The value problem of knowledge: an axiological diagnosis of the credit solution
Anne Meylan (University of Geneva/University of Fribourg)

1. Introduction
The value problem (VP) is one of the prominent problems that philosophical accounts of knowledge are expected to account for. VP emerges from the purported deep-rooted intuition that there is something better in knowing that p than in merely holding a true belief that p. VP consists in asking what makes it the case that knowledge is more valuable than mere true opinion, and accounts of knowledge which solve VP are those which explain the intuition that there is something better in knowing that p than in merely holding a true belief that p. Note that VP is not a less important difficulty than the Gettier problem (even though the latter has attracted philosophers’ attention for a longer time). Indeed, it really belongs to the commonsense idea that knowledge is more valuable than mere true opinion. That is, an account of knowledge which fails to encapsulate this difference in value is really missing something crucial about its nature, not less than if this account is unable to explain what hinders knowledge in Gettier cases.
Since they are conscious of the importance of VP, philosophers have made every endeavour to explain how their own accounts of knowledge are able to solve it. The present paper focuses on one of these solutions, the credit solution, which has been defended mainly by John Greco and Ernest Sosa.¹

2. The credit solution
The credit solution goes hand by hand with the following (externalist) account of knowledge:

(K) S knows that p if and only if S’s believing the truth with respect to p is saliently produced by S’s exercising one of his cognitive competencies, skills or abilities.²

¹ See Greco (2003, 2010), Sosa (2007).
According to K, the distinctive property of a subject’s true belief which makes it a piece of knowledge is the property of being produced by one of his cognitive competencies, skills or abilities. The reason why I said that the credit solution “goes hand by hand with K” is that the credit solution is precisely devoted to explaining how the property of being produced by one of a subject’s cognitive competencies is additionally valuable. The reasoning underlying the credit solution is summed up in the following argument:

1. When a subject S’s performance is saliently produced by one of S’s competencies, the performance is creditable to S or S deserves credit for this performance;
2. When a subject S’s performance is creditable to S, his performance is more valuable than if it was not creditable to S;
3. S believing the truth with respect to p is one of S’s performances;
4. When a subject S’s true belief that p is saliently produced by one of his cognitive competencies, his believing the truth with respect to p is creditable to him or S deserves credit for this true belief; (1, 3)

Then
5. When a subject S’s true belief that p is saliently produced by one of his cognitive competencies —i.e. when a subject S’s true belief amounts to knowledge— his true belief is more valuable than if it was not produced by one of his cognitive competencies. (2, 4)

The most controversial premise is probably the second one. To defend it, upholders of the credit solution rely on examples involving sporting performances, examples that are similar to this one:

**Run 1**

Two athletes, Manfred and Colin, are engaged in a 100-metre race. Both run the distance in exactly the same very good time. Colin’s being so quick at running 100 metres is saliently produced by his impressive competencies.

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3 The three terms are often used interchangeably see, for instance, Sosa (2009, p. 188). In this paper, I will make use of the term “competency”.
4 The first premise is a definition of what it means for a subject’s performance to be creditable to this subject and it does not raise any serious worries. There is, however, a reason to be suspicious with regard to the third one. While a performance is an action, or at least a metaphysical entity implying a change in the world, S believing the truth with respect to p is a state of S, i.e. a metaphysical entity which does not imply any change the world.
5 Archery in Sosa (2007); baseball, athletics in Greco (2003, 2010).
(which are themselves due to his assiduous training). Manfred’s performance, in contrast, is due not to any competence that he himself possesses, but to his having taken drugs.

Now, the credit theorists say, the intuition is that Colin’s performance is more valuable than Manfred’s and this is because, unlike Manfred, Colin deserves credit for his performance. The same is true _mutatis mutandis_ for all performances including the performance of believing things truly. When a subject S’s performance can be credited to him, the intuition —let me call it the _credit intuition_— is that his performance is more valuable than if S does not deserve credit for it.

