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Skilful Reflection as an Epistemic Virtue

Chienkuo Mi and Shane Ryan

We argue that skilful reflection makes a positive epistemic contribution to epistemic standings. We begin by setting out the dialectical context of our discussion of skilful reflection. In particular the significance of reflection for Sosa's account of knowledge and the charges laid against philosophers' use of reflection by Kornblith. In order to advance our thesis while being responsive to the dialectic we develop an account of skilful reflection. We do so by hypothesising that reflection involves both Type 1 and Type 2 processes, while remaining neutral to the charge that reflection simpliciter doesn't make a positive epistemic contribution. Drawing on our dual process hypothesis of reflection, we then outline how reflection can be skilful. Having provided an account of skilful reflection and having made the case that skilful reflection can make a positive contribution to our epistemic standings, we make the case for a Confucian based account of skilful reflection as an epistemic virtue. On this account, a central feature of such a character trait is that reflection is informed by both retrospective and perspective considerations. We next briefly assess how skilful reflection can make an epistemic contribution in a number of different domains. We return to Sosa's account of knowledge and show the role that our account of reflection as an epistemic virtue can play. More specifically, we show how both our account of skilful reflection based on the dual process theory and the Confucian based account of the epistemic virtue of reflectiveness can significantly develop Sosa's account of knowledge.

1. The Debate

Reflection has a central place in Ernest Sosa's (Sosa, 2011, 2014) account of knowledge. For Sosa, knowledge can be distinguished as either animal or reflective. The distinction is not intended to be a weighty ontological one, in Sosa's account the difference between the two is a mere matter of degrees. While animal knowledge is a brute knowing, reflective knowledge is a more sophisticated knowing.

Sosa (2011: 1-13) spells out the distinction more formally with his now familiar triple AAA account of knowledge. According to the account, believing is a kind of performance, a performance that conforms to the AAA model of performances. A performance on the AAA model of performances will have three central features that allow for assessment of that performance: accuracy, adroitness, and aptness. In a good performance all three will be present. In the case of knowledge, a belief will be accurate, meaning the belief will be true; a belief will be adroit, the belief will manifest competence – and so be appropriately reliable; a belief will be apt, the belief will be true because of competence. In other words, for Sosa, an apt belief is knowledge, or animal knowledge to be more precise. Reflective knowledge is apt belief aptly noted, a belief that is apt and is recognised to be apt because of competence.¹

While more will be said about Sosa's influential account of knowledge later, it is sufficient at this point to note that the account has its critics. One such critic is Hilary Kornblith (2012), who has offered both detailed criticism of Sosa's account, and laid down basic charges against philosophers' use of reflection in philosophy. These basic charges against reflection also pose a challenge to Sosa's account of knowledge.²

Our purpose here is not to show that Kornblith's criticisms of Sosa's account fail. Our purpose is to take Kornblith's basic charges seriously and to develop an account of reflection in response. We are, however, interested in reflection as epistemologists and, therefore, in spelling out the epistemological significance of reflection. As it turns out, Sosa's account of knowledge provides a good basis for our account of reflection when it comes to spelling out a central part of the epistemological significance of reflection. Before the end of this paper, we therefore return to Sosa's account and show the way in which this is so.

Kornblith (2012: 1) claims that philosophers have a “terribly inaccurate” view of “what reflection is” and “what it is capable of achieving”. In short, he holds that that they have mistakenly credited the use of reflection with being capable of achieving philosophically desirable ends that in

1 Indeed the different forms of knowledge also enjoy different sources with first-order knowledge being informed by the senses, testimony, etc., while second-order knowledge is informed by reflection.

2 A further challenge to Sosa's view that is relevant for our purposes comes from Stephen Grimm (unpublished manuscript). Grimm argues that reflective knowledge is not in some non-trivial way epistemically superior to animal knowledge. While we don't explore Grimm's challenge in our account of skilful reflection as an epistemic virtue, we make clear the way in which reflective knowledge is epistemically superior to animal knowledge.

fact the use of reflection is not capable of achieving. In support of his stance he draws on empirical studies which he claims to have shown that many of the processes involved in reflection are “terribly unreliable”.

