Epistemic Normativity of Social Reliabilism

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Introduction

Epistemology concentrates on *knowledge*, *accurate belief* etc. rather than *mere true belief*.

This fact is explained by an extra value of knowledge w.r.t. mere true belief.

But how to justify the extra value; more generally: how to justify/why to obey epistemic norms?

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The Meno Problem

A Classic: Plato's Dialogues

Two of Plato's best-known dialogues are inquiries about knowledge.

- *Theaetetus* inquires into its nature
- *Meno* also into its value – especially: What sort of normativity is constitutive of our knowledge?

The Meno Problem

Ernest Sosa:

> *"On the contemporary scene, the second Platonic problem, that of the value of knowledge, has more recently moved to center stage. For Plato this was the problem of how knowledge can be quite generally more valuable than its corresponding true belief, if a merely true belief would be no less useful. Thus, a true belief as to the location of Larissa will guide you there no less efficiently than would the corresponding knowledge. In line with this, we ask: How if at all can knowledge be as such always better than the corresponding merely true belief?"* (**cit:sosa2009KnoFul**)

The problem at hand: Why $val(\mathcal{K}\varphi) > val(\mathcal{B}\varphi)$, given the truth of φ?

Contemporary Approaches to the Problem

As a solution one may assume that . . .

> *"[. . .] there is some further condition [. . .] that a belief must satisfy in order to constitute knowledge, beyond being a belief and being true. This condition must add normatively positive content."* (**cit:sosa2009KnoFul**)

Or, one may consider the extra value instrumentalistically and assumes that . . .

> *"the main epistemic goal is not just truth, but knowledge. This would explain the extra value."* (**cit:sosa2009KnoFul**)

Modifying the Conditions for Knowledge

Sometimes the traditional conditions for knowledge are modified by some kind of anti-luck and value constraint.

E.g.: John Greco 2010: The book's central thesis is that knowledge is a kind of success through ability:

> To know is to believe the truth because you believe from intellectual ability;

Pro (**cit:turri2012RevAch**): Fruitful characterization:

- Provides a straightforward account of knowledge's value;
- Provides also a simple solution to the Gettier problem
  (In a Gettier case someone believes from intellectual ability, but not because of intellectual ability.

Modifying the Conditions for Knowledge

Another approach in this line is that one of Alvin Goldman:

According to Goldman semantical analysis should make clear that it is merely a matter of the meaning of the term 'justified' that truth-conduciveness is a good thing. Normative force derives from semantic considerations alone (**cit:goldman1986EpiCog**).

Vs. Goldman, Stephen Stich argues that even if Goldman has given the proper conceptual analysis of our epistemic terms, his conceptual analysis carries no normative force.

To see this, suppose a different epistemic culture with different approving belief according to different conditions. What reason is there to approve of beliefs meeting our conditions rather than those meeting the conditions of this other culture? (**cit:stich1990FraRea**)

Question: Why not? If there is really more than one "correct" meaning of 'justification', then it turns out that there are two concepts of epistemic normativity – some kind of relativism.

Instrumental Extra Value

Hilary Kornblith **cit:kornblith1993EpiNor**: How to avoid such a relativism?

Proposal: Epistemic norms are imperatives conditional upon having any goals at all.

He considers truth as an instrumental value for other values:

> *"Precisely because our cognitive systems are required to perform evaluations [...] accurately, the standards by which we evaluate these cognitive systems themselves must remain insulated from most of what we intrinsically value, whatever we may value. This provides a reason to care about the truth whatever we may otherwise care about."* (**cit:kornblith1993EpiNor**)

Problem with the Solutions

. . . or other aims:

Solve the expanded Meno problem without

- modifying the traditional concept of knowledge/rationality, and:
- using only traditional goals of epistemology.

Traditional goal: *truth*

Quine, e.g., naturalized epistemology:

> *"For me normative epistemology is a branch of engineering it is the technology of truth-seeking, or, in a more cautiously epistemological term, prediction [. . .]. There is no question here of ultimate value, as in morals; it is a matter of efficacy for an ulterior end, truth or prediction. The normative here, as elsewhere in engineering, becomes descriptive when the terminal parameter is expressed."* (**cit:quine1998RepMor**)

Classical Epistemology: A General Solution

The Value of Knowledge Theorem

The value of knowledge theorem of decision theory – presentation according to (**cit:huttegger2013LeaExp**):

In decision theory it follows that:

The expected utility of an uninformed decision cannot be greater than the prior expectation of an informed decision.

How to show this? By considering a higher order decision problem!