2.1. _The credit intuition_

Given the central role played by premise 2 in the credit solution, it is the entire credit solution which ultimately depends on the credit intuition.

As mentioned above, the main support of the credit intuition is itself an intuition: the intuition that, in sporting examples like Run 1, performances which are creditable to the sportsmen are more valuable than ones that are not creditable to them. There is at least one reason to be suspicious about this supposed well-entrenched intuition and the way it supports the credit intuition.

To see this, let me modify the example above in the following way:

_Run 2_

Two athletes, Manfred and Colin, are engaged in a 100-metres race. Both run the distance in exactly the same good time.

Colin’s speed in running 100 metres is produced by his natural physical competencies.

As for Manfred, he is an extremely gifted biochemist. With the goal of winning the race against Colin, Manfred undertakes intense researches. After months of exhausting labour he discovers a serum, the injection of which multiplies by ten the velocity and the tonicity of the muscles. On the day of the race, Manfred uses the drug he invented. No one notices this and Colin and Manfred are declared _ex aequo_.

In Run 2, Manfred’s good timing is saliently produced by his (intellectual) competencies. The running of a 100-metres race in such a good time is, in this sense, no less creditable to him than it is to Colin. However, my impression is that most of us will keep thinking that Manfred’s performance is less valuable than Colin’s. The explanation of this negative
assessment certainly lies in the fact that Manfred cheated and that cheating is something deeply disvaluable, despite the astuteness displayed by the fraud.

What I hope to have shown with Run 2 is simply that the evaluation at work in classical sporting examples (like Run 1) might actually be a reaction to something else than what the credit theorists claim it is a reaction to. Perhaps the reason why we consider Colin’s performance to be better than Manfred’s in Run 1 is not that the former deserves credit while the latter does not. Rather, the reason why we assess Colin’s performance more positively than Manfred’s is simply that Manfred cheated and this is something deeply disvaluable.

Briefly, the intuition at work in the sporting examples is not sufficiently clear-cut in order to offer sufficient support to the credit intuition. In order to reinforce their solution to VP, the credit theorists need to embrace the role of the value experts and to say more about the “credit value”, i.e. about this very peculiar value that is supposed to be added to the already existing value of a performance when it is saliently produced by a subject’s competence.

3. Axiological diagnoses

The goal of the last section was to show that the credit theorists cannot exclusively rely on the intuition at work in sporting examples to support their solution to VP. One legitimate requirement is that they tell us how the credit value connects to the already existing distinctions between values. My next aim is precisely to outline the two kinds of specification that the credit theorists owe us in order to clarify the credit intuition and, thereby, strengthen their position.

Philosophers recognize the existence of various kinds of value. A first and traditional distinction is between:

(i) intrinsic and;
(ii) extrinsic value.

Or

(i) Things that are intrinsically valuable, i.e. valuable in virtue of “what they are” or “for their own sake” and;
(ii) Things that are extrinsically valuable, i.e. valuable in virtue of a relation they hold with something else.

A lot of ink has been spilled over the comprehensiveness of this distinction. The main problem is that there are things which are:

(a) valuable for their own sake;
(b) in virtue of the relation they hold to something else.

That is, there are things which fall neither in category (i), nor in category (ii) above. The classical example is Lady Diana’s dress. This observation led many philosophers to suggest the following categorization of value:

- x has an intrinsic value =df x’s value supervenes on x’s natural intrinsic properties;
- x has an extrinsic value =df x’s value supervenes on x’s natural relational properties;
- x has a final value = df x’s value is something that x has for its own sake.
- x has a non-final value = df x’s value is something that x does not have for its own sake.

Typically, the value of Lady Diana’s dress is final and extrinsic. Lady Diana’s dress is valuable for its own sake but its value supervenes on one of its extrinsic properties, i.e. its relation to the Princess.

Non-final values subdivide into different kinds. The most famous one is certainly the instrumental one. An instrumental value is a non-final value that characterizes things in virtue of their (actually or dispositionally) causing other things of value.

