Normativity in Communication

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Overview

1. Introducing the formal language for the description of normativity in communication
   - Motivating example: Moore's paradox and the principle of undeniability of sincerity conditions
   - Symbolic language for the theory of communication
   - Application of the formal language in translation of the definition of argumentation
   - Three approaches to the logic of locutions: illocutionary logic, normative pragmatics, dynamic logic
2. The logical form of norms and the two types of communication act norms
   - The logical form of communication act norms
     - Logical communication act norms
     - Non-logical communication act norms
   - A comparison between logical and non-logical norms
   - Avoiding communicative incoherence

Moore's paradox

The famous observation

…to say such a thing as *I went to the pictures last Tuesday, but I don't believe that I did* is a perfectly absurd thing to say, although what is asserted is something which is perfectly possible logically…

G. E. Moore (1942) A reply to my critics.
In *The Philosophy of G.E. Moore*, ed. Paul Arthur Schilpp, 3rd ed. (La Salle, IL: Open Court, 1992), 543.

(P1)	It is possible for anyone to have a false belief.
(P2)	If something is possible, then it is not absurd to assert it.
(C)	It is not absurd to assert that someone has false belief.

- (P3) Intuition tells that it is absurd to assert one's own false belief.
- (P3) contradicts (C). So, if our intuition is not wrong, then either (P1) or (P2) is false.

- If one accepts the definition of human beings as imperfect rational beings, both in theoretical and practical sense, then premise (P1) about the possibility of false belief is sound.
- So (P2) should be abandoned if we hold to our intuition (P3). If so, then there is something which is possible but absurd to assert.
- According to Searle and Vanderveken, the source of absurdity is normative in character according to Searle and Vandervaken: the utterance of a Moore-type sentence violates the speaker's own commitments.

The principle of undeniability of sincerity conditions

A speaker cannot simultaneously express a psychological state and deny that he has that state.

...

To express a psychological state is to commit oneself to having that state and this commitment implies a commitment to the truth of the proposition that one has that psychological state. This postulate explains Moore's paradox.

Searle, J. and Vanderveken, D. (1985). *Foundations of Illocutionary Logic*, p.91.
Cambridge University Press, .

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

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

The prototype language $\mathcal{L}_{\text{effect}}$ is the formal language of communication theory defined by recursion to other formal languages:

$$\mathcal{L}_{\text{world}} \quad p \text{ is a sentence of propositional logic}$$

$$\mathcal{L}_{\text{reality}} \quad \varphi ::= p \mid \neg\varphi \mid (\varphi \wedge \varphi) \mid \Diamond\varphi \mid \circledast_{\mathsf{i}}\varphi \mid \mathsf{i} \text{ stit } \varphi \mid \odot_{\mathsf{i}}\varphi \mid \chi$$

$$\mathcal{L}_{\text{utterance}} \quad \xi ::= !\mathsf{i} \text{ stit } \varphi \mid \cdot\varphi \mid \cdot\varphi \rightarrow !\mathsf{i} \text{ stit } \varphi$$

$$\mathcal{L}_{\text{locution}} \quad \chi ::= \mathsf{i}: \underline{\xi}$$

$$\mathcal{L}_{\text{effect}} \quad \epsilon ::= \varphi \mid [\chi]\epsilon \mid \neg\epsilon \mid (\epsilon \wedge \epsilon) \mid \circledast_{\mathsf{i}}\epsilon \mid \ulcorner\circledast_{\mathsf{i}}\varphi\urcorner \in \Psi(\mathsf{i}: \underline{\xi})$$

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.

