Knowledge and its Value

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Abstract

This paper concerns questions of value in regards to truth and knowledge. Beginning with a cursory outline of the value of truth, I then go on to investigate the value of knowledge in terms of a few specific questions collectively known as the *value problem*. These questions are prompted by consideration of the commonly held view that knowledge is of distinctive value. Firstly, knowledge seems to be more valuable than mere true belief. Secondly, given the value importance bestowed upon it, knowledge should have a greater value than anything which falls short of knowledge. Thirdly, does knowledge have not only a greater quantity, but also a different quality of value than whatever falls short of knowledge? I begin my response to the value problem by proffering a technical argument in support of the view that knowledge does have greater instrumental epistemic value than mere true belief. I then go on to document some recent discussion on the promise of virtue epistemology in addressing the value problem, in which it is argued that whilst this approach is a promising way to respond to the value problem, it fails as a successful account of knowledge. This leads to an assessment of an information-theoretic approach to epistemology against the value problem. I conclude with a brief look at an alternative, revisionary response to the value problem.

Truth is good. To begin with, it has instrumental value, as true belief is a primary factor in successful action. We generally prefer to form and act upon true beliefs over false ones since we are more likely to get what we want. As William James remarked, truth 'is the good in the way of belief'([9], pg. 42.) On top of this, it is reasonable to think that truth is more than instrumentally valuable. Most of us at one time or another have wanted to know the truth of a matter for its own sake, indeed as Michael P. Lynch writes, "curiosity is not always motivated by practical concerns".([10], pg. 502.) Even if there were no practical consequences or differences between a belief being true or false, we would surely prefer it to be true and we would also prefer to not believe in trivial falsehoods.([10], pg. 502.) Furthermore, it can be said that we have a second-order desire for having true beliefs, in that we not only desire the truth, but desire to desire the truth([10], pg. 504.) Given all of this, it is fair to say that true belief is an epistemic good and truth an appropriate object of value.

Since knowledge encapsulates truth[1], it follows that if truth is an appropriate object of value, then so is knowledge. This much is clear. However, it is widely thought that knowledge is of distinctive value, that the value of knowledge is distinct not only from the value of its core constituent true belief, but also from whatever falls short of knowledge. Explaining just why knowledge is distinctly valuable, something termed the *value problem*, is to what I shall now turn.

The term *value problem* is taken from Duncan Pritchard, who uses it in his paper 'The Value of Knowledge'([12]). In this paper, he defines three levels of the value problem. The *primary value*

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[1] If S knows that p, then p must be true.

problem is to explain why knowledge is more valuable than mere true belief. The *secondary value problem* is to explain why knowledge is more valuable than any proper sub-set of its parts. The *tertiary value problem* is to explain why knowledge has not just a greater but also a different kind of value than whatever falls short of knowledge.

To what extent should an account of knowledge be judged based on how it deals with the value problem? Should the value problem be a predominant influential factor in the shaping of an account, or merely an aside consideration. I place the significance of the three value sub-problems in decreasing order. Firstly, a successful account of knowledge should have a response to the primary value problem. Secondly, it is important that a successful account be able to accommodate the secondary value problem. Thirdly, whilst it would not be a bad thing for an account of knowledge to be able to answer the tertiary problem, I am not sure that a promising account should be rejected on the basis that it was not able to accommodate the tertiary value problem. At any rate, as I discuss later on, it is arguably not necessary for knowledge to be pitted in a victorious 'value battle' against mere true belief in order to justify our particular focus on knowledge in epistemological theorising. So in addressing this issue, one can seek a *validatory* answer by offering an explanation of why knowledge *is* distinctively valuable or a *revisionary* answer by offering an explanation of why although knowledge *is not* distinctively valuable, we are inclined to think of it as so.([13], pg. 1.)

Beginning with the *primary value problem*, it is firstly important to note that when arguing for the case that knowledge is more valuable than true belief, we are not committed to saying that knowledge is *always* of greater value than corresponding true belief, for cases are conceivable where the true belief that p is of no lesser value than the knowledge that p. Rather, we are committed to the more modest task of arguing that knowledge is *typically* of greater value than corresponding true belief. An answer to the primary value problem is to be sought here in terms of instrumental value. Taken in isolation, the mere true belief that p will be of just as much instrumental value as the knowledge that p. After all, as Socrates notes in Plato's *Meno*, a true belief about the correct way to the city of Larissa is of just as much instrumental value as knowledge of the way to Larissa; both, if acted upon, will get one to Larissa. Despite this, I contend that overall (i.e. not just with regards to the goal of the true belief) the knowledge that p will generally encompass a greater quantity of instrumental value (in terms of true belief) than the mere true belief that p. In order to discuss this idea in more detail, consideration of the 'swamping problem' serves as a good starting point. A standard explication of this problem, due to Linda Zagzebski is as follows:

> Imagine two great cups of coffee identical in every relevant respect - they look the same, taste the same, smell the same, are of the same quantity, and so on. Clearly, we value great cups of coffee. Moreover, given that we value great cups of coffee, it follows that we also value reliable coffee-making machines - i.e., machines which regularly produce good coffee. Notice, however, that once we've got the great coffee, we don't then care whether it was produced by a reliable coffee-making machine. That is, that the great coffee was produced by a reliable coffee-making machine doesn't contribute any additional value to it. In order to see this, note that if one were told that only one of the great identical cups of coffee before one had been produced by a reliable coffee-making machine, this would have no bearing on which cup one preferred; one would still be indifferent on this score. In short, whatever value is conferred on a cup of coffee through being produced by a reliable coffee-making machine, this value is swamped' by the value conferred on that coffee in virtue of it being a great cup of coffee.([14], pg. 3.)