The Value of Knowledge Theorem

There are decision problems of different orders:

- The first order decision problem – consists of
  - n acts $A_1, \ldots, A_n$,
  - m states of the world $S_1, \ldots, S_m$ and
  - a utility function u for conjunctions of acts and states.

  and asks for a decision amongst $A_1, \ldots, A_n$;
- The second order problem – consists of
  - the same ingredients (first order decision problems) and
  - a set of o experiments (partitions) $\{E_1\}, \ldots, \{E_o\}$;

  and asks for either making a choice in the first order problem now, or defer a choice until after the outcome of an experiment is revealed to you.

The Value of Knowledge Theorem

If you decide now, the value of the decision is given by

$$\max_j \sum_i Pr(S_i) \cdot u(A_j \& S_i) \tag{1}$$

If you wait until after the experiment is performed, you may condition your probabilities on the new information.
Take E to be the true member of $\{E_k\}$ (where $1 \leq k \leq o$). The posterior expected value for an act A is then:

$$\sum_i Pr(S_i|E) \cdot u(A \& S_i)$$

The future expected utility is then:

$$\sum_k Pr(E_k) \cdot \max_j \sum_i Pr(S_i|E_k) \cdot u(A_j \& S_i) \tag{2}$$

The Value of Knowledge Theorem

Now it holds:

The future expected utility $\geq$ The actual expect. utility

$$\sum_k Pr(E_k) \cdot \max_j \sum_i Pr(S_i|Ek) \cdot u(A_j \& S_i) \geq \max_j \sum_i Pr(S_i) \cdot u(A_j \& S_i)$$

Since the utilities on both sides are equal, roughly interpreted it holds:

$$val(\mathcal{K}\varphi) > val(\mathcal{B}\varphi)$$

The value of knowledge theorem is not unconditionally true:

- The experiment is assumed to be essentially costless;
- The states, acts and utilities are assumed to be the same before and after performing the experience.

Social Epistemology: A General Solution

A Social Source of Knowledge

Testimony is one of the most important social sources of knowledge (pre-requisite to disagreement, judgement aggregation).

But what makes testimony so important?

In the following we will explicate Hume's approach on $val(Test(\varphi)\&\mathcal{B}\varphi) \geq / < val(\mathcal{B}\varphi)$

. . . and expand it to a multi agent testimony scenario by a success based weighting procedure (social reliabilism).

Testimony: Short Characterization

An informal characterization:

> *"Testimony of the informal kind—roughly, saying something in an apparent attempt to convey (correct) information to someone else—plays a very large role in our lives and raises the question of the importance of testimony for knowledge and justification."* (**cit:audi2011Epi**)

So, α_1 testifies to α_2 that φ iff α_1 attempts to convince α_2 in φ by claiming that φ and α_2 is ignorant of φ.

Note that we do not assume that α_1 believes in φ etc.

In our analysis we will write $\mathit{Test}_{\alpha_1}(\varphi)$, most of the time only $\mathit{Test}(\varphi)$

The Value of Testimony

Features of testimony:

> *"Communication is an efficient mode of increasing knowledge because information transmission is typically easier, quicker, and less costly than fresh discovery."* (**cit:goldman1999KnoSoc**)

And:

> *"Since not every member of a community observes each fact other members observe, there is room for veritistic improvement through communication."* (**cit:goldman1999KnoSoc**)

Main Problem of Testimony

Is it an adequate source of knowledge?
There are three lines of argumentation:

- Testimony is no adequate source of knowledge (Descartes; consideration of Descartes in the context of testimony due to (**cit:zollman2014SysOri**)).
- Testimony is a priori an adequate source of knowledge (Reid).
- Testimony is a posteriori an adequate source of knowledge (Hume).

A posteriori justifications of testimony are in general reductionistic:

> *"Besides the word of the speaker, hearers also causally depend in believing testimony on other fundamental sources of knowledge like perception, memory, learning, and inference. Can the reliability of testimony be justified by appeal to these sources? This question represents the dominant epistemological problem of testimony—is testimony an autonomous source of epistemic authority?"* (**cit:adler2012EpiPro**)

Testimony: René Descartes

Descartes' *Discourse on Method*: *Rule III*

> *"In the subjects we propose to investigate, our inquiries should be directed, not to what others have thought, nor to what we ourselves conjecture, but to what we can clearly and perspicuously behold and with certainty deduce; for knowledge is not won in any other way."* (**cit:descartes1975PhiWor**)

And:

> *"And thus I thought that book learning, at least the kind whose reasonings are merely probable and that do not have demonstrations, having been composed and enlarged little by the opinions of many different persons, does not draw nearly so close to the truth as the simple reasonings that a man of good sense can naturally make about the things he encounters."* (**cit:descartes1998DisMet**)

Testimony: Thomas Reid

Reid's *Inquiry*, section XXIV: *Of the Analogy Between Perception and The Credit We Give to Human Testimony*:

> *"In the testimony of Nature given by the senses [i.e.: perception], as well as in human testimony given by language, things are signified to us by signs."* (**cit:reid1983InqEss**)

Testimony: Thomas Reid

And:

> *"The wise and beneficent Author of Nature, who intended that we should be social creatures, and that we should receive the greatest and most important part of our knowledge by the information of others, hath, for these purposes, implanted in our natures two principles that tally with each other. [...] The first of these principles is a propensity to speak truth [...] Another original principle implanted in us by the Supreme Being is, a disposition to confide in the veracity of others, and to believe what they tell us. This is the counterpart to the former; and, as that may be called the principle of veracity, we shall, for want of a more proper name, call this the principle of credulity."* (**cit:reid1983InqEss**)

Testimony: David Hume

Hume's *Enquiry*: *Of Miracles*:

> *"We may observe that there is no species of reasoning more common, more useful, and even necessary to human life, than that which is derived from the testimony of men, and from the reports of eye-witnesses and spectators. [. . .] Our assurance in any argument of this kind is derived from no other principle than our observation of the veracity of human testimony, and of the usual conformity of facts to the reports of witnesses."* (**cit:hume1772EssTre**)

And:

> *"The reason why we place any credit in witnesses and historians, is not derived from any connexion, which we perceive a priori, between testimony and reality, but because we are accustomed to find a conformity between them."* (**cit:hume1772EssTre**)

Testimony: The Traditional Positions

One can distinguish the following traditional positions:

1. (A priori) denial: Descartes. Testimony doesn't suffice his high standards of justification.
2. A priori acceptance: Reid. Testimony is justified due to *veracity* and *credulity* (implanted by God).
3. A posteriori acceptance: Hume. Testimony is justified in case of reliable agents.
4. (A posteriori denial: Hume. Testimony is unjustified in case of unreliable agents.)

Note that there is an *a posteriori*-connection between Descartes, Reid and Hume.

Testimony: Formalism

Within the Bayesian framework we can explicate the traditional positions quite easily:
Take Pr_i to be the prior, Pr_o to be the posterior degrees of belief of the agent (α_2) who has to decide wheter to accept or refute some testimony on φ of another agent (α_1).
Prior and posterior cases are separated according to the occurence of $Test_{\alpha_1}(\varphi)$.
Then quantified versions of the traditional positions read as follows:

- "Descartes": $Pr_o(\varphi) = Pr_o(\varphi|\, Test_{\alpha_1}(\varphi)) = Pr_i(\varphi) = Pr_i(\varphi|\, Test_{\alpha_1}(\varphi))$
- Reid: $Pr_o(\varphi) = Pr_i(\varphi|\, Test_{\alpha_1}(\varphi))$, where $Pr_i(\varphi|\, Test_{\alpha_1}(\varphi))$ is assumed to be in general sufficiently high for accepting φ (credulity).
- Hume: $Pr_o(\varphi) = Pr_i(\varphi|\, Test_{\alpha_1}(\varphi))$

Note: Descartes = independence, Reid = fixed –, Hume = variable reliability

Testimony: Evaluation

Up to now we have explicated Hume's view on testimony.

But what about evaluation?

This question presupposes first and foremost an answer to the question about adequate criteria for evaluation?

And such criteria seem to be heavily dependent on the context in question:

> *"The veritistic merits of a hearer acceptance practice cannot be assessed in isolation from the reporting practices that it complements. This point can be appreciated by reflecting on results from game theory. A particular strategy for playing a certain game can be very successful when pitted against a second strategy but much less successful when used against others."* (**cit:goldman1999KnoSoc**)

Testimony: Evaluation

Consider the following example (**cit:goldman1999KnoSoc**):

- Reporting practice that generates only truths $\Rightarrow$ Blind Trust (Reid) ✓
- Reporting practice that generates only falsitys $\Rightarrow$ Blind Trust X
  $\Rightarrow$ Blind Contratrust ✓

The question is:

> *"Is there any acceptance practice that is optimal in all reporting environments, in other words, better in each reporting environment than every other acceptance practice would be? As in game theory, the answer appears to be "no.""* (**cit:goldman1999KnoSoc**)

But:

> *"a more modest project for the epistemology of testimonial acceptance[: . . .] seek a veritistically good practice[!]"*

Where:

> *"A good practice is one that produces veritistic improvements on average, over a range of actual and possible applications."* (**cit:goldman1999KnoSoc**)

Testimony: Evaluation

If one interprets Pr not only subjectively, but also objectively, then Hume's theory of testimony produces veritistic improvements on average.

Recall:
$Pr_o(\varphi) > Pr_i(\varphi)$ iff the testifying agent is a good truth-indicator ($Pr(\varphi|Test(\varphi))$ is high or at least higher than $Pr_i(\varphi)$ or the testimony of the agent is a "confirmator" etc.).