Actors $\mathsf{i}, \mathsf{j}, \ldots$
Propositional Letters $p, q, \ldots$
Intentionality $\circledast_{\mathsf{i}} \in \{\mathrm{B}_{\mathsf{i}}, \mathrm{D}_{\mathsf{i}}, \neg\mathrm{B}_{\mathsf{i}}, \neg\mathrm{D}_{\mathsf{i}}\}$ for 'i believes that ...' and 'i desires that ...', and their negations.
Action i stit for 'i sees to it that ...'
Sentence Moods $\cdot$ and ! for indicative and imperative sentence mood
Locution $\mathsf{i}:\underline{\ldots}$ for 'i says: "..."'
Deontics $\odot_{\mathsf{i}} \in \{\mathrm{P}_{\mathsf{i}}, \mathrm{F}_{\mathsf{i}}, \mathrm{O}_{\mathsf{i}}\}$ for generic deontic operator that stands in place of 'it is permitted for i that ...', 'it is forbidden for i that ...' and 'it is obligatory for i that ...'.
Expression relation $\ulcorner\cdot\circledast_{\mathsf{i}}\varphi\urcorner \in \Psi(\mathsf{i}: \underline{\xi})$ stands for 'intentional state $\circledast_{\mathsf{i}}\varphi$ is a sincerity condition of the

Example

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.

F. van Eemeren and R. Grootendorst (2004) *A Systematic Theory of Argumentation*, p.1

The elements of definition:

- the two roles: the actor i and the reasonable critic rc,
- the actor i's standpoint: φ,
- a complex speech act performed by the speaker i, i.e. a sequence of locutions $\mathsf{i}\colon \underline{\xi_1} \ldots \mathsf{i}\colon \underline{\xi_n}$,
- the actor's belief that complex speech act $\mathsf{i}\colon \underline{\xi_1} \ldots \mathsf{i}\colon \underline{\xi_n}$ is a sufficient means for the end $\mathrm{B}_{\mathsf{rc}}\varphi$: $\mathrm{B}_{\mathsf{i}}([\mathsf{i}\colon \underline{\xi_1}] \ldots [\mathsf{i}\colon \underline{\xi_n}]\mathrm{B}_{\mathsf{rc}}\varphi)$,
- the actor's desire to convince the reasonable critic into φ: $\mathrm{D}_{\mathsf{i}}\ \mathrm{B}_{\mathsf{rc}}\varphi$.

Putting formal language to work

The translation for van Eemeren& van Grootendorst definition

Argumentation is a performance of a discourse on the background of practical reasoning that includes the actor's desire to convince a reasonable critic and the actor's belief that discourse will bring about the desired effect.

$$(\mathsf{i}\colon \underline{\xi_1} \wedge \cdots \wedge \mathsf{i}\colon \underline{\xi_n}) \wedge \mathrm{B}_\mathsf{i}([\mathsf{i}\colon \underline{\xi_1}] \ldots [\mathsf{i}\colon \underline{\xi_n}]\mathrm{B}_{\mathrm{rc}}\varphi) \wedge \mathrm{D}_\mathsf{i}\ \mathrm{B}_{\mathrm{rc}}\varphi \tag{1}$$

The translation for the postulate of undeniability of sincerity conditions

The translation of one of the consequences of Searle and Vandervaken postulate ("To express a psychological state is to commit oneself to having that state and this commitment implies a commitment to the truth of the proposition that one has that psychological state") shows that provided that an expressive relation holds between a psychological state and a locution, the locution brings about a change in the deontic value of some other locution.

$$\text{If } \ulcorner \circledast_\mathsf{i}\varphi \urcorner \in \Psi(\mathsf{i}\colon \underline{\xi}), \text{ then } [\mathsf{i}\colon \underline{\xi}]\mathrm{F}_\mathsf{i}\mathsf{i}\colon \underline{\neg \cdot \circledast_\mathsf{i}\varphi} \tag{2}$$

Expressive conception of language

Illocutionary logic. A sequence $\mathsf{i}{:}\underline{\chi_1}, \ldots, \mathsf{i}{:}\underline{\chi_n}$ of locutions *entails* locution $\mathsf{i}{:}\underline{\chi_{n+1}}$ IFF intentional states expressed by the sequence *are reasons for* intentional states expressed by the entailed locution.

Normative conception of language

Normative pragmatics. A sequence $\mathsf{i}{:}\underline{\chi_1}, \ldots, \mathsf{i}{:}\underline{\chi_n}$ of locutions *entails* locution $\mathsf{i}{:}\underline{\chi_{n+1}}$ IFF linguistic commitments of the sequence *include* linguistic commitments of the entailed locution.

Logico-structural conception of language

Dynamic logic. Supports the view that the logical structure of language-in-use is the root logic, the logic that manifests itself in the effects of language use, which include both linguistic commitments and rational psychological commitments but are not reducible to them.