Although this example specifically relates to reliabilist theories of knowledge, a more general point can be extracted and applied to other epistemological accounts. The gist is that if a property

[like that of being reliably formed for beliefs] is only instrumentally valuable relative to some further good (e.g., true belief or great coffee), then in cases where the further good in question is acquired, the presence of the instrumentally valuable property confers no further value. So as another example, if justification is only instrumentally valuable relative to true belief, then in cases where true belief is acquired, the justification involved in its formation confers no further value.

Does the swamping problem in effect show that there can not be anything (including knowledge) more epistemically valuable than mere true belief? To get a better hold of the question, here is an expression of the swamping problem given by Pritchard, in terms of an inconsistent triad of claims([14], pg. 5.):

(1) The epistemic value conferred on a belief by that belief having an epistemic property is instrumental epistemic value relative to the further epistemic good of true belief.

(2) If the value of a property possessed by an item is only instrumental value relative to a further good and that good is already present in that item, then it can confer no additional value.

(3) Knowledge that p is sometimes more epistemically valuable than mere true belief that p.

Now, since it follows from (1) and (2) that (3) is false, these claims are jointly inconsistent. So what modifications could be made to resolve this inconsistency? Claim (2) seems right, therefore I will take it as the first to remain. Claim (3) is the first to question. Whilst (3) is a claim which I would ultimately like to endorse, even if it were to be rejected, there are still other notions of value besides epistemic value which one could appeal to in order to support the claim that all in all knowledge has greater value than true belief.

For instance, knowledge can be said to have greater *practical* value than mere true belief. This type of response is taken up by Plato in the *Meno*, where it is noted that although a true belief about the correct way to Larissa is of just as much instrumental use as knowledge of the way to Larissa, someone who has knowledge about the way to Larissa might have certain practical advantages over someone who only has a true belief about the way to Larissa. For example, if the path starting off on the journey looks dubious, the person without knowledge might be tempted to turn back, whereas the other person will continue down the path certain with the knowledge that it is the correct path([15]). So despite the swamping problem, any greater value of knowledge over mere true belief need not be understood only in terms of instrumental value relative to the good of true belief, for there could be other benefits of having knowledge over mere true belief.

Given this, one option is to accept (1) and (2) whilst replacing (3) with a more general claim about the greater value of knowledge, "that knowledge is generally of greater all things considered value than mere true belief whilst simultaneously granting that from a purely epistemic point of view there is no additional value to be had".([14], pg. 7.)

But we shouldn't be too hasty in settling for such a relaxing modification to (3). For starters, the claim only requires that we explain why knowledge is *sometimes* more epistemically valuable than mere true belief, a less burdensome task than explaining why knowledge is *always* or *often* more epistemically valuable than mere true belief. Also, consider the following situation:

> Suppose that someone comes to you and says that in a moment one of two scenarios will obtain: either one will have a true belief that p or one will have knowledge that p (where one does not know which proposition is at issue). Furthermore, it is stipulated that all the practical consequences are kept fixed in both scenarios, so there will be no practical benefit to choosing the one option over the other. Nevertheless, shouldn't one

choose knowledge rather than mere true belief?([14], pg. 8.)

Unlike those who defend (3), those who deny it outright or settle for a relaxed version as just discussed, seem unable to account for this intuition. So predictably one is led to a consideration of claim (1). This claim is susceptible to scrutiny by those who can argue that a value conferred on a belief by that belief having an epistemic property can be of a value type other than *instrumental* epistemic value. But prior to considering this type of strategy, I would like to expound a technical argument for the case that knowledge that p is sometimes more epistemically instrumentally valuable than mere true belief that p. I would say that where in this apparently inconsistent triad of claims this argument fits is a leak resulting from the fact that (1) and (2) do not speak sufficiently for knowledge to rule out (3).

Now, a 'template' definition of knowledge that identifies the core element of true belief will suffice for the technical argument I have in mind. This simple definition consists of

(1) Truth

(2) Belief

(3) X

where X is a set of 1 or more conditions. The basic idea is that knowledge that p, because of the X component (whether it include justification, reliability, undefeatibility, etc.), is generally of more instrumental epistemic value than mere true belief that p, because it generally encompasses or leads to more true beliefs and less false beliefs, it is 'truth conducive'.