He lists numerous studies showing that the way we form our beliefs may be influenced by epistemically non-significant factors such as anchoring effects, colours, and so on. (Kornblith, 2012: 23). While such examples are somewhat unsatisfying in that they are not examples that directly show reflection to be unreliable, Kornblith makes the plausible point that asking agents simply to introspect better or longer and harder, is not going to make much difference in terms of inoculating them from such biases. In short Kornblith offers a challenge to the view that reflectiveness is an epistemic virtue.

A number of defences of the use of reflection in philosophy against Kornblith's charges are possible. Here the debate has parallels with the debate about the use of intuitions in philosophy, in which an empirical literature that highlights biases to which we are susceptible and non-salient situational factors to which we may be sensitive is also drawn on. So far, however, reflection, though no less central to traditional philosophical methodology than intuition, has not received the same attention. One option for the defender of reflection is to deny that the empirical research shows that reflection is “terribly unreliable”. A similar, though more nuanced, response is to deny that this is the case with regard to reflection in areas that are of concern to us. A third option, and the one we take, is to stay neutral on the foregoing but differentiate between skilful and unskilful reflection and make the case for the positive epistemic contribution of skilful reflection.

2. The Nature and Scope of Reflection

Let us begin by getting clear as to how we should understand the scope and distinguishing features of reflection, after which we turn to the plausibility of a dual process hypothesis of reflection. While the former needs to be addressed in order to provide an adequate account of skilful reflection, it is the latter that is central to the argument advanced in this paper. The etymology of “reflection” is “a bending back” and we believe that thinking of reflection as a bending back can help us understand the notion, in particular its scope. (Etymologyonline, 2014). In fact, we take the scope of reflection to be what is suggested by Ernie Sosa's (2014) remarks on reflection. For Sosa “reflection” may be (i) “something directed or turned on itself” or (ii) reflection may be “meditation, or careful thought”. The latter suggests a very wide scope. This reading of the scope of reflection is also consistent with our everyday usage of “reflection”. Not only do we say things like “he is reflecting on what he believes”, but we also say things like “she is reflecting on what her friend meant”.

What distinguishes reflection from nearby cognitive phenomena also requires addressing for an adequate account of reflection. In particular, what distinguishes reflection from such nearby cognitive phenomena as thinking, considering, and recalling? We regard John Dewey's (1933, 9) claim that reflection is “active, persistent, and careful consideration” very plausible as a characterisation of reflection. This characterisation tells us about the nature of reflection and provides us a basis to distinguish reflection from nearby cognitive phenomena. For instance, it follows from Dewey's characterisation of reflection that reflecting is more demanding than mere thinking or considering. It can't be mere thinking or considering as it must also be active and persistent, as well as careful. The characterisation of reflection as a kind of considering also marks a difference from mere recalling.

Could there be an instance of reflection that doesn't have a feature that Dewey identifies? It's difficult to imagine a case of this. Imagine someone considering the nature of wisdom, whose mind wanders, whose consideration is not persistent, and thoughts about the previous day's meeting comes into his head. In such cases it seems better to describe his mind as wandering rather than say that he is reflecting. Of course it's in the nature of both reflection and a mind wandering that the objects of consideration can change rapidly. Reflection can involve the objects of consideration changing rapidly, while consideration remains persistent. We can also imagine someone whose mind has wandered regaining the initiative and engaging in reflection about the previous day's meeting. It's similarly difficult to imagine a case in which the features that Dewey describes are present but which we wouldn't think is a case of reflection. We take this to, at the very least, support the claim that Dewey has provided us with a good characterisation of the nature of reflection which is all we need for our purposes in this paper.

A concern at this point might be that, although we ultimately aim to provide an account of skilful reflectiveness as an epistemic virtue, the way reflection has been characterised is such that other virtues are already in play.³ Our position is that whether there is any reflection occurring, good or bad, does require a certain standard of cognitive activity to be met. Once that minimum standard is met, and so reflection is taking place, it's a separate question whether skilful reflectiveness or, more importantly for our concerns, skilful reflectiveness as an epistemic virtue is present.