The logical form of communication norms

- A norm assigns a deontic value to a norm-subject's act in certain conditions. Its general logical form is: If condition φ_1 obtains, then actor i's act of seeing it to that φ_2 has deontic value $\odot_i$ of being obligatory, forbidden or permitted for i.

$$\text{If } \varphi_1 \text{, then } \odot_i \; \mathsf{i} \text{ stit } \varphi_2 . \tag{3}$$

- Communication act norm is a kind of norm in which a deontic value is assigned to a norm-subject's locution (i.e., emission of a sentence).
- Abbreviating i *sees to it that* i *utters (emits) sentence* ξ (symbolically: $\mathsf{i} \text{ stit } \mathsf{i}{:}\underline{\xi}$) with i *says:* "$\xi$" (symbolically: $\mathsf{i}{:}\underline{\xi}$), from (3) we obtain the logical form of the communication norm (4) by specialization:

$$\text{If } \varphi \text{, then } \odot_i \; \mathsf{i}{:}\underline{\xi} . \tag{4}$$

The logical form of logical communication norms

- A particular case of communication norms arises when the condition for the assignment of deontic value to the locution is (the context produced by) the speaker's own anterior discourse.

$$\text{If the speaker i has produced a sequence of locutions } \mathsf{i}{:}\underline{\xi_1} \ldots \mathsf{i}{:}\underline{\xi_{n-1}}\text{, then } \odot_{\mathsf{i}}\ \mathsf{i}{:}\underline{\xi_n}\,. \tag{5}$$

- The relation between a discourse and a locution (5) is a regularity that holds in virtue of the logical relations between locutions. The logic of locutions is the normative source for this type of norms and, so, they can be termed *logical communication norms*.
- According to the formal language of Dynamic Logic, a regularity can be expressed by the modal formula $[\chi]\epsilon$ which states that *always after execution of* χ*, it is the case that* ϵ. So, the schema (5) is represented in $\mathcal{L}_{\text{effect}}$ dynamic modal language for communication theory as (6).

$$[\mathsf{i}{:}\underline{\xi_1}] \ldots [\mathsf{i}{:}\underline{\xi_{n-1}}]\ \odot_{\mathsf{i}}\ \mathsf{i}{:}\underline{\xi_n} \tag{6}$$

Logic of sentences and logic of locutions

- We adopt the postulate that there is the logic of locutions.
- In the examples to the right the same phenomenon occurs: the speaker produces the locution that is forbidden in the context produced by the speaker's own anterior discourse, (7) below, and thus creates communicative incoherence, (8) below.

$$[\mathsf{i}{:}\underline{\xi_1}]\ldots[\mathsf{i}{:}\underline{\xi_{n-1}}]\ \mathbf{F}_{\mathsf{i}}\ \mathsf{i}{:}\underline{\xi_n}\ \wedge\ \mathsf{i}{:}\underline{\xi_n} \qquad (7)$$

$$[\mathsf{i}{:}\underline{\xi_1}]\ldots[\mathsf{i}{:}\underline{\xi_{n-1}}][\mathsf{i}{:}\underline{\xi_n}]\bot \qquad (8)$$

- The difference between examples **a**. and **c**., on one side, and examples **b**. and **d**., on the other side, lies in the the type of logic on the background of which the inconsistency becomes visible. The inconsistency in the examples **b**. and **d**. is visible in the logic of locutions and not in the logic of sentences.