To help get this point across, I would first like to emphasise that as I see it, the swamping problem is limited in what it covers. Comparing the knowledge that p against the mere true belief that p is not just about comparing the true belief that p which is a constituent of knowledge against the mere true belief that p. Overall, it is about comparing the *knowledge* that p, including all it involves, against the mere true belief that p. Thus, one can argue that there is something, other than the constituent true belief that p, which is involved with the knowledge that p and which makes it, *ceteris parabus*, more instrumentally valuable. Here are some varied examples to help convey this notion. The first example, although simple and by no means definitive, is a good starting point.

Often knowledge of something involves other true beliefs, whereas its corresponding mere true belief simply does not. Consider a situation where Bob and John form beliefs about who attended a party. Bob guesses correctly that Tony went to the party. John on the other hand, has the knowledge that Tony went to the party via this deductive process:

- Tony or Terry went to the party.

- Terry did not go to the party.

- Therefore Tony went to the party.

So the knowledge that 'Tony went to the party' involves the knowledge that 'Terry did not go to the party'; in this case, there are two true beliefs associated with the knowledge that 'Tony went to the party'. Bob on the other hand has one true belief and a 50% chance of guessing that 'Terry did not go to the party'. Of course, the knowledgeable true belief that p is not necessarily tied

to any other related true beliefs as it is in this case. For example, John's knowledge could have been obtained via a direct process, like him seeing Tony at the party or someone telling him that Tony went to the party, and in these cases the true belief would stand alone. But the general point remains that at least sometimes, probably more often than not, the knowledge that p involves one or more extra true beliefs on top of the true belief that p. Furthermore, cases along a continuum can be conceived that strengthen this point, leading to examples where the knowledge that p in some sense necessarily requires the knowledge, hence true belief, that q (K$p \supset$ Bq). Take this simple mathematical example. Suppose someone thinks about the question 'how many factors does the number 152 have?'. If they were to form the mere belief that '152 has 6 factors', their belief would be true, requiring no other true beliefs. If, on the other hand, they wanted to *know* that '152 has 6 factors', they would proceed by calculating the factors of 152. In doing so, it follows that they would also come to have the true belief that '1, 2, 4, 38, 76 and 152 are factors of 152'.

The next example hones in on the idea that knowledge, unlike mere true belief, can be used as an instrument in the subsequent generation of other true beliefs. Thus, whilst the mere true belief that p and the knowledge that p might have the same immediate instrumental value, often the instrumental value of knowledge is potentially greater overall.

Here is an abstract example couched in formal logical terms. The situation includes a bunch of facts, represented by the following set of atoms:

$$\{\text{A}(a), \text{B}(a), \text{C}(a), \text{A}(b), \neg \text{B}(b), \neg \text{C}(b)\}$$

Two people, Bob and John, use the pieces of information that A(a) and B(a) to form the true belief that C(a). However, Bob does so with the following reasoning, which though consisting of a false universal statement, generates a true belief about a nonetheless:

$(\forall x)(\text{A}(x) \supset \text{C}(x))$
$\text{A}(a), \text{B}(a)$
$\therefore \text{C}(a)$

So although Bob's belief is true, it is not knowledge. John, on the other hand, forms the true belief that C(a) with the following veracious, valid deduction, hence he comes to have the knowledge that C(a):

$(\forall x)((\text{A}(x)\&\text{B}(x)) \supset \text{C}(x))$
$(\forall x)(\neg(\text{A}(x)\&\text{B}(x)) \supset \neg\text{C}(x))$
$\text{A}(a), \text{B}(a)$
$\therefore \text{C}(a)$

Bob goes on to use his true belief that C(a) as does John, and the fact that only John has the knowledge makes no difference in the success of their outcomes. They subsequently come across the following two pieces of information and need to act upon a belief concerning C(b):

$\text{C}(a) \supset \text{A}(b)$
$\text{C}(a) \supset \neg\text{B}(b)$

Along with this new information, in order to form his belief about C(b), Bob uses his true belief that C(a) along with the false deduction he used to form it. This time however, despite the deduction being valid, the false universal statement he once again uses leads to a false belief that C(b):

C(a) ⊃ A(b)
C(a)
∴ A(b)
($\forall x$)(A(x) ⊃ C(x))
∴ C(b)

John, on the other hand, armed with the knowledge that C(a), is once again able to form another true belief via the following veracious, valid deduction:

C(a) ⊃ A(b)
C(a) ⊃ ¬B(b)
C(a)
A(b)&¬B(b)
($\forall x$)(¬(A(x)&B(x)) ⊃ ¬C(x))
∴ ¬C(b)

Now when the time comes to act upon their beliefs, John succeeds whereas Bob fails. So in the long run, he who has knowledge over mere true belief has the greater true belief generation potential.