3. A Dual Process Hypothesis of Reflection

We now turn to setting out our dual process hypothesis of reflection. Our first task is to explain dual process theory, a theory which is being increasingly drawn on across a wide range of debates in

³ Thanks to Heather Battaly and Jason Baehr for this point.

philosophy.⁴ According to dual process theory, “there are two qualitatively distinct forms of cognitive processing”. (Evans 2014, 130). These distinct forms of cognitive processing have up until recently widely been labelled system 1 and system 2. Jonathan St. B. T. Evans (2014) – a leading contributor to the literature on dual process theory in newer articles has, however, adopted the terms Type 1 and Type 2.⁵ Evans (2014, 130) characterises the former as “intuitive” and the latter as “reflective” and describes Type 1 processes as “fast, automatic, high capacity” and Type 2 processes as “slow, controlled, low capacity”. Elsewhere Evans (2008, 270) has written that there appears to be a broad consensus that processes of the first type are unconscious and that processes of the second type are effortful.

Frankish (2009), using the systems terminology, has described the significance of Type 1 processes to our behaviour thus:

[M]ost of our behaviour is generated without the involvement of **personal** reasoning (system 2). Think about the actions involved in such everyday activities as driving a car, holding a conversation, or playing sports. These are intelligent actions, which are responsive to our beliefs and desires (think of how beliefs about the rules of the game shape the actions of a football player), and a great deal of complex mental processing must be involved in generating them. Yet, typically, they are performed spontaneously with no prior conscious thought or mental effort. (Also quoted in Ryan (2014)).

Given the characterisation of Type 2 processes (effortful, slow and controlled), Evans characterisation of Type 2 as reflective, and our characterisation of reflection (active, persistent, and careful consideration), it is natural to count the process of reflecting as a Type 2 process. This doesn't mean, however, that there is no interaction between the two types of processes. While reflection is effortful, it's plausible that Type 1, sub-personal processes, also influence reflection in significant ways.

Plausibly, it is Type 1 processes that often account for our reflecting when we do.⁶ To think otherwise makes mysterious why we begin to reflect when we do in many cases. There are presumably less frequent cases where we are alerted to reflect by the instruction of another person

4 To give just two examples of philosophical debates in which dual process theory is drawn on see (Axtell, *forthcoming*) in epistemology and (Greene 2007) in ethics.

5 Evans (2014, 130) notes that Keith Stanovich, another leading contributor to the literature on dual process theory and the theorist who first employed the system 1 system 2 terminology, has also moved away from using the labels. Stanovich (and Toplak 2012) now also uses “Type 1” and “Type 2”. Evans lists a number of reasons for the move away from the use of the terminology, one being that the terms “system 1” and “system 2” can easily give the mistaken impression that there are just two systems at play in human cognition.

6 This claim is supported by Evans and Stanovich (2013, 236-237).

or outside party. For example, a student's reflection might be initiated because of a teacher's instruction.⁷ This helps make sense of why we reflect when we do.

Alerting us as to when to reflect plausibly isn't the only role that Type 1 plays with regard to reflection. We may reflect on various matters, such as how we should interpret a film; what she meant by saying such and such; my brother's childhood; whether I know that my conference talk is scheduled to start at 2.30pm. While reflecting, certain relevant ideas and memories will likely come to one's mind.

Although Dewey's characterisation of reflection is plausible, it is implausible that reflection need only involve deductive or analytic thought. When, for example, one reflects on how to interpret a film, it's not just analytic tools that are deployed; one likely wouldn't get very far were that the case. Associations, memories, and so on, serve an important role in fuelling one's reflections on how to interpret the film.