Examples of violated linguistic commitments

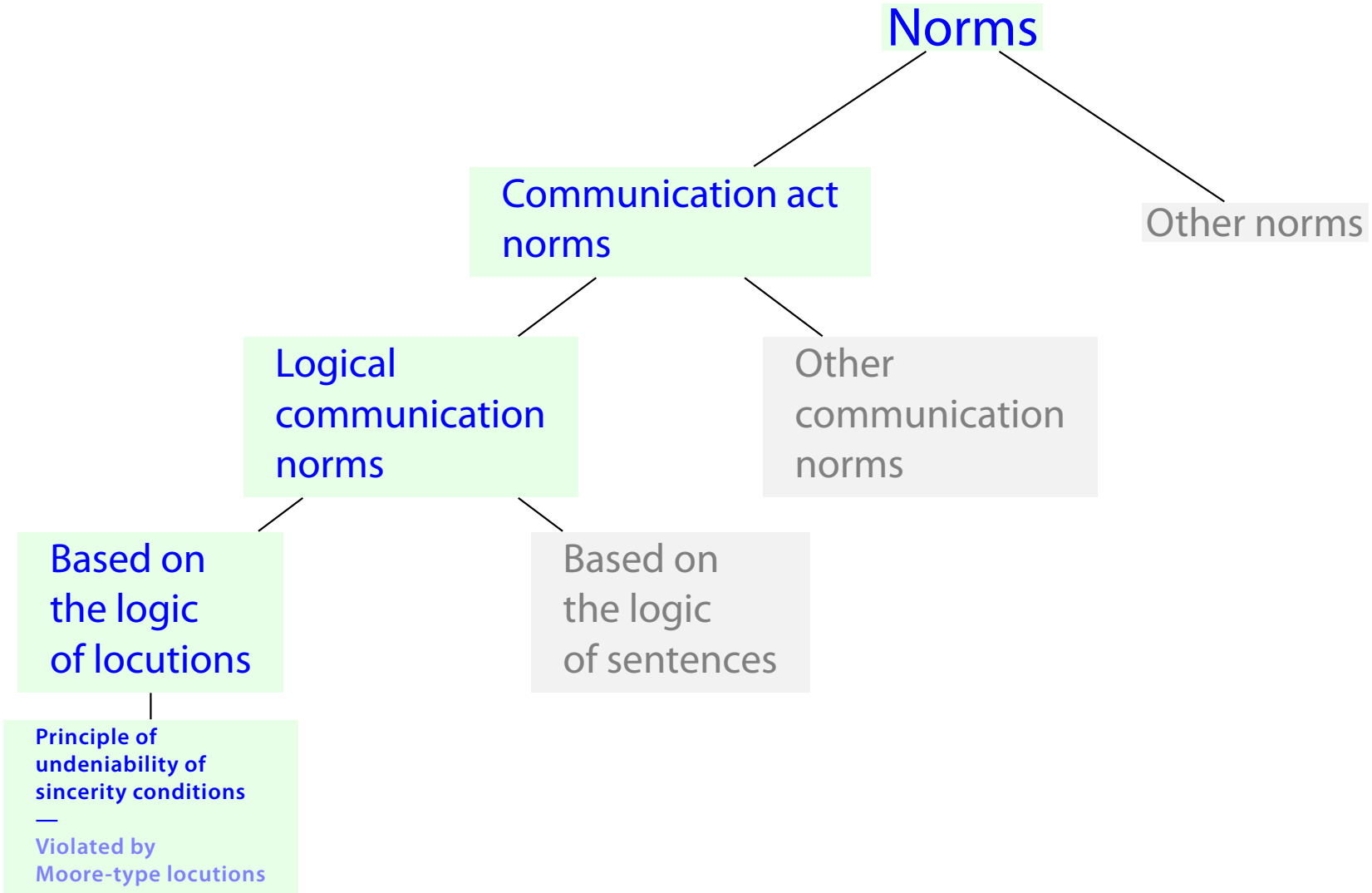
a. It is raining. It is not raining.

b. It is raining. I do not believe it.

c. I will apologize only if I am sorry. I am not sorry. I will apologize.

d. I apologize. I am not sorry.