With the point of these examples, the epistemic instrumental value of the knowledge that p is being assessed in terms of not only the constituent true belief that p, but also any other true beliefs that it encompasses or leads to. Put simply, if the knowledge that p also encompasses or leads to the true belief that q and Value(Belief(p)) + Value(Belief(q)) > Value(Belief(p)), the knowledge that p would overall have greater instrumental epistemic value than the mere true belief that p, in virtue of the fact that it generates a greater overall quantity of true belief. Under these terms, whilst the knowledge that p would not be of greater value than the mere true belief that p *plus* the mere true belief that q, such a response to my argument would miss its crux. If there is possibly going to be a greater total instrumental value (in the way of extra true beliefs) associated with the knowledge of a *single* proposition as opposed to the mere true belief of *that single* proposition, then that is grounds for the claim that knowledge that p is of greater epistemic instrumental value than mere true belief that p, and a reason for preferring the former over the latter.

Furthermore, knowledge is not only going to result in more true beliefs, but also less false beliefs. As a simple example, take John, who is waiting at home for his friend Peter when he hears someone knocking on his front door. He believes that the person at the door is his friend Peter and hence forms the belief that the person at his door has a name that starts with 'P'. As it turns out, the person at the door does have a name that starts with 'P', so his derived belief is true. However, the person who is at the front door is actually another one of John's friends, namely Paul. Compared with the mere true belief which John has, that the person at his door has a name that starts with 'P', if John had had the knowledge of this fact instead, say, because he knew it was Paul due to a certain pattern to the knock that only Paul does, then John would have had two true beliefs instead of one true belief and one false belief.[2]

Linda Zagzebski writes "in the sense most commonly discussed by reliabilists, truth conduciveness is a function of the number of true beliefs and the proportion of true to false beliefs generated by a process".([18], pg. 465) So couched in these terms, the point here is that the knowledge that p is more *truth conducive* than the mere true belief that p, and truth conduciveness is translatable to epistemic instrumental value.

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[2]This type of example was adapted from Bertrand Russell ([16], pg. 131.). It is an early example of arguments found in Russell's work on epistemology that cover Gettier-notions several decades before Gettier's paper.

On a brief final note, there is perhaps another way to look at the epistemic instrumental value of knowledge that is independent of any appeal to the value of constituent true belief. Zagzebski continues

> There is another sense of truth conduciveness, however, which is important at the frontiers of knowledge and in areas, like philosophy, that generate very few true beliefs, no matter how they are formed. I suggest that we may legitimately call a trait or procedure truth conducive if it is a necessary condition for advancing knowledge in some area even though it generates very few true beliefs and even if a high percentage of the beliefs formed as the result of this trait or procedure are false.([18], pg. 465)

This other sense of truth conduciveness can be tied in with another way in which knowledge has greater instrumental epistemic value than mere true belief. Basically, the X component of knowledge can be seen to have this type of truth conduciveness by comparing mere false belief with 'false knowledge', where 'false knowledge' consists of

(1) Falsity

(2) Belief

(3) X

Although a mere false belief that p is valueless, the 'false knowledge' that p could still be truth conducive in this sense in virtue of X.

Whilst I have just shown that it is unnecessary to appeal to a type of value other than instrumental epistemic value in addressing the primary value problem, the other value problems, particularly the tertiary, prompt consideration of other types of values which could be associated with knowledge. In ([12]) Pritchard points out that Zagzebski's 'swamping problem' argument fails to recognise an important value-theoretic distinction, that something can have non-instrumental, extrinsic value. It can have *final value*, where it is valued for its own, non-instrumental sake. For example, consider

> a book printed on the first ever printing press and an exact replica produced by lasers. We would undoubtedly value the former more than the latter even though we can accept, for the sake of argument, that these two objects have the same relevant intrinsic properties. Moreover, we would value the former for its own sake, quite apart from what instrumental value it had. The difference in value, however, is clearly due to the relational properties of the objects concerned . The reason for this difference in value is that a book printed on the first ever printing press, unlike an exact replica, has final value - it is valuable for its own sake because of how it is produced.([12], pg. 6.)

Thus if another type of epistemic value as such can be found, it could be used to resolve the tertiary and *a fortiori* the secondary value problems. Exploring this avenue, Pritchard considers the applicability of virtue epistemology in this approach to a resolution. According to virtue epistemology, knowledge is true belief resulting from epistemic virtue. Virtue-theoretic accounts of knowledge

> hold that knowledge is to be understood as true belief that arises out of one's intellectual [epistemic] virtues. There are various ways of understanding the intellectual virtues,

some more permissive than others, but the common thread is that such virtues are at least reliable cognitive traits which are stable parts of one's cognitive character([12], pg. 7.)

The problem with a basic reliabilist virtue theoretic account is that it is still susceptible to some Gettier-style cases of epistemic luck. For example,

consider the case of Roddy who, upon looking into a field and seeing a sheep-shaped object, forms the true belief that there is a sheep in the field. Unfortunately for Roddy, however, what he is looking at is in fact not a sheep but a big hairy dog. Nevertheless, his belief is true since there is a sheep in the field, hidden from view behind the dog.([12], pg. 9.)