Not only does Type 1 provide inputs that enable reflection to proceed, Type 1 modes of cognition will often also furnish the reflector with "leads" to follow up on in the form of hunches, gut feelings, and so on.⁸ (Pelaccia et al 2011). This is important to highlight given a temptation to think of a mode of cognition as involving purely Type 1 or Type 2 processes, with reflection being thought of as involving purely Type 2 processes. Furthermore, while reflection does involve persistent, active and careful consideration such that the reflecting person takes discernible steps in her thought, the steps or range of steps that come to mind plausibly are often the product of Type 1 cognitive processes. Again, however, such leads and steps that are considered might in some cases come from instruction.

If we accept that Type 1 processes shape instances of reflection in the ways indicated, then a question that arises is what accounts for those Type 1 processes. This is of significance because it seems obvious that those Type 1 processes may lead to better or worse reflection. Type 1 processes are commonly held to arise from native and learnt responses.⁹ (Hogarth 2005, 2001). The relationship between Type 1 and Type 2 processes, however, is not unidirectional. This also applies to the relationship between the two types of processes with regard to reflection. For example, the

⁷ It may be the case that Type 1 still plays a crucial role in explaining why we begin to reflect even in the teacher case. Perhaps whether a person's words carry weight for us will also usually be determined by Type 1. (Ryan 2014). In any case, what is important for us here is just that Type 1 often lays this role.

⁸ Pelaccia et al (2011) express this thus: "The intuitive system is activated unconsciously and automatically. As a general rule, the result of this automated processing will give rise in the working memory to the genesis of one or more possible solutions. Prompting the analytical system will then allow confirmation or invalidation of the relevance of these. However, in some situations actions can be undertaken automatically and thus can come before the understanding the subject has of the situation, in order to allow a prompt intervention". (References present in the original text have been omitted for stylistic reasons.)

⁹ Our cognitive systems generally are not closed systems either. Our Type 1 responses are often the result of training or learnt behaviour from others in our environment.

kind of steps that we do take or settle on, when we engage in reflective thinking, when repeated, may become habit and so feed into Type 1 processes. Taking these steps may eventually become automatic and arise from Type 1 processes.

Reflection is simply a cognitive process in which we can engage, just as we can engage in recalling or thinking. Nevertheless, it's plausible from what has been said so far that reflection may be more or less skilful. As has been discussed, it's plausible that reflection is influenced by habits of mind and native responses. It's also plausible therefore that a person who has epistemically virtuous habits of mind and native responses is more likely to have skilful reflection that makes a positive epistemic contribution to that person's epistemic standings than a person who has epistemically vicious habits of mind and native responses.

For example, if someone is intellectually courageous, fair- and open-minded, and so on, and these epistemic virtues are understood as implying dispositions of thinking or believing, as is commonly held in the literature, then this person's reflection is more likely to be epistemically virtuous – certainly according to responsibilist lights. Similarly, if reflection draws on powers or faculties of an agent (perceptual powers, memorial powers, and so on), then this person's reflection, is more likely to be epistemically virtuous according to virtue reliabilists.

A question such a way of conceiving of skilful reflection as a virtue raises is whether there is a particular virtue of skilful reflectiveness. It might be thought that skilful reflection is just made up of various elements that might be thought of virtues themselves. There is reason to think that although skilful reflectiveness does involve a number of epistemic virtues, it is not simply the sum of a number of epistemic virtues.

Reflection, after all, requires a suitable interaction between those virtues. For this reason we count skilful reflectiveness as a distinct epistemic virtue, albeit one that requires the exercise of other virtues.

4. A Confucian Account

What we have said so far explains how reflection can be skilful and what being skilful involves. But can we say anything more about the dispositional responses of an agent with the virtue of skilful reflectiveness? As far as we can tell, there hasn't been an account of the virtue of reflectiveness or skilful reflectiveness in the Western virtue epistemological tradition. There is, however, the basis for an account in the Eastern virtue tradition.