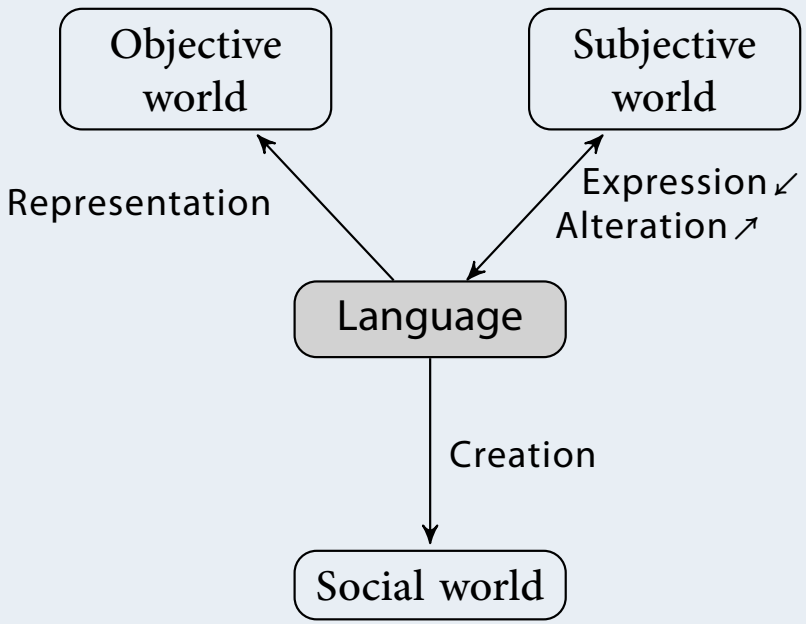
An overview


Norms
Communication act norms
Other norms
Logical communication norms
Other communication norms
Based on the logic of locutions
Based on the logic of sentences
Principle of undeniability of sincerity conditions
—
Violated by Moore-type locutions

General perspective

- Logic of sentences is a "zero-agent logic". If viewed from the perspective of expressive relation, logic of locutions is a "single-agent logic". In the perspectives of alteration and creation relation, logic of locutions is a "social logic".
  1. The logic of locutions can be grasped by the structure of its effects:
     - in the subjective world, in alterations of the hearer's intentional state, and
     - in the social world, in changes of linguistic and non-linguistic commitments and entitlements of the speaker and the hearer.
  2. The logic of locutions can be grasped by the structure of the expressed intentional states.

Language relations on the background of Habermasian ontology



Non-logical communication norms

- The category of non-logical communication act norms comprises norms whose condition for the assignment of deontic value to a locution is defined in terms of intentional state of one or more communication actors and possibly some other condition *C*. A typical logical form is given in (9).

$$\text{If } (\circledast_j \varphi \wedge C) \text{, then } \odot_i \; i{:}\underline{\xi_n}. \tag{9}$$

- The special case arises when the actor j, whose intentional state is mentioned in the precondition part of the norm, is identical to the norm-subject i. The *honesty principle* (as termed by van Eemeren and van Grootendorst) is an example of this i = j type.

Honesty principle

If the speaker's i having an intentional state $\circledast_i \varphi$ is a sincerity condition of (i.e., is expressed in) the locution $i{:}\,\underline{\xi}$, then it is forbidden for i to perform the locution if i does not have that intentional state.

$$(\neg \circledast_i \varphi \wedge \ulcorner \circledast_i \varphi \urcorner \in \Psi(i{:}\underline{\xi_n})) \rightarrow \mathbf{F}_i \; i{:}\underline{\xi_n} \tag{10}$$

Example (Another non-logical communication norm defined in terms of the speaker's intentional states)

Non-redundancy principle

The efficiency principle implies that a correct performance of a speech act may not be redundant, unnecessary, or meaningless. For instance, adducing an argumentation would be redundant if the speaker or writer supposes that the listener or reader is already convinced of the acceptability of the standpoint defended…

F. van Eemeren and R. Grootendorst (2004) *A Systematic Theory of Argumentation*, p.78

The translation shows that the deontic assignment precondition is defined in terms of the speaker's intentional states.

$$(\mathrm{B_i B_j}\varphi \wedge \mathrm{B_i}([\mathrm{i}{:}\,\underline{\xi_1}]\ldots[\mathrm{i}{:}\,\underline{\xi_n}]\mathrm{B_{rc}}\varphi) \wedge \mathrm{D_i}\ \mathrm{B_{rc}}\varphi) \rightarrow \mathrm{F_i}\ \ \mathrm{i}{:}\underline{\xi_1 \ldots \xi_n} \qquad (11)$$

Grice's maxim of quality

Proposition

The speaker's belief that φ is a sincerity condition for (is expressed in) her assertion that φ.