The problem in this example is that although Roddy has formed a true belief by using his cognitive abilities, it is not a case of knowledge, since it is just a matter of luck that Roddy's belief turns out to be true. With what Pritchard terms the 'beefed-up' virtue-theoretic account, "knowledge only results when the truth of an agent's belief is *because of* the operation of the agent's cognitive abilities - i.e, where it is *primarily* creditable to the agent that her belief is true".([12], pg. 9.) Since a primary notion which it involves, that of cognitive achievement, can be plausibly construed as having final value, if successful, this account of knowledge could deliver the goods. This account however, is neither a sound nor complete account of knowledge; although this strengthened virtue epistemology can deal with cases like the Roddy example above, it can not accommodate some cases involving knowledge without achievement and others involving achievement without knowledge. Regarding a case of achievement without knowledge, Pritchard uses Alvin Goldman's barn facade scenario:

consider the case of Barney, who forms a true belief that there is a barn in front of him by using his cognitive abilities. That is, unlike a Gettier-style case - such as the case of 'Roddy' described above - Barney does not make any cognitive error in forming his belief in the way that he does. Accordingly, we would naturally say that Barney's cognitive success is because of this cognitive ability and so we would, therefore, attribute a cognitive achievement to Barney. According to the knowledge-as-achievement thesis, then, we should also treat Barney as knowing that what he is looking at is a barn. The twist in the tale, however, is that unbeknownst to Barney, he is in fact in 'barn facade county' where all the other apparent barns are fake. Intuitively, he does not have knowledge in this case because it is simply a matter of luck that his belief is true.([12], pg. 13.)

Regarding a case of knowledge without achievement, consider Jenny, who

arrives at the train station in Chicago and, wishing to obtain directions to the Sears Tower, approaches the first adult passer-by that she sees. Suppose the person that she asks has first-hand knowledge of the area and gives her the directions that she requires. Intuitively, any true belief that Jenny forms on this basis would ordinarily be counted as knowledge. Relatedly, notice that insofar as we are willing to ascribe knowledge in this case then we will be understanding the details of the case such that the true belief so formed is non-lucky in all the relevant respects.

In this case, although Jenny has knowledge, that she has successfully formed a true belief is not *primarily* creditable to her; it is not *because of* her cognitive abilities. Hence, for the virtue theoretic account which identifies knowledge with cognitive achievement, there is a problem. Thus whilst such virtue-theoretic accounts of knowledge can provide us with the right value resources to address the value problem, they fall short of being adequate accounts of knowledge.

Where to go from here depends on one's inclinations. Here are three paths one could take: (1) salvage virtue-epistemology by attempting to address the 'achievement without knowledge' and 'knowledge without achievement' problems (2) consider an alternative account of knowledge (3) offer a revisionary response to the value problem.

Since I am not sufficiently sympathetic to virtue epistemology, I am not inclined to follow the first path. Regarding the second path, since for me the value problem is not a predominant influential factor in my consideration of an epistemological account, my approach would be to select the epistemological account that I endorse and assess it against the value problem. Since I am partial to information-theoretic epistemology, which I believe is one of the most viable epistemological accounts on the market, it will here serve as the alternative account to be briefly considered.

For the purposes of this paper, a very brief outline of Fred Dretske's seminal and archetypal account will suffice to explain the core notions of an information-theoretic epistemology. Further information on information-theoretic epistemology can be found in ([5]), ([1]), ([6]) and ([7]). According to information-theoretic epistemology, empirical knowledge is information-produced belief. Coming to know that p is equivalent to being made to believe that p via the information that p.

Information-theoretic account of knowledge: K knows that s is $F = K$'s belief that s is F is caused (or causally sustained) by the information that s is F

When does a signal carry the information that s is F? Dretske uses concepts from Shannon's Mathematical Theory of Communication (MTC) as a starting point to develop his account. Some key points:

- Information can be measured in bits

- The quantity of information associated with an event is inversely proportional to the event's probability

- The transmission of information from origin to destination can be subject to noise and equivocation

Using the syntactic MTC as a basis to develop a semantic theory of information, Dretske states a few conditions on information which are nicely captured by the following definition:

Informational content: A signal r carries the information that s is $F = $ The conditional probability of s's being F, given r (and k), is 1 (but given k alone, less than 1)

k is a variable that takes into account how what the agent in question already knows might influence the informational value of a signal. If the agent knew nothing, k would be zero. If the agent already knows that $\neg\, A$, then the signal $A \vee B$ would carry the information that B. A consequence of this definition is that tautologies do not contain informational content. Although

this is just one of several ways to define information, many of the notions that it captures are shared with fellow accounts of information. One key aspect of relevance is that information as defined here encapsulates truth, in that there is no such thing as the false information that p.

So how does information-theoretic epistemology (ITE) as such fare in the context of this paper? To begin with, it can accommodate the cases discussed above, which were problematic for virtue epistemology[3]. Starting with the 'Roddy' case, which is not a case of knowledge since it is just a matter of luck that Roddy's belief is true, ITE determines rightly that this is not a case of knowledge because Roddy's true belief that there is a sheep in the field is not caused by the information that there is a sheep in the field. The conditional probability of a sheep being in the field, given the visual signal of a sheep-shaped, big hairy dog and Roddy's prior knowledge, is not 1.

