject's current perceptual experience on which she bases her belief that p .

Finally, the subject's *global environment* is where she is normally located although not at present. It contains the objects and properties with which she ordinarily causally interacts. Given the subject's current location, the global environment concerns distant perceptual possibilities, which as such are also causally inefficacious in producing her current perceptual experiences, and hence play no role in her formation of her belief that p .

We can now mount an epistemic twin earth argument for the epistemic dependence thesis. The subject, S , is on earth where all watery stuff is H_2O . S 's perceptual apparatus is highly reliable in that a high frequency of S 's perceptual beliefs is both actually true and true across relevantly close worlds. Based on a perceptual experience as of water, S forms the demonstrative belief that that's water. There is no question that S thereby comes to know just that.

On epistemic twin earth all watery stuff in twin- S 's global environment is H_2O . Not only is twin- S therefore able to entertain water-thoughts, a high frequency of twin- S 's water-beliefs as formed in her global environment is true both in actual fact and across relevantly close worlds. Twin- S 's perceptual apparatus is thus equally reliable. Moreover, all watery stuff in twin- S 's local environment is H_2O . When twin- S forms the demonstrative belief that that's water on the basis of a perceptual experience as of water, her belief is true. Yet, unbeknownst to twin- S , twin-water is abundant in her regional environment. The basis on which twin- S holds that belief is thus such that her belief is only luckily true, in that given the basis for her belief it could very easily have

been the case that she would have formed a false belief (e.g., had she been interacting, unbeknownst to her, with twin-water). That is to say, very easily could twin-*S* have believed that that's water on the same basis—a perceptual experience as of water—without that being so.²⁵ Since it is standardly thought that knowledge excludes high levels of epistemic luck or risk, such that forming a true belief on a basis that could very easily have led to a false belief is not compatible with gaining knowledge, it follows that twin-*S* lacks knowledge.²⁶

We thus have two agents exhibiting equally high levels of cognitive agency and forming a true belief on this basis. And yet for the one agent the epistemic standing of her belief suffices for knowledge, but not so the other agent. We thus have a case of positive epistemic dependence, in that despite a high level of manifestation of cognitive agency on display—of a level that would ordinarily suffice for knowledge—our counterpart agent on twin earth nonetheless lacks knowledge due to an extra-agential factor.

The explanation the epistemic individualist offers of why *S* has knowledge on earth is that her cognitive success is due to her manifestation of cognitive agency. The challenge, however, is to explain why twin-*S* lacks knowledge on epistemic twin earth. The fact that *S* and twin-*S* are intrinsic physical duplicates with essentially identical causal histories embedded in physically identical local and global environments means that one cannot plausibly suppose that they are distinct in terms of their manifestation of cognitive agency.

Consider the following analogy, one that is often used by proponents of virtue epistemology who endorse epistemic individualism. Suppose that *S* is an expert archer. *S* possesses that ability in virtue of relevant bodily/psychological features and mostly occupying an environment that is conducive for her to frequently hit the innermost rings when dispatching arrows. Given that the latter are equally true of twin-*S*, she will be an expert archer too. And the fact that both *S* and twin-*S* currently occupy physically identical local environments means that their cognitive successes must arise in the very same way. To use the analogy, the ways in which *S* and twin-*S* propel their respective arrows into the yellow ring are identical. After all, fletching, bow strings, body positions, prevailing winds, distances to target, energy imparted to arrows, and so on, are identical in the two cases. Combining these two facts spells trouble for epistemic anti-individualism for it deprives proponents of this view of a principled basis on which they can treat the two cases differently. And yet there clearly is an epistemic difference between them, in that twin-*S*, unlike her counterpart *S*, lacks knowledge (at least insofar as knowledge excludes high levels of epistemic luck/risk, as is standardly supposed).