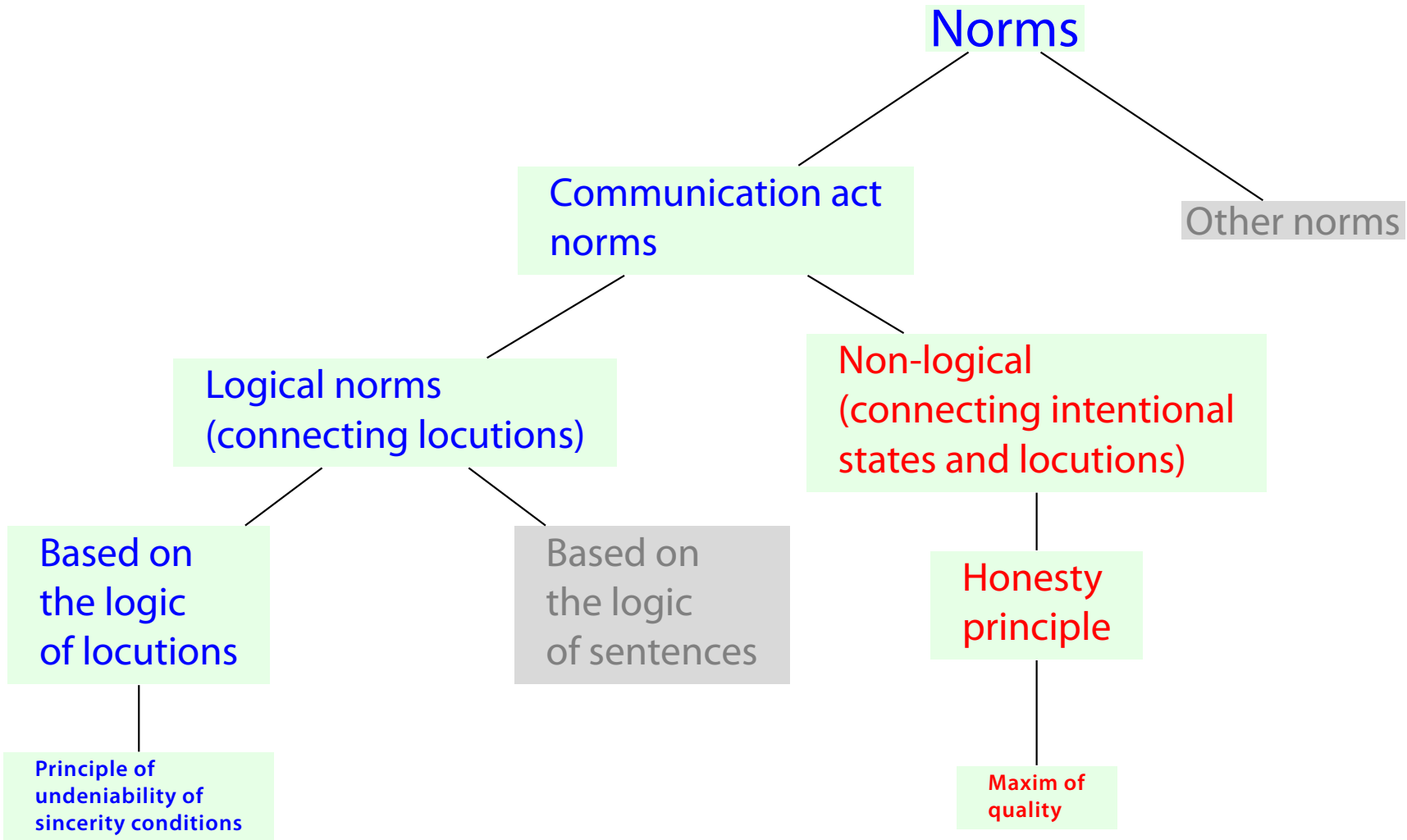
Paul Grice's maxim of quality *Don't say what you believe to be false* can be derived as a special case of the honesty principle. First, we restrict the honesty principle to the assertive type of speech-acts (12) with further restriction to cases where the content of utterance and intentional state is described in the same way, i.e., where Proposition above holds. Second, under the assumption that actor i has consistent beliefs we get the maxim of quality (13):

$$\neg B_i \varphi \rightarrow F_i \; i{:}\cdot\underline{\varphi} \tag{12}$$

$$B_i \neg \varphi \rightarrow F_i \; i{:}\cdot\underline{\varphi} \tag{13}$$

The translation reveals that maxim of quality should have been formulated more generally as *Don't say what you don't believe to be true* or, otherwise, the honesty principle is too restrictive.