- x has an instrumental value= df x’s value is something that x has in virtue of its (actually or dispositionally) causing something valuable.

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7 See Rabinowicz & Rasmussen (2000).
Intrinsic, extrinsic, final, non-final and instrumental values are not the only kinds of value that experts distinguish. But the five definitions above are sufficient for the purpose of presenting the two questions that the credit theorists must answer in order to clarify the credit intuition.

First, there is the question of the value bearer:

A. Does knowledge derive its additional value from an intrinsic or an extrinsic value, i.e. from a value which supervenes on one of knowledge’s intrinsic or extrinsic properties?

Second, there is what I shall call the purely axiological question:

B. What is the axiological nature of the value from which knowledge derives its additional value? Is it a final, a non-final, an instrumental value?

To see more concretely how these two questions find application in the specific context of the value problem (VP), let me show how the reliabilist solution provides an answer to it.

3.1 The axiological diagnosis of the reliabilist solution

The reliabilist solution toVP goes hand in hand with the following (simple) reliabilist account of knowledge:

(R) S knows that p if and only if S’s believing the truth with respect to p is the causal result of a reliable process, i.e. a process generally producing true beliefs.10

According to reliabilism, the distinctive property, the property which turns a true belief into a piece of knowledge, is the property of resulting from a reliable process. The challenge of the

8 There are other non-final values than the instrumental ones, for instance, contributory values, i.e. the value that a part has in virtue of the whole from which it is a part.

9 When I speak of “the additional value of knowledge”, I mean to refer to the value which adds to the value that knowledge possesses anyway (in virtue of consisting in a true belief) and which really explains why knowledge is better than a mere true belief.

The reliabilist solution to VP is, therefore, to explain how the property of resulting from a reliable process brings additional value to beliefs which are already true.

Here is a way of meeting this challenge:

1. The probability that S will have more true beliefs (of a similar type) in the future is higher when S’s true belief that p is the cause of a reliable process than when S merely believes truly that p;

2. A true belief that is likely to provide further true beliefs is more valuable than a true belief which is not characterized by this probability;

Then

3. When a subject S’s true belief that p is the causal result of a reliable process, i.e. when a subject S’s true belief amounts to knowledge, his true belief is more valuable than if it was not the causal result of a reliable process. 

Briefly said, knowledge is better than a mere true belief because it is prone to result, in the future, in the acquisition of more true beliefs. Or, put differently, a true belief that counts as a piece of knowledge holds a certain relation with future true beliefs and it is in virtue of this relation that it is better than a simple true belief.

The reliabilist solution gives more or less explicit answers to questions A and B above.

The reliabilist answer to the question of the value bearer is that knowledge derives its additional value from a value which supervenes on one of its extrinsic properties: the property of being likely to provide further true beliefs.

The reliabilist answer to the purely axiological question is that knowledge derives its additional value from an instrumental value. Indeed, the property of being likely to result in

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11 This is, in a nutshell, Olsson’s conditional probability solution. See Goldman & Olsson (2009) and Olsson (2011). As Olsson maintains, statement 1 is true only if a number of empirical regularities (which pertain to the possibility, for the subject, of making a further use of the same reliable process) hold. Statement 2 results from the shared assumption that entertaining true beliefs is a valuable thing.

12 This solution to the value problem avoids a much-discussed objection against reliabilism, the so-called swamping problem (Kvanvig, 2003, Zagzebski, 2003). See below for a brief presentation of this problem.

13 According to Olsson (2011, n. 21, p. 882), the nature of the value from which reliabilist knowledge derives its additional value is, rather, “indicator value”, i.e. the value something has in virtue of indicating something good. Even if the existence of such an “indicator value” might be acknowledged (see Massin, unpublished, p. 156, on symbolic value), I do not think we should appeal to such an unusual notion while the more familiar notion of instrumental value applies perfectly well in this case.
the acquisition of more true beliefs is valuable in virtue of the valuable thing it is liable to cause, i.e. true beliefs. For a better grasp of the reliabilist answers to questions A and B, see schema 1 at the end of this paper.