How might the epistemic individualist respond to this argument? It is hard to see how they could motivate a conception of cognitive agency that somehow marks a difference between *S* and

twin-*S*. But that means that they are obliged to allow that knowledge is not a straightforward function of cognitive agency, and that is to endorse the epistemic dependence thesis, and hence epistemic anti-individualism. Notice too that while we have run this argument in terms of perceptual knowledge, we could easily extend the argument to other forms of knowledge (e.g., memorial knowledge). Finally, it should also be obvious that we have likely kept far more facts fixed across earth and twin-earth than we strictly needed to keep fixed in order to run the argument. We have done this in order to make clear that what is at issue here is not merely a particular conception of cognitive agency—there simply is no plausible conception of cognitive agency on which purely modal facts have a bearing on one’s manifestation of cognitive agency. More generally, though, all that we really needed to keep fixed across earth and twin-earth are those facts relevant to the manifestation of cognitive agency, and that is likely to be a much smaller class of facts than those kept fixed in our argument above.

Indeed, with this last point in mind we can easily see how the kind of epistemic anti-individualism one finds in the epistemology of testimony, as described above, can be understood in terms of an epistemic twin-earth argument. For example, if proponents of the transmission view are right, then two agents can be completely alike in terms of their manifestation of cognitive agency and yet differ in terms of whether they have knowledge on account of the epistemic standing of their informant’s belief. Or if proponents of intersubjective views are right, then two agents can be completely alike in terms of their manifestation of cognitive agency and yet differ in terms of whether they have knowledge on account of differences in the social facts that obtain across earth and twin-earth. In both cases, one would be running a more liberal version of the epistemic twin-earth argument, in that one would be allowing for more factual differences across the two earths. But the essential point is the same, which is that keeping the facts relevant to the subject’s manifestation of cognitive agency fixed does not ensure that counterpart agents are alike in terms of whether they have knowledge. Instead, extra-agential factors, such as concerning one’s social environment, can have a bearing on whether or not one has knowledge.

5. ANTI-LUCK VIRTUE EPISTEMOLOGY

So once we recognise that epistemic dependence is a general phenomenon, then this both supports epistemic anti-individualist proposals in the epistemology of testimony while also demonstrating that such anti-individualism is not restricted to the social realm. In accepting the epistemic dependence thesis as regards knowledge in general, as opposed to just a certain kind of knowledge, one is required to think rather differently about what knowledge is. In particular, I

think that it suggests a view of knowledge that I have labelled *anti-luck virtue epistemology*.

The driving idea behind anti-luck virtue epistemology is that knowledge demands cognitive success that is not subject to high levels of epistemic risk—call this *safe cognitive success*—and where this safe cognitive success reflects the manifestation of a significant level of cognitive agency. That is, one’s safe cognitive success must be to some significant degree attributable to one’s manifestation of cognitive agency. Note that this is in effect a structural proposal, in that one can plug-in any number of specific epistemological views into this general template. In particular, the ‘virtue’ component of the view just concerns an appeal to cognitive agency, and we have already seen that there are a range of very different ways of understanding cognitive agency (e.g., in terms of whether one is an epistemic internalist or externalist). Note too that it is an open question whether this is a reductive account of knowledge. While I am personally optimistic on this score, it doesn’t really matter for our purposes. In particular, one could endorse a knowledge-first approach in epistemology and yet still embrace anti-luck virtue epistemology (e.g., if one held that any plausible account of cognitive agency must already appeal to a prior notion of knowledge).²⁷

What is crucial to the proposal, however, is that it allows for epistemic dependence, of both a positive and a negative variety. This is because on this view knowledge can involve an interplay between agential and extra-agential factors. In particular, it can accommodate positive epistemic dependence in virtue of the fact that in epistemically propitious conditions very little by way of cognitive agency can nonetheless suffice for knowledge. In such conditions, after all, safe cognitive success is easy to come by.

Consider, for example, the positive epistemic dependence we have witnessed in the epistemology of testimony. In the right social conditions—where this means social conditions which are epistemically propitious—one can gain testimonial knowledge by exhibiting very little by way of cognitive agency. (Though one needs to exercise *some* cognitive agency—gullibility is not a route to testimonial knowledge, even on transmission views). And this is precisely because these social factors are taking on some of the epistemic burden in ensuring that one has a safe cognitive success.

