Reasons in Argumentation

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Overview

Prima facie consequence

Some tentative definitions

Prima facie consequence Relation $\models_{pf} \subseteq \wp\mathcal{L} \times \mathcal{L}$ is a prima facie consequence relation iff it has the following properties:

- **Non-vacuity** $\Gamma \models_{pf} \varphi$, for some Γ and φ,
- **Non-totality** $\Gamma \not\models_{pf} \varphi$, for some Γ and φ,
- **Non-monotonicity** $\Gamma \subseteq \Gamma'$ and $\Gamma \models_{pf} \varphi$ but $\Gamma' \not\models_{pf} \varphi$, for some Γ', Γ, and φ.

Relevance Set Γ is relevant for ψ iff $\Gamma \models_{pf} \psi$ and for any $\varphi \in \Gamma$, $\Gamma - \{\varphi\} \not\models_{pf} \psi$.

Prototype $\mathcal{L}_{\text{effect}}$ dynamic modal language for communication theory

Definition (The prototype language $\mathcal{L}_{\text{effect}}$)

$$
\begin{array}{ll}
\mathcal{L}_{\text{world}} & p \text{ is a sentence of propositional logic} \\
\mathcal{L}_{\text{reality}} & \varphi ::= p \mid \neg\varphi \mid (\varphi \wedge \varphi) \mid \Diamond\varphi \mid \mathrm{D}_{\mathsf{i}}\varphi \mid \mathrm{B}_{\mathsf{i}}\varphi \mid \mathsf{i} \text{ stit } \varphi \mid \mathrm{O}_{\mathsf{i}}\varphi \mid \chi \\
\mathcal{L}_{\text{utterance}} & \xi ::= !\mathsf{i} \text{ stit } \varphi \mid \cdot\varphi \mid \cdot\varphi \rightarrow !\mathsf{i} \text{ stit } \varphi \\
\mathcal{L}_{\text{locution}} & \chi ::= \mathsf{i}\colon \underline{\xi} \\
\mathcal{L}_{\text{effect}} & \epsilon ::= \varphi \mid [\chi]\epsilon \mid \neg\epsilon \mid (\epsilon \wedge \epsilon) \mid \circledast_{\mathsf{i}}\epsilon \mid \ulcorner \circledast_{\mathsf{i}}\varphi \urcorner \in \Psi(\mathsf{i}\colon \underline{\xi})
\end{array}
$$

Cf.

Žarnić, B. (2013)
Logical roots of linguistic commitment.
In *Theory of Imperatives from Different Points of View, vol. II*. Eds. A. Brożek, J. Jadacki, and B. Žarnić. Warsaw: Wydawnictwo Naukowe Semper.

Reason explanation

Definition

Let $\mathrm{Int}(\mathsf{i})$ be the set of sentences about the subjective world of i, $\mathrm{Int}(\mathsf{i}) = \{x \mid x = \mathrm{D}_{\mathsf{i}}\varphi$ or $x = \neg\mathrm{D}_{\mathsf{i}}\varphi$ or $x = \mathrm{B}_{\mathsf{i}}\varphi$ or $x = \neg\mathrm{B}_{\mathsf{i}}\varphi$ or $x = \mathsf{i}$ stit φ or $x = \neg\mathsf{i}$ stit φ, for some $\varphi \in \mathcal{L}_{\text{reality}}$ and some $\mathsf{i}\}$. The inference 'Γ, ψ' is a reason explanation iff

- $\psi \in \mathrm{Int}(\mathsf{i})$ for some actor i,
- Γ is relevant for ψ,
- $\Gamma \models_{pf} \psi$.

The first critical question

- Is there a reason explanation Γ, ψ such that $\Gamma - \mathrm{Int}(\mathsf{i}) \neq \varnothing$?
- We assume the negative answer. The discovery of this fact is the discovery of subjective world.