3.2 The axiological diagnosis of the credit solution

As we have just seen, reliabilists have ready-made answers to the two aforementioned axiological questions. What about the credit theorists? Do answers to questions A and B above also ensue naturally from the credit solution? It does not seem so.

Recall that, according to the credit solution, knowledge derives its additional value from its credit value, i.e. from the value which characterizes a performance when it is saliently produced by one of the subject’s competences.

First, it is not uninteresting to note that this way of formulating the credit solution keeps the two possible ways of answering the question of the value bearer open. It does not, however, allow us to decide whether knowledge derives its additional value from a value which supervenes on one of its intrinsic or on one of its extrinsic properties. It does not help to determine whether credit value is intrinsic or extrinsic. Both options remain viable depending on whether the credit theorist takes knowledge to be identical to:

(i) a complex fact consisting in: “a true belief saliently produced by the exercise of a subject’s competence; (schema 2 below)

or (ii) a true belief which holds a specific relation to the exercise subject’s competence. (schema 3 below)

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14 The fact that the property in question is dispositional is not problematic. As Massin (unpublished, p. 153) states: “Things may have instrumental value even if they do not actually cause some effect, but could do so (a knife remains instrumentally good when it does not actually cut).”

15 I prefer the expression “a true belief saliently produced by the exercise of a subject’s competence” to the shorter one: “a true belief saliently produced by the exercise of a subject’s competence” for the simple reason that knowledge cannot be constituted by a subject’s competence. If knowledge consists in a complex fact, as illustrated by schema 1 below, it is constituted by the exercise of a competence and not by the competence itself.

16 Even if I haven’t expressed it explicitly, this second option is also available to the reliabilist solution. That is, another way of schematizing the reliabilist solution is in the spirit of schema 3 below.
But the most interesting field of investigation concerns, rather, the credit theorists’ answer to the purely axiological question. According to the credit solution, knowledge draws its additional value from credit value, from the value which supervenes on the relation of salient causation in schemas 2 and 3 below. But what makes the relation of being saliently produced by the exercise of a subject’s competence something valuable? Or, to ask the same question differently, what is credit value?

Two answers are conceivable:

1. Credit value is instrumental value. That is, the relation of being saliently produced by the exercise of a subject’s competence is valuable in virtue of what it causally leads to: a true belief.
2. Credit value is a final value. That is, the relation of being saliently produced by a the exercise of a subject’s competence is valuable for its own sake.

3.2.1 Credit value is not instrumental value

The first answer is not immune to criticism. The value which (i) supervenes on the causal relation between the exercise of a competence and the true belief and (ii) from which knowledge derives its additional value (see schema 2 and 3 below) cannot be an instrumental value, for the following reason:

If this value were an instrumental value, it would mean that:

1. The causal relation in question is valuable in virtue of the valuable end it promotes: the acquisition of a true belief;
2. But the causal relation is not valuable in this way since it does not promote anything valuable: the belief to which it leads is already true.

Put slightly differently, if the value, which supervenes on the causal relation between the exercise of a competence and the true belief in schema 2 and 3 below were an instrumental value, it would be swamped by the fact that the belief to which this causal relation leads is

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17 To my knowledge, credit theorists have, probably for this reason, never suggested that credit value is instrumental value. An exception is Sosa in his 1991 book. See Sosa (1991), p. 225.
already true. If credit value were an instrumental value, the credit theorist would encounter the very same objection that is traditionally directed at reliabilism: the swamping problem.\(^\text{18}\)

3.2.2 Credit value is not final value

As we have just seen, credit value – the value which (i) supervenes on the causal relation between the exercise of a competence and the belief and (ii) from which knowledge derives its additional value, according to the credit solution – is not an instrumental value. Another option, favoured by the credit theorists, is to say that credit value is a final value.\(^\text{19}\) That is, the property of being saliently produced by the exercise of a competence is valuable for its own sake and knowledge derives its additional value from the final value that supervenes on such a property.