By the same token, anti-luck virtue epistemology can also account for the negative epistemic dependence that was at issue in our original epistemic twin earth case involving perceptual knowledge. In this case, recall, the conditions on twin earth were epistemically unfavourable, such that even though the subject manifested a high level of cognitive agency—a level that would ordinarily suffice for knowledge—she nonetheless lacked knowledge. Such a case highlights the point that no matter how demanding one sets the cognitive agency bar for knowledge, it will always be possible to construct an epistemic twin earth case whereby one’s

counterpart nonetheless lacks knowledge. (Moreover, note that raising the cognitive agency bar for knowledge in response to such cases would be a losing game anyway, in that it would make it harder for one to accommodate the positive epistemic dependence that one finds in testimonial cases, where very little by way of cognitive agency is required in order to acquire knowledge).

The upshot is that taking epistemic dependence seriously means endorsing a kind of epistemic anti-individualism that allows for knowledge to involve an interplay between agential and extra-agential factors. In particular, we need a formulation that excludes high levels of epistemic risk (and hence which requires safe cognitive success), but which also demands an appropriate explanatory relationship between safe cognitive success and manifestation of cognitive agency. In some conditions, the manifestation of cognitive agency will be relatively minimal but still lead to knowledge on account of the presence of positive epistemic dependence. But in other cases the manifestation of cognitive agency can be relatively high and yet not lead to knowledge on account of the presence of negative epistemic dependence. Only anti-luck virtue epistemology can accommodate these two aspects of epistemic dependence. Epistemic dependence thus entails not only epistemic anti-individualism, but more specifically the particular kind of epistemic anti-individualism presented by anti-luck virtue epistemology.²⁸

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NOTES

¹ Elsewhere, I have called this the ‘ability intuition’, and claimed that it is on a par with (though distinct from) the ‘anti-luck intuition’, where the latter is the claim that knowledge is incompatible with cognitive success that could very easily have been cognitive failure. For more on the ability intuition, see Pritchard (2009*b*, chs. 1-4), Pritchard, Millar & Haddock (2010, chs. 2-4) and Pritchard (2012*a*). For more on the anti-luck intuition, see endnote 26.

² Although this doesn’t matter very much for our purposes, it should be noted why this condition is expressed in terms of the ‘manifestation’ of cognitive agency. In order to see why, consider an example offered by Turri (2011). That a famous soccer player scores lots of goals and that he gets paid a lot of money are both facts that are explained in large part by appeal to his prodigious footballing abilities. Notice, however, that only the former fact involves a manifestation of those footballing abilities. What goes for success and agency more generally also applies specifically to cognitive success and cognitive agency. When we are trying, as part of our theorising about knowledge, to capture the relevant explanatory role of cognitive agency in one’s cognitive success, I think it is clearly the manifestation of cognitive agency that we are interested in, rather than just the more general explanatory relation that lacks this detail. Note also that from here on I will take it as given that the cognitive abilities involved in a subject’s cognitive success are the relevant ones and hence drop this particular qualifier.

³ For further discussion of modal conditions on knowledge, such as safety and sensitivity, see Pritchard (2008) and Black (2010).

⁴ Note that the notion of ‘epistemic dependence’ has been explored by a number of authors in the literature—see, for example, Hardwig (1985) and Goldberg (2011)—but often the claim in play is different (sometimes subtly, sometimes radically) to that at issue here. Accordingly the reader should set these other usages of this terminology to one side. I have explored the notion of epistemic dependence as it appears here in a number of works. See especially Kallestrup & Pritchard (2013), and also Kallestrup & Pritchard (2011; 2012) and Carter & Pritchard (*forthcoming*). The impetus for this examination of epistemic dependence comes from my earlier critical work on robust virtue epistemology and my related defence of anti-luck virtue epistemology—see Pritchard (2009*a*, 2009*b*, 2012*a*) and Pritchard, Millar & Haddock (2010, chs. 2-4).

⁵ That is, roughly, a defeater which one ought to be taking into account, even if one is in fact unaware of it.

⁶ For more on the distinction between positive and negative epistemic dependence, see Kallestrup & Pritchard (2013).