An overview


Norms
Communication act norms
Other norms
Logical norms (connecting locutions)
Non-logical (connecting intentional states and locutions)
Based on the logic of locutions
Based on the logic of sentences
Honesty principle
Principle of undeniability of sincerity conditions
Maxim of quality

Logical versus non-logical norms of communication acts

Logical norms	Non-logical norms
Morphology	
Locutions; The deontic value of a locution. $[\mathsf{i}{:}\underline{\xi_1}] \ldots [\mathsf{i}{:}\underline{\xi_{n-1}}] \odot_{\mathsf{i}} \mathsf{i}{:}\underline{\xi_n}$	The actor's intentional state and the deontic value of a locution. $(\circledast_{\mathsf{i}}\varphi \wedge C) \rightarrow \odot_{\mathsf{i}} \mathsf{i}{:}\underline{\xi_n}$
Violation effect	
Communicative incoherence.	Communicative invalidity (e.g., violation of truth, truthfulness or rightness validity claim).
Their relation	
Communicative coherence does not presuppose validity.	Communicative validity presupposes coherence.
Character	
Constitutive. Definitory.	Regulative.

Communication as a norm-governed activity includes both types of norms. They stand in following relations: (i) obeying constitutive norms is a necessary condition for obeying regulative ones, (ii) violating constitutive rules ends the activity, (iii) violating regulative norms is possible without violating constitutive ones (e.g., speakers in a dialogue may reiterate their previous utterances)

The responsibility principle in its minimal form

- The minimal claim of the responsibility principle is that the speaker's discourse necessarily brings about changes in her own linguistic commitments: the locutions she is permitted, forbidden or conditionally obliged to perform. The principle of non-deniability of the sincerity conditions (14) suffices to prove the minimal claim of the responsibility principle (15).

$$\ulcorner \circledast_i \varphi \urcorner \in \Psi(i{:}\,\underline{\xi}) \rightarrow [i{:}\,\underline{\xi}]\ \mathbf{F}_i\ i{:}\,\underline{\cdot\neg \circledast_i \varphi} \tag{14}$$

For any locution $i{:}\,\underline{\xi_1}$ exists a locution $i{:}\,\underline{\xi_2}$ such that $[i{:}\,\underline{\xi_1}]\ \odot_i\ i{:}\,\underline{\xi_2}$. (15)

The responsibility principle in its minimal form

- The minimal claim of responsibility principle is a logical principle. It can be defined using the notion of communicative incoherence: $[\chi_1] \dots [\chi_n] \bot$. The logical norms serve to avoid communicative incoherence, they are principles of consistency maintenance: $[\chi_1] \dots [\chi_{n-1}] \mathbf{F} \chi_n$.
- With each new locution performed the speaker (re)creates her own normative world, her linguistic commitments. The meta-norm of this expansive assignment of deontic values has logical character: *If the extension of the speaker's coherent discourse with a locution will produce communicative incoherence, then it is forbidden for the speaker to produce the locution.*
- The responsibility principle in its minimal form is a logical principle and as such does not depend on any other principle. Therefore, the claim that the responsibility principle is implied by the honesty principle is vacuously true.

Thank you!

$$(\neg[\mathsf{i}\colon \underline{\xi_1}]\ldots[\mathsf{i}\colon \underline{\xi_{n-1}}]\bot \wedge [\mathsf{i}\colon \underline{\xi_1}]\ldots[\mathsf{i}\colon \underline{\xi_{n-1}}][\mathsf{i}\colon \underline{\xi_n}]\bot) \rightarrow [\mathsf{i}\colon \underline{\xi_1}]\ldots[\mathsf{i}\colon \underline{\xi_{n-1}}]\mathbf{F}_{\mathsf{i}}\mathsf{i}\colon \underline{\xi_n}$$