On a Confucian account, the virtuous reflector's dispositional responses will be informed by what we call perspective and retrospective components. Mi (forthcoming). By “perspective

component” we are referring to perception, reasoning, and ideals or goals strived for, while by “retrospective components” we are referring to memories, trained responses, and states or situations we are seeking to avoid. For an epistemically virtuous agent, the ideals and goals strived for will be epistemically appropriate ideals and goals, while that which the epistemically virtuous agent seeks to avoid will be epistemically appropriate to avoid.¹⁰

The effect of being informed by the retrospective component is that the virtuous agent is disposed to look back carefully on what has been learnt or believed when appropriate. Possession of the perspective component of epistemically virtuous reflectiveness results in a disposition to think carefully ahead. The former component is usually characterized by the Chinese word “省”, and the latter by “思”. Both components appear in Confucius's *Analects*, as we can see in the following example of their usage:

The philosopher Zeng said, “I daily reflect (省) on myself with regard to three points: whether, in transacting business for others, I may have been not faithful; whether, in intercourse with friends, I may have been not sincere; whether I may have not mastered and practiced the instructions of my teacher.” (*Analects*, “Xue Er”: 4).

Ji Wen thought (思) thrice, and then acted. When the Master was informed of it, he said, “Twice may do.” (*Analects*, “Gong Ye Chang”: 20).

The Master said, “When we see men of worth, we should *think* (思) of equaling them; when we see men of a contrary character, we should turn inwards and *reflect* (省) on ourselves.” (*Analects*, “Li Ren”:17).

The lesson of the last passage is that we should learn from people of worth (moral or intellectual) and think carefully about how we can perform as well as they do in future. The perspective component of reflection directs us to look ahead and carefully consider the right way to act or perform. Reflection as perspective reflection (or 思) as such is required for the appropriate guiding of the mind of its possessor. On the other hand, we can also learn from those that are less worthy by examining our own past behaviour and whether we have also been similarly less worthy. The retrospective component of reflection (or 省) plays a role like a warning alarm, drawing on beliefs, thoughts, and representations of the agent. This component of reflection can warn an agent if she is

¹⁰ We want to stay neutral at this point as to what should be strived for and what should be avoided. The usual candidates for what should be strived for are truth or knowledge, while it's commonly held that we should avoid falsehood.

moving in the wrong direction or getting close to making a mistake.

On this account, skilful reflectiveness as an epistemic virtue can guide or improve our first-order beliefs or thoughts. It can both guide us as to how we should form our belief in a given situation, while also warning us off previously experienced or noted mistakes in belief formation. While this is admittedly somewhat sketchy as an account of the dispositional responses of an agent with the virtue of skilful reflectiveness, we take what has been said here to supplement what we have already said about how reflection can be skilful. Later we explain how our account of the virtue of skilful reflectiveness can develop Sosa's account of knowledge and show how skilful reflectiveness makes a positive contribution to the epistemic standings of an agent.

5. The Epistemic Contribution of Skilful Reflection

Having set out the dual process hypothesis of reflection and how skilful reflection on such a hypothesis is possible, let us consider how this helps show that skilful reflection can contribute to the epistemic standings of an agent.

Skilful reflection has a crucial role to play with regard to our epistemic standings in the domain of philosophy. Philosophy, traditionally, is a subject that is concerned with discovering the underlying reality of things. In this spirit, philosophers have asked questions such as what is right and wrong?, what are the basic building blocks of our world?, what is knowledge?, and so on. One reason reflection has this special role in philosophy is because reflection plays a special role in our treatment of appearances. By reflecting on, say, how something initially looks, moral mores, what is taken to be the case in different fields, we may go beyond appearances and start to do philosophy.

Reflection can also play a productive role. Reflection also is a process by which we may construct or conceive of alternatives to appearances. Good scientific, philosophical, and religious hypotheses, and many of our theories, are the result of skilful reflection. Such hypotheses and theories plausibly contribute greatly to our understanding of the world around us and furnish us with many more truths than we would have without reflection.

How things appear will often be the product of a background theory. Skilful reflection can positively influence Type 1 processes epistemically; skilful reflective thinking can, and often does, play a role in the training of Type 1 processes. (Bortolotti 2011). For example, the trained chess player can be expected to have had to reflect on moves that she can later simply “see”. Similarly, the morally virtuous agent, who on many accounts will also have trained and reflected, comes to see the world in moral colour. (Fricker 2007). Reflection can thus play a role not only in scrutinising appearances but also in generating appearances. Skilful reflection is likely to generate appearances

that promote truth and understanding.