⁷ The *locus classicus* for defences of mentalism is Conee & Feldman (2004). For an influential defence of accessibilism (though not under this description), see Chisholm (1977).

⁸ See Goldman (1986) for a high-profile defence process reliabilism. See Plantinga (1993) for an influential statement of proper functionalism. See Sosa (1991; 2007; 2009; 2015) and Greco (2009) for two prominent versions of virtue reliabilism (though note that of the two virtue-theoretic proposals, it is Greco’s view which is closer in spirit to reliabilism).

⁹ See, for example, Goldman (1986, 62-63 & 111-12) on process reliabilism.

¹⁰ The clearest examples of this kind of relationship between knowledge and cognitive agency are the kind of views which I have elsewhere described as ‘strong’ or ‘robust’ forms of virtue epistemology, as advanced by such figures as Sosa (1991; 2007; 2009; 2015), Greco (2009) and Zagzebski (1996; 1999). According to these proposals, knowledge just is cognitive success that is because of cognitive agency. I critically describe robust virtue epistemology in a number of places—see Pritchard (2009*a*, 2009*b*; 2012*a*) and Pritchard, Millar & Haddock (2010, chs. 2-4).

¹¹ For more on the notion of cognitive integration, see Palermos (2014).

¹² To employ the terminology offered by Jackson & Pettit (1993), undefeated epistemic support is on this view ‘intra-world narrow’ as opposed to being ‘inter-world narrow. For more on weak supervenience, see Kim (1984; 1987), McLaughlin (1995) and Kallestrup (2011).

¹³ That said, if one has a view about defeaters such that our two agents could differ in this regard, then one should simply reinsert the ‘undefeated’ clause into the definition of unextended epistemic anti-individualism (the same goes for the extended epistemic anti-individualism thesis formulated below).

¹⁴ For a helpful discussion of Goldman’s commitment to (what we are here calling) the unextended epistemic individualism thesis, see Goldberg (2012).

¹⁵ The *locus classicus* for discussions of extended cognition—even though the target of the paper is in fact a stronger thesis, known as the extended mind thesis (see endnote 16)—is Clark & Chalmers (1998). For further discussion of the ramifications of the extended cognition thesis (and also the extended mind thesis) for mainstream epistemology, see Pritchard (2010) and Carter, Kallestrup, Palermos & Pritchard (2014).

¹⁶ That is, while the extended cognition thesis argues that a subject’s cognitive processes can be extended, it doesn’t thereby hold that a subject’s mental states can be extended. Interestingly, the classic defence of the extended mind thesis—due to Clark & Chalmers (1998)—takes extended cognition as an uncontroversial starting-point in the dialectic.

¹⁷ See, for example, Moran (2005) and Faulkner (2011). For a helpful recent discussion of this kind of proposal, see Keren (2007).

¹⁸ Interestingly, one could conceive of this view along epistemic internalist lines even though it is a form of epistemic anti-individualism. Faulkner (2011), for example, thinks that internalist epistemic support is required in order to gain

testimonial knowledge in such cases, though this functions rather as an ‘enabler’ for the transmission to occur, rather than being part of the epistemic support in virtue of which the agent knows. Even so, the epistemic internalist rubric that internalist justification is necessary for knowledge is met.

¹⁹ One could express this point about epistemic anti-individualism in the epistemology of testimony in terms of the more familiar reductionism/anti-reductionism distinction in this field. But I think this will bring in additional complications that don’t concern us here, particularly since there are a variety of ‘hybrid’ positions that lie between traditional reductionist and anti-reductionist proposals. For an excellent survey of the literature on the epistemology of testimony, see Lackey (2010).

²⁰ Interestingly, while Goldberg (2012) allows for socially extended cognitive processes, he explicitly denies that there can be non-socially extended cognitive processes.