Next is the case of Barney in 'barn facade county', which is not a case of knowledge since it is a matter of [environmental epistemic] luck that his belief is true. According to ITE it can once again be argued that Barney's true belief that there is a barn in front of him is not based on the information that there is a barn in front of him, since in this context the conditional probability of an actual barn being in front of him given the visual signal of a barn and his prior knowledge is less than 1. For example, if there were 9 barn facades in the county plus 1 real one, then this conditional probability would be 1/10. Alternatively, if Barney already knew which were the 9 barn facades, then his true belief that there is a barn in front of him would count as knowledge. This type of example is subject to the Relevant Alternatives Theory, where the fake barns are relevant alternatives.[4]

Thirdly, ITE has no problem with the 'knowledge without achievement' example of Jenny, which is just a case of knowledge transfer. It is clear that Jenny receives the information about directions to the Sears Tower and consequently obtains knowledge as to its location.

Continuing on, how does ITE fare against the value problem? To begin with, since an ITE definition of knowledge counts as an instance of the abstract definition of knowledge given in earlier discussion of the primary value problem[5], it passes the primary value problem test; information caused belief that p is generally more *truth conducive* than mere true belief that p. In exploring the value problem beyond this, two options come to mind. The first involves assessing a pure ITE against the secondary and tertiary value problems. The second involves supplementing an ITE with virtue epistemological conditions and assessing this 'impure' hybrid against the value problem.

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[3]Prior to discussion of the above mentioned cases used in his assessment of virtue epistemology, in his passage from basic reliabilism to virtue theoretic accounts, Pritchard gives an example in order to show a shortcoming of basic reliabilism. It involves someone named 'Temp', who forms her beliefs about the temperature in a room by looking at a human-manipulated thermometer([12], pg. 8.). I am not exactly sure about how to interpret this example, so can't give a definitive response as to how it would be handled by ITE. Pritchard says that it is not a case of knowledge. Contrary to this, I say that if it is the case that the broken thermometer is being controlled accurately by the hidden someone so that the measurements on the thermometer still correspond correctly to the temperature, beliefs formed from reading the manipulated thermometer would still have to count as knowledge. A signal from the human manipulated thermometer that the temperature is x degrees still carries the information that it is x degrees. Despite this human-contrived mode of operation, the thermometer is still functioning in an information bearing, correlated to the facts way. This could also be considered a case of knowledge transfer. If however, the point of this example is that the person who is forming the beliefs *initially* forms the random true belief that the temperature is x degrees and the thermostat manipulator then *consequently* adjusts the reading of the thermometer to x degrees, that is a different story. How this would happen, I don't know. Apart from the improbability of someone guessing the correct temperature, it seems that the manipulator hidden in the room would have to mind-read the belief former's belief before they can adjust the thermometer. Anyway, if this were the case, it is clearly not the information that caused the belief, so it would not account as knowledge according to ITE.

[4]Dretske discusses Relevant Alternatives Theory in ([6]). A quick rundown on Relevant Alternatives Theory can be found here: http://www.jimpryor.net/teaching/courses/epist/notes/dretske.html. For a discussion of the ITE take on a similar example, see ([4], pg. 39.)

[5]In the case of ITE, X would be something like {Informed Belief}

We shall begin with the first of these options and a brief look at the secondary value problem. In order to do this, we must break down the ITE definition of knowledge into its constituent parts. The most appropriate breakdown I can think of is:

Knowledge = {True Belief, Information Caused Belief}.

As it has already been argued that knowledge is of greater value than true belief, we turn to consideration of the remaining proper sub-set, {Information Caused Belief}. Since information caused belief can be false[6], true information caused belief (i.e. knowledge) is going to generally have greater value than just information caused belief. Thus if this breakdown is accepted, ITE passes the secondary value problem test.

With regards to the tertiary problem, might there be something special about information-caused true belief that makes it more valuable in kind than whatever falls short of information-caused true belief? Perhaps with the purposeful introduction of information into the epistemological landscape, there might be an opportunity to pin attributions of value onto this epistemic commodity. A main point from Pritchard's discussion of the swamping problem is that although the reliable way in which a coffee is produced does not confer on it a type of value it does not already have, there are cases where the particular way in which something is produced can confer on it a type of value that it does not already have. In the case of virtue epistemology, it is purported that knowledge has final value in virtue of the fact that it involves cognitive achievement. The notion of final value however is not rigid, and the strategy of appealing to it in dealing with the tertiary value problem need not be exclusive to virtue epistemology. Perhaps for example, in terms of ITE, one could appeal to the relational properties of the belief on the grounds that the cause (i.e. information) of the product (i.e. belief) encapsulates the property that the product 'aims' for, namely truth. Having the information that p serves as a type of 'certificate of authenticity' for the belief that p, providing certification that the true belief's content is a genuine representation of the corresponding fact. This certification confers final on the belief in the same way that a certificate of authenticity accompanying an antique would confer final value on that antique. This is just a thought, which I will leave here.