While what we've said here gives us an example of how skilful reflection can make a positive epistemic contribution in a particular domain, and provides us with the beginning of an answer as to the role of reflection in philosophy, our major concern is with the epistemic contribution that skilful reflection can make to our epistemic standings.

6. Reflective Knowledge

Earlier in this paper we highlighted the centrality of the role that reflection plays in Sosa's account of knowledge, a leading virtue epistemological account of knowledge in the literature. We noted that the epistemic contribution of skilful reflectiveness, can be seen when apply our account to Sosa's theory of knowledge, with which we observed it fits well. In providing our account of skilful reflectiveness we argued for a dual process hypothesis of reflection and an account of skilful reflection informed by a Confucian approach. We now seek to show that our account of skilful reflectiveness is indeed a good match for Sosa's account of knowledge and that matching that account with Sosa's account does indeed show the epistemic contribution of reflection to the gaining of reflective knowledge. In doing so, however, it should be noted that we are making an interpretation of Sosa's account of knowledge based on various published materials articulating his account. On various points, writers have been unsure how to interpret Sosa's account or have found his account to be ambiguous. See for examples, see Jack Lyons (2013) and Reed (2012), Grimm (unpublished manuscript). We make explicit, where relevant to our overall purpose – showing the epistemic contribution of skilful reflectiveness, a particular reading of Sosa's account.

Our dual process hypothesis is not only consistent with Sosa's account of knowledge, but also develops his account of knowledge. It does so by clarifying what reflection as a competence, skilful reflection, is, and how it contributes to our epistemic standings. Recall that for Sosa reflective knowledge is a second-order knowledge, reflective knowledge is apt belief, aptly noted. The noting of the aptness of the belief is where reflection comes in on Sosa's account. The second-order nature of knowledge that Sosa identifies is competently noting that one's own belief (first-order) was apt.

This, perhaps, is best brought out by some examples. Let's start with a good and easy case. It's a good case in which the protagonist has reflective knowledge and it's an easy case in that it's obvious that reflection is involved. Suppose John sees a cheetah. He believes he has seen a cheetah and reflecting upon whether he's right to believe he has seen a cheetah, he reflects on whether what he saw really was a cheetah and not some nearby alternative, say a leopard, whether he has perceptual competence in the circumstances in which the belief was formed, and whether he got a

true belief because of competence. John competently endorses his apt belief and thereby enjoys reflective knowledge. Zarina, a park ranger accompanying John, who on many occasions has seen cheetahs, doesn't pay any special, conscious attention to whether on this occasion what she has seen is or was in fact a cheetah. Rather, through her years of experience working in national parks with cheetahs, leopards, jaguars, and so on, she has honed an excellent sensitivity to certain visual details such that in normal conditions were what she saw not a cheetah, then she would not have believed it was a cheetah. In this case it's natural to think that Zarina's knowledge should be at least as epistemically good as John's, but we're faced with a challenge as to why it should be termed "reflective". After all we have endorsed the view that reflection involves careful, persistent, and active considering, yet we're not saying that Zarina does this with regard to her particular belief on this occasion. So what's going on?

For the sake of simplicity, let's first consider Zarina's reflective knowledge regarding the presence of the cheetah, before turning to her knowing full well that she has seen a cheetah. Were Zarina asked whether she knows that her belief is apt, we would expect Zarina to be able to answer in the affirmative. We expect when her second-order mechanisms are turned to her belief she will be able to endorse that belief epistemically. She'll be able to competently confirm that she formed her belief in circumstances such that she could and does know that she saw a cheetah. She'll have the requisite knowledge to know what those circumstances are.

With regard to knowing full well, what we can say here is that reflection has informed Zarina's belief that what she sees is a cheetah. When she looked and saw the cheetah, she was also on the look out for relevant details that would let her know, had she seen them, that shouldn't believe that what she had seen was a cheetah. She also made quick and unconscious inferences as to the appropriateness of her belief as it was being formed. That skilful reflectiveness played this role in her achieving knowledge supports the view that she knows full well where knowing full well and animal knowledge are to be understood along a spectrum.