To my knowledge, the latter claim has never really raised any objections. But, actually, the view according to which the property of being saliently produced by the exercise of a competence is valuable for its own sake is not obvious. Let me explain why.

Even if every competence is a disposition, not every disposition is a competence. The manifestation or exercise of a competence is something more specific than the manifestation of a disposition. When a glass breaks, for instance, it manifests one of its simple dispositions but it does not exercise a competence. Now, what distinguishes the exercises of competences from the manifestations of simple dispositions is the fact that the former are essentially valuable things. To see this, consider the following example:

Tony is having a job interview. As happens quite often, the person sitting in front of Tony asks him to enumerate his various professional and non-professional competences. Tony answers: “Well, I know how to use this very specific computer program and I speak Spanish and German. As for non-


\(^{19}\) See Greco (2010, p.98), Pritchard (2007, 2009). Their taking credit value to be final is also manifested in their regular use of the term “virtue” instead of “competence”. Contrary to the exercise of a competence, the manifestation of a virtue is, by definition, finally valuable. That is, if competences were virtues—as the credit theorists claim they are—exercises of competences would indeed be finally valuable. See section 3.2.3 below for a criticism of this strategy.
professional competences, I am very social, I am an excellent basketball player and I know how to poison cats.”

The last element in Tony’s list sounds weird. We are reluctant to speak of a competence in this case. The impression is that the disposition to poison cats—unlike the ability to speak Spanish, for instance— does not deserve to be called a competence. This is because the disposition to poison cats does not seem valuable in comparison to Tony’s other capacities. Our concept of competence is such that disvaluable dispositions, like the disposition to poison cats, do not qualify as competences.

But what makes such or such disposition a valuable or a disvaluable one? What makes the ability to speak Spanish something valuable and the disposition to poison cats something disvaluable? Here is an almost uncontroversial answer to these questions: the disposition to poison cats is disvaluable because its manifestation, i.e. the action of poisoning cats, leads to a disvaluable state of affairs, the death of cats. The ability to speak Spanish is valuable, because its exercise, i.e. the action of speaking Spanish, leads to a valuable state of affairs, such as the transmission of information to a Spanish interlocutor.

To sum up, the reason why not every disposition is a competence is that only some dispositions deserve this label. Competences are valuable dispositions, dispositions of a higher standard. And what makes them attain this standard is the fact that their exercise leads to the occurrence of some valuable state of affairs. Competences are to dispositions like medicines are to any arbitrary composite of molecules. Competences and medicines are valuable things while dispositions and composites of molecules are not necessarily so. Moreover, competences and medicines are similar with regard to the way they are valuable: competences like medicines are not loved for their own sake; they are loved for the valuable things to which their exercise (respectively their use) leads.

20 Of course it is possible to build circumstances in which the death of cats qualifies as something valuable. But, contrary to states like the state of having cooked a delicious boeuf bourguignon or the state of having distracted you from your worries, the death of cats does not generally qualify as being valuable.
All this casts serious doubts on the hypothesis under scrutiny in this section, i.e. the claim that credit value is final value. Recall: to claim that credit value is final value is to say that the value that supervenes on the property of being saliently produced by the exercise of a competence is a final value; and this amounts to saying that the property of being saliently produced by the exercise of a competence is valuable for its own sake. But, as I have just tried to show, there is a very strong intuition which goes in the opposite direction. What intuitively makes the exercise of a competence something valuable and distinguishes it from the manifestation of a simple disposition is the valuable things to which this exercise leads. Contrary to what the hypothesis according to which credit value is final value implies, exercises of competences seem to be instrumentally and not finally valuable.