Example

The set of sentences (1), (2) and (3) is consistent in the logic of the subjective world but inconsistent in the logic of the objective world.

$$\mathrm{Desire}_{\mathrm{oedipus}}\ \mathrm{oedipus}\ \mathsf{stit}\ \mathit{Married}(\mathrm{oedipus}, \mathrm{jocasta}) \quad (1)$$

$$\mathrm{jocasta} = \mathrm{mother\ of}(\mathrm{oedipus}) \quad (2)$$

$$\neg\mathrm{Desire}_{\mathrm{oedipus}}\ \mathrm{oedipus}\ \mathsf{stit}\ \mathit{Married}(\mathrm{oedipus}, \mathrm{mother\ of}(\mathrm{oedipus})) \quad (3)$$

Goldman Reason Definitions (GRD)

(1) There is an *F* (moral, prudential, religious, aesthetic …) reason *R* to do act *A* = If and only if a subject *S* is *F*-minded, then *S*, if rational, would be motivated by awareness of *R* to do *A*.
(2) *S* has an *F* reason *R* to do act *A* = *S* is *F*-minded, and because of that, if rational, would be motivated by awareness of *R* to do *A*.
(p. 34)

Alan H. Goldman (2009)
Reasons from Within: Desires and Values.
Oxford University Press.

Horizontal rationality

- Horizontal rationality concerns the logical properties of a collection of intentional states of an actor.
- It is usually called *coherence* and understood as consistency and deductive closure up to certain degree.

Example

The set of sentences (4), (5) and (6) is inconsistent in the logic of the subjective world. It depicts the tragic state of mind of Oedipus after acquiring the horrible belief (5).

$$\text{Desire}_{\text{oedipus}}\ \text{oedipus stit}\ \textit{Married}(\text{oedipus}, \text{jocasta}) \tag{4}$$

$$\text{Belief}_{\text{oedipus}}\ \text{jocasta} = \text{mother of}(\text{oedipus}) \tag{5}$$

$$\neg\text{Desire}_{\text{oedipus}}\ \text{oedipus stit}\ \textit{Married}(\text{oedipus}, \text{jocasta}) \tag{6}$$

Goldman on coherence as intercategorial closure

Intercategorial coherence

Just as rationality or coherence can require certain beliefs given other beliefs or evidence, so it can require certain desires or motivational states given other desires or concerns. A belief in itself is not a reason to believe it true, and a motivation is not a reason to be motivated or to act, but beliefs can require other beliefs they imply in order to maintain coherence, and desires can require other desires.
(p. 34)

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On coherence: intercategorial and transcategorial

- Coherence can be understood in a narrow sense as a property within one category of intentional states (cf. Goldman). Coherence in the wide sense is a property of the set of intentional states irrespective of their category.
- For example, the coherence tendency explains why the set

$$\left\{ \begin{array}{l} \text{Desire}_{\text{oedipus}}\ \text{oedipus stit}\ \textit{Married}(\text{oedipus}, \text{jocasta}), \\ \text{Desire}_{\text{oedipus}}\ \text{oedipus stit}\ \neg\textit{Married}(\text{oedipus}, \text{mother of}(\text{oedipus})) \end{array} \right\}$$

after addition of

$$\text{Belief}_{\text{oedipus}}\text{jocasta} = \text{mother of}(\text{oedipus})$$

turns into disaster set, the inconsistent set containing both

$$\text{Desire}_{\text{oedipus}}\ \text{oedipus stit}\ \neg\textit{Married}(\text{oedipus}, \text{mother of}(\text{oedipus}))$$

and

$$\text{Desire}_{\text{oedipus}}\ \text{oedipus stit}\ \textit{Married}(\text{oedipus}, \text{mother of}(\text{oedipus})).$$

Vertical rationality

- Vertical rationality is the property of a collection intentional states of an actor obtaining just in case when each of states stands in appropriate relation to reality.
- The vertical rationality property is usually termed *correspondence*. Goldman uses the term "information requirement".
- A belief stands in appropriate relation to reality if it is true (veridical, factive). A desire stands in appropriate relation to reality if its desideratum is possible.