Knowing full well, rather than being the conjunction of apt belief and that belief being aptly noted, is an apt belief because of a second-order competence. In other words, the agent who knows full well doesn't just have a right brute belief and a right second-order competence. The agent who knows full well has the right first-order belief because of having the right second-order competence or reflective knowledge. Zarina knows full well when reflective knowledge guides the aptness of her first-order belief, such as when her zoological learning allows her to see that what she sees is a cheetah.

It's reflective knowledge that is applied to believing rather than necessarily reflection itself. Reflection itself would require active, persistent, and careful consideration, whereas reflective

knowledge need not. “Reflective knowledge” tells us about the aetiology of the knowledge, rather than that the process of reflection is ongoing when an agent forms her belief. That the Zarina case can be counted as a case of knowing full requires that the process of reflection needn't be ongoing. After all, she just sees that the creature is a cheetah, she doesn't engage in active, persistent, and careful consideration.

Thinking about reflection on the dual process hypothesis helps us see how reflective knowledge can play the role outlined above. Reflection and reflective knowledge may inform Type 1 processes. The learning of the paramedic or grandmaster chess player allows him to see the salient features of relevant cases and to act accordingly. His first-order competences, at least in the relevant domains, have become guided by second-order competences in exactly the way that we explained that reflection can feedback into first-order mechanisms. But this, and the characterisation of the nature of reflection we've endorsed means that it's not reflection directly doing the work in such cases. Although this is the case, these responses are occurring at Type 1 level, reflective knowledge has been the source of Type 1 developing along these lines.

Aside from reflection just being a process that can ultimately bring knowledge to bear on the belief forming process, reflection is also a process that promotes the consistency of beliefs. When an agent knows full well, what knowing full well is is such that knowing full well will be the product of reflective knowledge, or another set of beliefs. Reflective knowledge when applied, then, not only can guide new beliefs but if those new beliefs are to amount to knowing full well then they will fit with other beliefs held by the agent. Reflective knowledge, implying skilful reflection, is best understood as playing this role on the dual process hypothesis of skilful reflection.

Now let's take a look at a bad case, that is a case in which the protagonist reaches no higher than animal knowledge. Consider the following case:

Suppose there is a county in the Midwest with the following peculiar feature. The landscape next to the road leading through that county is peppered with barn-facades: structures that from the road look exactly like barns. Observation from any other viewpoint would immediately reveal these structures to be fakes: devices erected for the purpose of fooling unsuspecting motorists into believing in the presence of barns. Suppose Henry is driving along the road that leads through Barn County. Naturally, he will on numerous occasions form false beliefs in the presence of barns. Since Henry has no reason to suspect that he is the victim of organized deception, these beliefs are justified. Now suppose further that, on one of those occasions when he believes there is a barn over there, he happens to be looking at the one and only real barn in the county. This time, his belief is justified and true. But since its

truth is the result of luck, it is exceedingly plausible to judge that Henry's belief is not an instance of knowledge. (Ichikawa and Steup, 2014, originally from Goldman and credited to Ginet, 1976).

While Sosa has argued that Henry has animal knowledge, Henry falls short of reflective knowledge and knowing full well.¹¹ His usual second-order competence for perceptual belief does not extend to such a case. That he believes truly because of an ability is not something he aptly notes and, lacking in the relevant reflective knowledge, he doesn't know full well that he sees a barn.

While so far we have explained how a dual process hypothesis of reflection can explain the epistemic contribution of skilful reflection with regard to knowing full well when married to Sosa's account of knowledge, it's also our position that the Confucian model of skilful reflection helps to develop Sosa's account.