This isn’t going to help matters with regard to the resolution of VP. As we saw in section 3.2.1, indeed, the swamping problem forbids us to appeal to instrumental value in order to explain the additional value of knowledge. That is, we have reached the following conclusion: credit value is neither final nor instrumental value.

3.2.3 When virtues enter into play

Before that, let me anticipate what might be the credit theorists’ reaction to the aforementioned difficulty. Credit theorists will probably try to circumvent it by recalling that they are virtue epistemologists and that they take cognitive competencies to be virtues. As such, they will claim, they remain untouched by the problem presented in the previous section. The fact that cognitive competences (or their exercises) are valuable for their own sake simply derives from the identification of cognitive competences with virtues (which are indeed, by definition, finally valuable entities). Let me call this line of defence “the strategic appeal to virtues”. The important drawback of the strategic appeal to virtues (at least, as it is employed by the virtue-reliabilists21) is that it seems ad hoc. What the virtue-reliabilists take to be “virtues” are competences like sense perception, deduction, memory, etc. Now,

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21 By contrast, the virtue responsibilists’ appeal to virtues is more justified. Virtue-responsibilists claim that cognitive virtues are acquired character-traits, for which we are to some degree responsible, for instance, open-mindedness. See Battaly (2008), pp. 645ff.
competences like these do not possess the features that are, according to moral philosophers, essential to virtues. Here is, for instance, what Mark Timmons claims in his introduction to moral theory:

“In general, many (if not all) virtues are to be distinguished from excellences that one might have by nature—like a perfect sense of musical pitch, or natural beauty or good eyesight. We are responsible for the virtues we have, and thus their possession is worthy of praise.”

Sense perception, deduction, memory, etc. are precisely faculties that we have by nature, the possession of which is not something for which we are responsible and not something which are worthy of praise. Moreover, another well-known essential feature of a genuine virtue is that it is a mean between two extremes. The virtue of courage is, for instance, a mean between cowardliness and rashness. I do not see how deduction, memory, sense perception etc. could qualify as means in this way.

To sum up, it is difficult to see what warrants the identification of cognitive competences to virtues. The identification of cognitive competences to virtues does not seem to be governed by the fact that the former shares with the latter some essential features. Now, if the only reason why credit theorists identify cognitive competences with virtues lies in the necessity of avoiding the swamping objection —that is, in the need to attribute a non-instrumental value to the property consisting in being produced by a cognitive competence—, the criticism of ad hoc-ness seems perfectly justified.

3.3 Conclusion

Let me provide some final observations. We have considered two possible ways of answering the purely axiological question and we have seen that both of them invite criticism: credit value is neither instrumental nor final value.

This result has some importance. First, as mentioned already, it contradicts the view favoured by the majority of credit theorists. Second, even if it does not mean that the credit solution is

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doomed to failure, it restricts the ways according to which this solution can be specified. The first option takes its inspiration from the reliabilist solution to VP, and says that the property of being saliently produced by the exercise of a competence derives its own value from the future true beliefs to which it might lead. The second option is to introduce a final value other than truth into the picture. But which one? This is the question to which the credit theorists owe us an answer if they really want to keep their own solution to VP to be distinct from the reliabilist one.

In the case of reliabilist knowledge, knowledge derives its value from:

(i) the value of one of its constituents, from the value that a true belief has in virtue of being true; and
(ii) from the instrumental value supervening on one of its relations, the relation of probably causing further true beliefs.

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25 This is actually the way that the credit theorists have started to take by identifying competence to virtues. In so doing, they attribute to the former the kind of final of value that characterizes the latter. See note 19 and section 3.2.3 for a criticism of this strategy.
Schema 2: the credit solution to VP where credit value is an intrinsic value
In schema 2 and 3 above knowledge derives its value from:

(i) the value of one of its constituents, from the value that a true belief has in virtue of being true;

and (ii) from the credit value supervening one of its properties, the property of being saliently produced by a subject’s competence.
4. References