If Pr is interpreted objectively, then $Pr(\varphi|Test(\varphi))$ turns out to be not only a measure for estimated truth indication, but for truth indication simpliciter.

So, under this assumption ("suppose that her subjective likelihoods match the objective likelihoods;"—(**cit:goldman1999KnoSoc**)) Hume's theory of testimony is a *good* social practice.

Testimony: Evaluation

Veritistic improvement on average is not guaranteed with a subjective interpretation of *Pr* by Hume's practice.

But under an objective interpretation Hume's practice is to be guaranteed to be a good social practice for gathering knowledge.

In the following part we will indicate how one may weaken the assumption and achieve nevertheless a (weak) form of optimality.

The Meta-Inductive Setting

For details cf. (**cit:schurz2008MetInd**), (**cit:schurz2009MetInd**)!
Assume $\alpha_1, \ldots, \alpha_k$ to be all agents within a setting and α_{wMI}, a meta-inductivistic agent, to be one of them.
Assume $Test_{\alpha_T}$ to be the truth (α_T is a truth-teller) and $Test_{\alpha_i}$ to be agent's α_i claims in a series of testimonial situations.
Then we can define the single reliability of α_i by first measuring its error – the distance from the truth in each testimonial situation in the past and then summing up the errors of all testimonial situations to a track-record:

$$rel_{\alpha_i}(\varphi, n) \text{ (α_i's reliability on topic } \varphi \text{ until stage } n)$$

With the help of the global reliability measure one can define weighting coefficients for a meta-inductivist agent α_{wMI}: The more reliable an agent was in past, the higher her weight:

$$rel_{\alpha_i}(\varphi, n) \uparrow \;\Rightarrow\; weight_{\alpha_i}(\varphi, n) \uparrow$$

The Meta-Inductive Practice

Finally, with those weighting coefficients a meta-inductivist can construct a strategy in a very easy way:

$$Pr_{\alpha_{wMI}}(\varphi) = weight_{\alpha_1}(\varphi, n) \cdot Test_{\alpha_1}(\varphi) + \cdots + weight_{\alpha_k}(\varphi, n) \cdot Test_{\alpha_k}(\varphi)$$

Note that under the assumption of only one agent α_1, the meta-inductive practice coincides with Hume's practice.

Optimality Constraint:

> α *is optimal in its predictions if its success-rate is maximal in the long run.*

Theorem (**cit:schurz2009MetInd**):

> α_{wMI}*'s success-rate is maximal in the long run.*

Meta-Induction as Optimal Social Practice

Recall Goldman's question:

> *"Is there any acceptance practice that is optimal in all reporting environments, in other words, better in each reporting environment than every other acceptance practice would be?"* (**cit:goldman1999KnoSoc**)

Answer:

> *If 'every other acceptance practice' ⇒ 'every other available acceptance practice', then: Yes, there is (proviso)!*

One may wonder about the strong assumptions of the accessibility of the other agent's testimonies.

But a similar assumption seems to be made in Goldman's theorem about the veritistic improvement of Hume's practice: Pr is objective. How do we objectively calculate an agent's (α_1) truth indication reliability on φ $(Pr(\varphi|Test_{\alpha_1}(\varphi)))$?

On the Normativity of this Social Practice

Optimality allows also for spelling out the normativity of social reliabilism.

. . . and this only by reference to the traditional epistemic goal *truth*.

Take the following scheme of instrumentalism (the so-called deontic means-end principle – cf. Schurz 1997, p.239):

$$\mathcal{O}\varphi \;\&\; \Box(\varphi \rightarrow \psi) \;\rightarrow\; \mathcal{O}\psi$$

Resp. (recall Quine's quote):

$$\mathcal{O}\varphi \;\&\; \psi \text{ is an optimal means to achieve } \varphi \;\rightarrow\; \mathcal{O}\psi$$

Then, since truth ($\mathcal{T}$: 'Truth is grasped.') is our main epistemic goal $\mathcal{OT}$ and social reliabilism ($\mathcal{R}$: 'Social reliabilism is applied.') is – under the conditions of the setting – an optimal means to $\mathcal{T}$, also $\mathcal{R}$ "carries normative force": $\mathcal{OR}$.

Provisos

Provisos:

- Optimality: long-termed only
- Setting: global access supposed
- Setting: parasitic

Summary

- The Meno Problem: Why $val(\mathcal{K}\varphi) > val(\mathcal{B}\varphi)$, given the truth of φ?
- The more general problem: how to understand/justify epistemic normativity?
- Contemporary solutions:
  - Modification of concepts
  - Modification of epistemic goals
- Our aim was to give justifications without such modifications:
  - Classical epistemology: The value of knowledge theorem
  - Social epistemology: Optimality of social reliabilism

References I