The Confucian model of reflection as an epistemic virtue provides an answer as to how reflection can help with the epistemological problem of scepticism, and in so doing indicates a further epistemic contribution of skilful reflection. On a Confucian model of the virtue of reflectiveness, the agent must both aim at a good and seek to avoid past mistakes. While Henry is aiming at truth, and gets it when he believes the truth, we can interpret the description of the case as such he doesn't pay attention to past cases in which he goes wrong or consider any sceptical possibilities. If he were to do so, then he might not so simply believe as he does in the case. At the least we would expect him to be more cautious in his belief. Of course it would be costly to consider such sceptical possibilities and far fetched error possibilities in every case. Given what has been said about skilful reflection on a dual process model, however, there needn't be reflection in every case. An epistemic contribution is being made if his belief regarding what he sees is being grounded by his reflective knowledge. If his reflection is skilful, then his belief that he sees a barn will be tempered by the relevant error possibilities. It will be excusable for him to go ahead and believe he sees a barn, after all there is nothing that indicates to him as he's looking into the field that he's in a bad epistemic environment.

Our situation may well be such that we can never rule out all errors, but we do epistemically better when we rule out errors, therefore, even if the skilful reflector doesn't gain reflective knowledge and knowledge full well in the barn-facade case, it's right that if his believing has been informed by skilful reflection then that he has performed better epistemically than someone whose belief was not so informed at all. While this might be odd on some accounts of knowledge, on

11 For a nearby alternative treatment of this case, see Greco (2009, 2010). For a criticism of that treatment, see Ryan (2014b).

Sosa's account, in which knowledge is a matter of degree and a body of one's beliefs can be made significant for belief in a target proposition by reflective knowledge this is exactly right. A further aspect of this is that if a epistemically good basis for believing in the face of such scenarios, when those scenarios actually aren't in play, that is when one is in normal barn country, when one is not a brain in a vat, then, again, one is doing better epistemically than were one not to find such a basis. This doing better epistemically will often be apparent in contexts of deliberation; the person doing better epistemically will be better able to hold on to their beliefs when challenged than an agent whose belief hasn't been grounded in reflective knowledge.

A further attractive feature of the account we have provided is that, although it does not eliminate them entirely, it goes some way towards reducing tensions both between internalism and externalism, and virtue reliabilism and virtue responsibilism. One sympathetic to internalism about epistemic justification might hold that reflection can be skilful without reflection drawing on the powers or faculties of an agent. The motivation for such a move might be the thought that despite doing what reflection characteristically requires, and being informed by virtuous habits of mind, an agent could be a brain in a vat. For those with such sympathies, reflection without any such faculties can still make a positive epistemic contribution. Our position and our interpretation of Sosa's position is such that internalist type knowledge can make a positive epistemic contribution in just the way that reflective knowledge makes an epistemic contribution, though we deny that internalist justification that is not connected to reliable mechanisms or competences can make an epistemic contribution.

Our own position here, and Sosa's (2011) position, is that if a process being grounded in an agent is to make a positive epistemic contribution to that agent's epistemic standings then that process must itself be reliable or enhance another process that is already reliable. Nevertheless, within our account of skilful reflection making an epistemic contribution, responsibilist requirements do feature.¹² Skilful reflection on our account, given its nature, must be something that as a process takes place at a personal level and for it to make a positive epistemic contribution, it must be informed by the kind of epistemically virtuous thinking that responsibilists identify. Nevertheless, it is the product of skilful reflection, reflective knowledge that is crucial for going beyond mere animal knowledge and being able to withstand sceptical challenges.

7. Conclusion

In this paper we have defended skilful reflection as an epistemic virtue. We've done so by arguing

¹² While internalism and responsibilism need not go hand-in-hand, within virtue epistemology they tend to do so.

for the plausibility of a dual process hypothesis of reflection and arguing that this hypothesis allows us to differentiate between skilful and unskilful reflection, thereby showing the ways that skilful reflection can make a positive epistemic contribution to our epistemic standings. Furthermore, we've set out an account of reflection as an epistemic virtue, drawing on a Confucian based account of reflection to do so. Finally, we showed how our account of skilful reflection as an epistemic virtue can make sense of the significant role that Sosa assigns to reflection in his account of knowledge.

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