There is a more general reason why we might value knowledge over whatever falls short of knowledge, why knowledge has value beyond the instrumental and intrinsic value of its constituents. Involving notions similar to those involved in the idea of knowledge-as-achievement and final value, it rests on a crucial difference between cases like the swamping problem example, in which the coffee is a product of a coffee machine and cases in which belief is a product. This difference concerns the nature of the products' origins/causes. In the case of the coffee, its cause is of no value significance, for as far as one is concerned the machine is purely and totally an instrument for the production of the product (i.e. the coffee). With beliefs however, the causes, the originators of beliefs are humans, and although humans are instrumental in belief formation, they are also agents of value judgements and are bound to assess and judge their products (e.g. beliefs) not only intrinsicly, but also with regard to extrinsic factors like the viability and quality of their production methods. A small modification to the coffee example will elucidate this point. Say, we replace the coffee making machines with two people. One person, Bob, has never made a coffee in his life. Another person, John, is the best barista in the world. John, as usual, produces an optimal cup of coffee. Bob, as luck has it, chucks a random bunch of ingredients together and produces a fluke coffee that is just as good as Johns. Despite the instrumental and intrinsic value equivalences of these coffees, I get the feeling that one would opt to consume a coffee put together by the world's best

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[6]Cases can easily be conceived where K's false belief that s is F is caused by the information that t is G. For example, say someone receives a message in Italian, *Lei ha fama* ('She is famous'), which due to misinterpretation, causes them to form the false belief that 'She is hungry' (*Lei ha fame*)

barrista rather than a coffee produced by someone who is not associated with the principles of coffee making excellence. The barrista-made coffee would have a special final value because of who made it. The only unique value that Bob's 'luck coffee' would have is *shock value*. To further hone in on this point, consider if Bob were to make the effort to go to barrista school. Upon graduation, he goes to the effort to gather the finest coffee ingredients and puts together a coffee which is of the same instrumental and intrinsic value as the coffee he randomly produced in the previous example. Surely Bob would nonetheless value this coffee over the 'luck coffee', because of his efforts in its causal history. Likewise, the principles of knowledge are the principles of true belief formation excellence. In the case of ITE, one principle is the obtainment of a direct causal correlation between the information that p and the true belief that p, an intimate connection between the internal state and the external fact that the state is a representation of. Hence if someone forms a true belief by following these principles and going to the effort of obtaining this connection, they are going to value their product more than a corresponding product which does not have these principles and efforts associated with it. These extrinsic features of knowledge, such as the factors in its causal history and its intimate connection with the truth out there, would explain its added extrinsic value.

As for the second of these options in exploring the value problem, if the idea of final value in terms of virtue epistemological ability and achievement is accepted, an easy way to get a type of distinct value could be to supplement ITE with virtue epistemological elements. Such a supplementation could also be justified by more than just an *ad hoc* need to import value for the sake of the value problem. It has been argued that its deeply objective externalist character leaves ITE vulnerable to counterexamples; it is too permissive and counts as knowledge cases that are not knowledge. What seems to be required is some notion of justification or perhaps an exercising of epistemic virtue, to ensure that the account excludes information-produced true beliefs that fall short of knowledge owing to epistemic irresponsibility of the believer. As an example, consider a person Bob, who lives in a world where scientists have not yet discovered that water is H_2O. Bob is an avid reader of science fiction books though, and one of the new books he is reading contains the speculative idea that water is H_2O. Based on his reading, Bob forms the true belief that water is H_2O. It now starts to rain, and Bob notices that a drop of water has just fallen on his hand. Since a drop of water has just fallen on his hand, and water is H_2O, it follows that Bob has received the information that H_2O has just fallen on his hand. But though he forms the true belief that H_2O has just fallen on his hand due to the information that H_2O has just fallen on his hand, it would be wrong to say that he has the knowledge that H_2O has just fallen on his hand. The issue here is that Bob's true belief about the identity of water with H_2O, a belief integral to the formation of this new true belief, is just mere true belief.([11], pg. 27.)

So perhaps virtue epistemological ideas could be incorporated to fill these gaps, so that the epistemic behaviour resulting in knowledge is subjectively responsible as well as objectively reliable. This suggestion is in a similar spirit to the type of solution Pritchard discusses briefly towards the end of ([12]). In his words, we are "opting for a theory which incorporates *both* an anti-luck and an ability condition", with the anti-luck condition (i.e. ITE) taking the lead.([12], pp. 17-18.) As far as the contribution of virtue epistemology goes, the "proposal would be that it is essential for knowledge that one's true belief arises out of the reliable cognitive traits that make up one's cognitive character, such that the cognitive success at issue is to *some significant degree* creditable to one"([12], pg. 18.) A 'beefed-up' virtue epistemology (where the true belief in question is *because of* the operation of the agent's cognitive abilities) would not be required, as the ITE part can deal with the problematic cases involving luck, which initially served as a rationale for this strengthened account. This is a good thing, since as we saw the 'beefed-up' account was too strict anyway. In combining ITE with virtue epistemology, we arrive at an account of knowledge as *epistemically virtuous, informed belief*. How exactly this hybrid would be constructed and how it would fare against the value problem will not be pursued here.