Example

Oedipus belief that it is possible to avoid the fate gave rise to the false belief:

$$\text{Belief}_{\text{oedipus}}\ \Diamond\neg \mathit{Married}(\text{oedipus}, \text{mother of}(\text{oedipus}))$$

The false belief provides the basis for a desire, which is, consequently, "not informed":

$$\text{Desire}_{\text{oedipus}}\ \neg \mathit{Married}(\text{oedipus}, \text{mother of}(\text{oedipus}))$$

No reason generation

…desires based only on false beliefs about their objects or about the outcomes of fulfilling them generate no reasons to act on them. But if desires based on false beliefs generate no reasons, then desires based on lack of information or ignorance generate no reasons either, having similar likely effects.
(p. 48)

Alan H. Goldman (2009)
Reasons from Within: Desires and Values.
Oxford University Press.

According to (GRD_1), any "state of affairs" is both a reason for Oedipus to leave the city of Corinth and not to leave or for any action whatsoever. Why? His belief was false and desire based on it was impossible. Therefore, he was not rational. Irrationality makes definens vacuously true and so any state of affairs is a reason for any action of an irrational actor.

Oedipus is morally minded	→	(Oedipus is rational	→	Oedipus would be motivated by awareness of *R* to do *A*)
	t	**f**	t	
if a subject *S* is *F*-minded,	then	*S*, if rational,		would be motivated by awareness of *R* to do *A*.

Goldman Reason Definitions (GRD)

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According to (GRD_2): Oedipus was "morally-minded". He was not rational since his belief was false and the desire based on it had an impossible desideratum.
Non-rationality makes definens vacuously true and so any state of affairs is a reason for any action of an non-rational actor.

Oedipus is morally minded	→	(Oedipus is rational	→	Oedipus would be motivated by awareness of *R* to do *A*)
	t	f	t	
if a subject *S* is *F*-minded,	then	*S*, if rational,		would be motivated by awareness of *R* to do *A*.

Reasons

Goldman's thesis

Reasons motivate rational actors.

Definition (Modified GDR)

ρ is an *objective epistemic reason* for Desire_{i} i stit ψ with respect to set of desires Δ of actor i iff

- $\Gamma \subseteq \text{Int}(\text{i})$,
- $\Gamma \models_{pf} \text{Desire}_{\text{i}}$ i stit ψ,
- Γ is relevant for Desire_{i} i stit ψ,
- $\Delta \subseteq \Gamma$,
- each $\varphi \in \Gamma$ is informed,
- for some $\varphi \in \Gamma$: $\varphi = \text{Belief}_{\text{i}} \rho$.

A problem

Let 'rational social activity' denote 'social interaction in which each act of each actor is done for a reason'.

Social rationality of argumentation

Is dialogical argumentation a social activity such that necessarily one of participants has no reason (i.e. no objective epistemic reason) to argue?

Argumentation is a verbal, social, and rational activity aimed at convincing a reasonable critic of the acceptability of a standpoint by putting forward a constellation of propositions justifying or refuting the proposition expressed in the standpoint.

van Eemeren, F. and R. Grootendorst (2004).
A Systematic Theory of Argumentation: The Pragma-dialectical Approach.
Cambridge: Cambridge University Press.

If necessarily only one participant can have a reason to argue, then argumentation is not a rational social interaction, and, consequently, van Eemeren-Grootendorst definition must be revised.

