Yet Another Argument Against Preemption

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Project Information

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Motivation

Preemption: Belief or disbelief of an epistemic authority in a proposition should completely replace all reasons for or against the proposition of an epistemic subject submitted to the authority.

NB: independent or not completely covered by debate on:

- peer or reasonable disagreement
- expert knowledge

Held for the social realm by Joseph Raz.

Held for the epistemic realm by Arnon Keren and Linda Zagzebski.

Line of Reasoning

Zagzebski's definition of 'epistemic authority' and preemption

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- Qualitative explication
 - General critique
 - Framing in terms of belief revision

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- Quantitative explication
 - In terms of credences and update
 - Modification by Constantin and Grundmann
 - Argument in favour by the principle of total evidence
 - Argument in favour by accuracy constraints

 \Rightarrow

Accuracy: probability matching and the maximizing rule



• Still: Sometimes preemption runs against accuracy

Epistemic Authority and Preemption

Epistemic Authority and Preemption

Broad outline of *epistemic authority*:

Consider epistemic authority of a over s regarding a specific domain of beliefs to consist of s trusting a's "way in which he gets his belief more than the way in which [s] would get the belief. In cases of these kinds the conscientious thing to do is to let [a] stand in for [s] in [s'] attempt to get the truth in that domain and to adopt his belief" (cf. Zagzebski 2012, p.105)

Preemption: The reasons provided by *a* replace the reasons of *s* and *s* rationally bases her decisions within the domain on these reasons.

NB: s does not take over evidence e^a , but $Bel^a(p)$

Epistemic Authority and Preemption

Let a believe in p (Bel^a(p)); then a is an epistemic authority for s regarding proposition p iff

- Preemption: Bel^a(p) is a preemptive reason for s to believe in p, i.e. for Bel^s(p)
- Content independency: If it were the case that $Bel^a(\neg p)$, then this would be a preemptive reason for $Bel^s(\neg p)$
- Subject dependency: s believes that she would also believe in p if she were better at getting the truth like she believes a to be.
- Normal justifyability: s is epistemically justified in this belief.

A Qualitative Explication and Critique

General Critique

Arguments of Arnon (Keren), Christoph (Jäger), Federica (Malfatti), Johannes (Findl), Katherine (Dormandy) et al.

Explication in Terms of Belief Revision

Preemption of Belief (PEB)

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Given Bel^a(p) and s gets to know this at t \rightarrow t':

Update \ of \ belief: \ Bel^s_{t'}(p) \ iff \ Bel^s_t(p|Bel^a(p))

Update \ of \ reason: \ Bel^s_{t'}(p) \ iff \ Bel^s_{t'}(p|Bel^a(p))
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Equals roughly

$$(Bel^s - p) + \{Bel^a(p) \rightarrow p, Bel^a(p)\}$$

E.g.:
$$e^s \to p$$
, $Bel^a(p) \Rightarrow contraction $Bel^s - p \Rightarrow by$ this also $e^s \notin Bel^s \Rightarrow expansion by $Bel^a(p) \to p$ and $p$$$

A Quantitative Explication and Modification

Credences and Preemptive Update

From synchronisation of *Bel* and *Cr* it follows: $Bel \Leftrightarrow Cr$

Preemption of Credence (PEC):

Given *s* gets to know the credences of *a* at $t \rightarrow t'$: *Credence update*:

$$Cr_{t'}^s(p) = Cr_t^s(p|Cr^a(p) = x) = x$$

Credences and Preemptive Update

Equivalently:

Preemption View (PV):

Given ...

$$Cr_{t'}^s(p) = 0 \cdot Cr_t^s(p) + 1 \cdot Cr^s(p) = Cr^s(p)$$

Contrary to (cf. Kelly 2011)

Total Evidence View (TEV):

Given ...

Then there are weights w^s , w^a , such that:

$$Cr_{t'}^s(p) = w^s \cdot Cr_t^s(p) + w^a \cdot Cr^a(p)$$

where w^s , $w^a > 0$ and $w^s + w^a = 1$

A Modification

In order to overcome problems of (PV), Jan Constantin and Thomas Grundmann provide the following modification:

Epistemic Authority via Superiority (EA):

a is an epistemic authority for s regarding p at the transition point $t \to t'$ iff at $t \to t'$ s is epistemically justified in believing that a is superior regarding evidence and inference (and this belief is true).

NB: A similar modification is provided by Sarah Wright.

The Principle of Total Evidence

Given this restriction, there is a simple argument for (PV):

- (1) Epistemic superiority w.r.t. evidence in the sense $e^a \vdash e^s$;
- (2) The principle of total evidence: If $e' \vdash e$, then choose $Pr(\cdot|e')$ instead of $Pr(\cdot|e)$
- (3) Cr should "mimic" Pr.

Hence: (PV) w.r.t. evidential superiority

But what about epistemic superiority w.r.t. inference?

This is argued for by accuracy constraints (e.g. via undercutting defeaters).

 C_1 C_2 C_3 C_4 ...

Failing of Probability Matching Favours Preemption

Decision Theory

Consider two decision theoretical rules:

- Probability matching rule: $\frac{|\{i \leq n: Bel_{t_i}(p[t_i])\}|}{n} \approx Cr(p)$
- Maximizing rule: $\frac{|\{i \le n: Bel_{t_i}(p[t_i])\}|}{||} = 1/0$, iff $Cr(p) \ge / < 0.5$

One can show that the maximizing rule fares on average better than probability matching.

Application to (EA), (PV), and (TEV):

Given (EA):

reliability of s

reliability of a

$$\frac{|\{i \leq n : Bel^s_{t_i}(p[t_i]) \text{ and } p\}|}{n} < \frac{|\{i \leq n : Bel^a_{t_i}(p[t_i]) \text{ and } p\}|}{n}$$

If s applies (PV), i.e. the maximizing rule w.r.t. $Cr^a(p)$, then s' reliability approaches on average that of a.

If not, as, e.g., in (TEV), then s' reliability will on average fall behind a.

Yet Another Argument Against Preemption

Wise Crowds

So, we have seen that (PV) accounts for epistemic superiority w.r.t:

- evidence via the principle of total evidence, and
- inference via approaching the authority a's reliability on average.

However, what about outperforming a's reliability?

There is an argument from the *wisdom of crowds* which can be directed against (PV).

NB that, e.g., Adam Elga proposed such an argument against the steadfast view in case of peer disagreement.

Wise Crowds

E.g. for a wise crowd effect: If a crowd is diverse, then the error of the average credence will be smaller than the error of the credence of an average individual (cf. Page 2007):

$$E^{\{s_1,\ldots,s_n\}}(p)=E^{\varnothing\{s_1,\ldots,s_n\}}(p)-D^{\{s_1,\ldots,s_n\}}(p)$$

More famous: Condorcet Jury Theorem

In general: "Crowd sourcing" outperforms "individual sourcing" given two conditions:

- Competence in the sense of a reliability > 0.5
- Independence in the sense of probabilistic independence or diversity

Wise Crowds

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(TEV) can implement "crowd sourcing", e.g., by equal weighting.
By this s can outperform a on average (in terms of reliability).
So, given a setting of competent and independent agents . . .
... epistemic superiority is no longer in favour of (PV), but ...
... in favour of a specific version of (TEV).
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Summary

Most important results

- Indication of qualitative preemption in terms of belief revision
- Bridging the qualitative version with its quantitative counterpart (PV)
- Constructing another argument against preemption even for the restricted case of epistemic superiority

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