In closing, I would like to briefly discuss another way to think about the value problem. Even if attempts to give a validatory response to the value problem are inadequate or inconclusive, I think that this line of response would at least serve as a safe revisionary response of sorts. I contend that even if knowledge were not distinctively valuable, there is justification for its key place in epistemological theorising. This revisionary response applies to the standard range of positions that treat true belief as a basic epistemic good which has value. It simply appeals to the teleological relationship between value and the deontic, where the deontic is antecedent to and explained in terms of the evaluative.

Since true beliefs have value, it is good to have true beliefs. Since it is good to have true beliefs, we ought to pursue knowledge, since it is truth conducive and maximises the chances that our beliefs attain their goal of truth and avoid falsity. All of this is summed up in the following claim

If you want to have true beliefs then you ought to have knowledge

This then can explain the intuition that knowledge seems better than mere true belief. Marian David suggests something along similar lines when he writes that these intuitions[7] "arise due to a confusion of sorts. They do not reflect any bonus of intrinsic value accruing to knowledge over and above ... [mere] true belief ...; rather they reflect our desire to have our desires satisfied".([3], pg. 310.) Thus there is a *normative* difference between true belief (the good) and knowledge (the ought). In light of this, it is not hard to see why knowledge, an epistemological ought (because it is true conducive), is assessed and sought.

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[7]David lists the following four intuitions, of which only the first is directly relevant to the current discussion

1. Knowledge seems better than mere true belief

2. Justified true belief seems better than unjustified true belief

3. Unjustified false belief seems worse than justified false belief

4. Unjustified true belief versus justified false belief? Intuition hesitates.

References

[1] Adams, Fred, 'Knowledge'. In Luciano Floridi (ed.) *The Blackwell Guide to the Philosophy of Computing and Information*. Wiley-Blackwell, 2003, pp. 228-236.

[2] Baehr, Jason S, 'Virtue Epistemology', *The Internet Encyclopedia of Philosophy*, James Fieser and Bradley Dowden (eds.), URL = <http://www.iep.utm.edu/v/VirtueEp.htm/>.

[3] David, Marian, 'Truth as the Primary Epistemic Goal: A Working Hypothesis'. In Matthias Steup and Ernest Sosa (eds.) *Contemporary Debates in Epistemology*. Wiley-Blackwell, 2003, pp. 296-310.

[4] Doyle, Anthony, 'Is Knowledge Information-Produced Belief? A Defense of Dretske Against Some Critics'. *The Southern Journal of Philosophy*, Vol. XXIII, No. 1, 1985, 33-46.

[5] Dretske, Fred, *Epistemology and Information*. URL = <http://www.illc.uva.nl/HPI/Draft_Epistemology_and_Information.pdf/>.

[6] Dretske, Fred, *Knowledge and the Flow of Information*, Oxford : Blackwell, 1981.

[7] Dretske, Fred, 'Precis of Knowledge and the Flow of Information'. Sven Bernecker and Fred Dretske, (eds.). *Knowledge: Readings in Contemporary Epistemology*. Oxford University Press, 2000, pp. 103-117.

[8] Greco, John, 'Virtue Epistemology', *The Stanford Encyclopedia of Philosophy (Fall 2008 Edition)*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/fall2008/entries/epistemology-virtue/>.

[9] James, William. *Pragmatism and the Meaning of Truth*, Harvard UP, 1975.

[10] Lynch, Michael P. 'Minimilism and the Value of Truth'. *The Philosophical Quarterly*, Vol. 54, No. 217, 2004, 497-517.

[11] Maloney, Christopher. 'Dretske on Knowledge and Information'. *Analysis*, Vol. 43, No. 1, 1983, 25-28.

[12] Pritchard, Duncan. 'The Value of Knowledge'. URL = <http://www.philosophy.stir.ac.uk/postgraduate/documents/ValueOfKnowledge2.pdf>.

[13] Pritchard, Duncan. 'Knowing the Answer, Understanding and Epistemic Value'. *Grazer Philosophische Studien*, Vol. 77, 2008, 325-339.

[14] Pritchard, Duncan. 'What is the Swamping Problem?'. URL = <http://www.philosophy.ed.ac.uk/staff/documents/WhatIsTheSwampingProblem.pdf>.

[15] Pritchard, Duncan, 'The Value of Knowledge', *The Stanford Encyclopedia of Philosophy (Fall 2008 Edition)*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/fall2008/entries/knowledge-value/>.

[16] Russell, Bertrand. *The Problems of Philosophy*. Oxford University Press, 1997. [Originally Published 1912]

[17] Schroeder, Mark, 'Value Theory', *The Stanford Encyclopedia of Philosophy (Fall 2008 Edition)*, Edward N. Zalta (ed.), URL = <http://plato.stanford.edu/archives/fall2008/entries/value-theory/>.

[18] Zagzebski, Linda. 'Virtues of the Mind'. In Ernest Sosa and Jaegwon Kim (eds.) *Epistemology: An Anthology*. Blackwell, 2000, pp. 457-467.