The elements of definition:

- the roles: the proponent i, the opponent j, the reasonable critic rc,
- the standpoint under discussion: φ,
- disagreement: $B_i\varphi \wedge B_j\neg\varphi$,
- a complex speech act performed by speaker x, i.e. a sequence of locutions $x{:}\ \underline{\xi_1 \ldots \xi_n}$,
- speaker's belief that complex speech act $x{:}\ \underline{\xi_1 \ldots \xi_n}$ is a sufficient means for convincing the reasonable critic $B_{rc}\varphi$: $B_x[x{:}\ \underline{\xi_1 \ldots \xi_n}]B_{rc}\varphi$,
- speaker's desire to reach understanding: $D_x\left((B_i\varphi \wedge B_j\varphi) \vee (B_i\neg\varphi \wedge B_j\neg\varphi)\right)$. In order to save space instead of the stronger formula $D_x\left((B_i\varphi \wedge B_j\varphi) \vee (B_i\neg\varphi \wedge B_j\neg\varphi)\right)$ we will use the weaker one $D_i(B_i\varphi \leftrightarrow B_j\varphi)$.

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Remark. For the ease of analysis only epistemic disagreement in the form of opposition will be discussed and means-end belief will be reduced to only one instance.

	proponent (justification) i	opponent (refutation) j
standpoint	φ	
disagreement	$B_i(B_i\varphi \wedge B_j\neg\varphi)$	$B_j(B_i\varphi \wedge B_j\neg\varphi)$
consensus desire	$D_i(B_i\varphi \leftrightarrow B_j\varphi)$	$D_j(B_i\varphi \leftrightarrow B_j\varphi)$
means-end belief	$B_i[i : \underline{\xi \ldots}]B_{rc}\varphi$	$B_j[j : \underline{\xi^* \ldots}]B_{rc}\neg\varphi$
complex speech-act	$i : \underline{\xi \ldots}$	$j : \underline{\xi^* \ldots}$

Suppose that the proponent's and the opponent's intentional states are informed or vertically rational. The truth of 3. is possible in virtue of *prima facie* consequence relation.

	proponent (justification) i	opponent (refutation) j	reality
1. disagreement	$B_i(B_i\varphi \wedge B_j\neg\varphi)$	$B_j(B_i\varphi \wedge B_j\neg\varphi)$	$B_i\varphi \wedge B_j\neg\varphi$
2. consensus desire	$D_i(B_i\varphi \leftrightarrow B_j\varphi)$	$D_j(B_i\varphi \leftrightarrow B_j\varphi)$	$\Diamond(B_i\varphi \leftrightarrow B_j\varphi)$
3. means-end belief	$B_i[i : \underline{\xi \ldots}]B_{rc}\varphi$	$B_j[j : \underline{\xi^* \ldots}]B_{rc}\neg\varphi$	$[i : \underline{\xi \ldots}]B_{rc}\varphi \wedge [j : \underline{\xi^* \ldots}]B_{rc}\neg\varphi$
4. complex speech-act	$i : \underline{\xi \ldots}$	$j : \underline{\xi^\star \ldots}$	

A paradox of reason?

- **Hypothesis on reasons and actions.** If a (generic) state of affairs ρ is a reason for oppositive acts, i.e. acts resulting in incompatible states of affairs, then it is not a reason for neither of them.

Proposition

There is a GRD_1 reason for oppositive acts.

Proof.

In an argumentation "oriented towards reaching understanding" all the conditions from GRD_1 are satisfied:

1. the proponent and the opponent are "F-minded" (i.e. "consensus-minded"): both of them desire to reach understanding,
2. their intentional states are well-informed, making each of them vertically rational,
3. the common "reality part" in their beliefs is the existence of disagreement, $B_i\varphi \wedge B_j\neg\varphi$.

The acts of the proponent and the opponent are oppositive acts. Therefore, the same state of affairs, i.e. the disagreement $B_i\varphi \wedge B_j\neg\varphi$, is a reason for oppositive acts. □

A paradox of reason?

- The proposition on existence of a reason for oppositive acts shows that
  1. either argumentation is not a rational social activity since it falsifies the *hypothesis on reasons and actions*,
  2. or that the *hypothesis on reasons and actions* is not correct since one and the same state of affairs can be a reason for oppositive acts.
- Possible solutions:
  - (ad 1) there is a social activity that is rational as a whole although composed of non-rational parts,
  - (ad 2) abandon the idea that state of affairs can play the role of reasons,
  - or ?