²¹ In response to these kinds of testimonial cases, Sosa has made the intriguing remarks that his account can handle them by treating the agent’s cognitive success as being “attributable to a complex social competence only partially seated in the individual believer.” (2007, 97) It is unclear how to understand this suggestion, however, and Sosa doesn’t offer much by way of explanation. I take it that the broad idea is that whereas in standard cases of knowledge the epistemic competences on display are solely that of the individual knowing agent, in testimonial cases like the ones under consideration there is instead a shared ‘social competence’ that is displayed by the cognitive whole of a ‘testifier-and-testifiee’. The problem with this proposal is that it is entirely antithetical to the individualistic spirit of virtue epistemology as Sosa describes it. This, after all, is the view that an agent has knowledge when her cognitive success is appropriately due to her cognitive ability, and we noted above that Sosa’s understanding of cognitive ability is in terms of competences that have a physical basis resident in the subject. For further discussion of the specific elements of Sosa’s epistemology, see Pritchard (2009a) and Kallestrup & Pritchard (*forthcoming*).

²² See, for example, Putnam (1975). For a recent discussion of standard twin-earth arguments, see Kallestrup (2011, ch. 3).

²³ At least, *S* and twin-*S* are internal duplicates bar the fact that they differ to the extent that they are composed of water.

²⁴ For the original statement of the epistemic twin earth argument, see Kallestrup & Pritchard (2011). See also Kallestrup & Pritchard (2012; 2013). Note, though, that the original target of the argument is just a particular kind of virtue epistemology—*robust virtue epistemology*, as I have christened it—rather than a general point about epistemic dependence and epistemic anti-individualism. The epistemic twin earth argument is effectively a refinement of an earlier critique of robust virtue epistemology—see Pritchard (2009a, 2009b; 2012a) and Pritchard, Millar & Haddock (2010, chs. 2-4).

²⁵ If twin-*S* uttered ‘that’s water’ while demonstrating twin-water she would express the false proposition that that’s water. We assume that the concept of water as deployed on both earth and epistemic twin earth is a natural kind concept that applies to all and only H₂O. One might envisage a loophole here for someone who denies the epistemic dependence thesis if twin-*S*’s utterance has the purely descriptive truth-condition: ‘that’s water’ is true *iff* that’s watery stuff, or the disjunctive truth-condition: ‘that’s water’ is true *iff* that’s water or that’s twin-water. We find both views implausible. The presence of small amounts of twin-water on epistemic twin earth implies neither that water is a functional kind in the way that, say, vitamin is, nor that water is a disjunctive kind in the way that, say, jade is. Even those with descriptivist or semantic internalist leanings insist that, to a first approximation, ‘water’ in someone’s mouth picks out the dominant watery stuff of their acquaintance. XYZ is neither dominant nor stuff with which adequate causal connections are sustained. In fact, Chalmers (1996, 58) is explicit that if the watery stuff in our world turned out to be a mixture of 95% H₂O and 5% XYZ, the primary intension of ‘water’ would pick out only H₂O. For more details, see Kallestrup (2011, chs. 3 & 4).

²⁶ I won’t be arguing for this anti-luck/risk intuition regarding knowledge here, though I have defended it extensively elsewhere, as have others. For defences of the anti-luck/risk intuition, see Pritchard (2005; 2007; 2008; 2012a; 2012b; 2015; *forthcoming*). See also the recent exchange between Hetherington (2013) and Pritchard (2013).

²⁷ Williamson (2001) is, of course, the *locus classicus* for knowledge-first epistemology. I further discuss the question of whether anti-luck virtue epistemology should be cast along reductive or non-reductive lines in Pritchard, Millar & Haddock (2010, ch. 3).

²⁸ An earlier version of this paper was presented at the Sawyer Seminar Conference, ‘Issues in Collective Epistemology’, held at Northwestern University in October 2014. Thanks to the audience that day, and especially Sandy Goldberg and Deborah Tollefsen. Special thanks to my long-time collaborator Jesper Kallestrup—as noted in the footnotes, this paper draws on previous collaborative work that we have undertaken. This paper was produced as part of the ‘Extended Knowledge’ research project that is hosted by the University of Edinburgh’s *Eidyn* research centre and funded by a generous grant from the UK’s Arts and Humanities Research Council (#AH/J011908/1).