

# Normativity in Communication

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**Abstract.** This paper introduces the conceptual distinction between the two families of norms of communicative action, namely, logical and non-logical norms. For this purpose the ideographic language for formal pragmatics has been extended and applied in logical analysis of argumentative discourse and communication norms. The typology of communicative norms is developed in relation to a long-standing philosophical problem (Moore's paradox) and in a dialogue with influential theories related to communication norms (pragma-dialectics, normative pragmatics, illocutionary logic).

## 1 Introducing a formal language for the description of normativity in communication

It is often remarked that the number of readers drops significantly with each formula

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appearing in the text (at least among non-logicians). Nevertheless, we are willing to take the risk of introducing an ideographic language in this paper, hoping to gain unambiguity and generality (often lacked in ordinary language) in order to present a typology of communication norms.

### **1.1 Motivating example: Moore's paradox and the principle of non-deniability of sincerity conditions**

Philosopher G. E. Moore made the famous observation on the mismatch between meaningfulness and logical possibility: "(...) 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" (Moore, 1952: 543). The paradox arises from the contradiction between the intuition of the absurdity of the ascription of false belief in the first-person, on one side, and the conclusion (C) that follows from the seemingly true premises (P1) and (P2), on the other side. The inference below gives the reconstruction of the pre-understanding that provides the grounds the conclusion (C).

(P1) It is possible for anyone to have a false belief.

(P2) If something is possible, then it is not absurd to assert it.

Therefore, (C) it is not absurd to assert that someone has a false belief.

As Moore observed, our intuitive grasp of meaning reveals the truthfulness of (P3).

(P3) It is absurd to assert one's own false belief.

However, (P3) contradicts (C). So, if our intuition on truthfulness of (P3) is correct, then either (P1) or (P2) must be false. If one accepts the definition of human beings as imperfect rational beings, then premise (P1) about the possibility of false belief is sound. So, it is premise (P2) that should be abandoned in favor of its negation (P4).

(P4) There is something which is possible to be but is absurd to assert.

The revision of our pre-understanding implies the need to re-examine and widen the notion of absurdity, which, as Moore's paradox shows, cannot be reduced to the impossibility of

propositional content. According to Searle and Vanderveken (1985), in this particular case the source of absurdity is normative: by uttering a Moore-type sentence, the speaker violates his own illocutionary commitments on the ground of asserting linguistic expression which expresses both a mental state and the lack of its very psychological commitments.<sup>1</sup> The communication norm that governs this case is termed *the postulate of undeniability of sincerity conditions*.

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 and Vanderveken, 1985:91)

In this paper we will try to show that the postulate of undeniability of sincerity conditions is a communication norm belonging to a more general class of logical norms of language use. In order to construct a typology capable of discriminating between logical and non-logical communication norms, a prototype ideographic language will be introduced. In the prototype language, the number of elements that constitute the formulation of communicative will be reduced to its minimum.

## 1.2 Ideographic language for formal pragmatics

The prototype  $L_{effect}$  dynamic modal language for communication theory has been introduced in (Žarnić, 2011) and will be used here (Definitions 1) with slight modifications. Its key elements and symbols are:

- the set of actors  $A = \{i, j, \dots\}$  who play the roles of sender, receiver and reasonable critic denoted by symbols  $s$ ,  $r$ ,  $rc$ , respectively;<sup>2</sup>
- the set of propositional letters  $\{p, q, \dots\}$  each of which signifies an atomic fact in the objective

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<sup>1</sup> Searle and Vanderveken's (1985) illocutionary logic rests upon the expressive theory of language: logic of locutions is the reproduction of psychological commitments already existing on mental states due to norms of internal rationality aimed at maintaining rational coherence (linguistic commitments correspond to rational psychological commitments).

<sup>2</sup> The term 'reasonable critic' is adopted from Van Eemeren and Grootendorst's definition of argumentation (Van Eemeren and Grootendorst, 2004, p.1). The problems of social ontology concerning the character of the relation between actors and their roles will not be addressed in this paper.

world;<sup>3</sup>

- truth-functional connectives  $\neg, \vee, \wedge, \rightarrow$ , for ‘not ...’, ‘... or ...’, ‘... and ...’, ‘if ..., then ...’;
- the set of modal operators  $\{x: x = D_i \text{ or } x = B_i \text{ for each } i \in A\}$  for actors’s non-agentive intentional states where  $B_i$  stands for ‘actor  $i$  believes that ...’ and  $D_i$  stands for ‘actor  $i$  desires that ...’, the variable operator  $I_i \in \{B_i, \neg B_i, D_i, \neg D_i\}$  will be used as a general sign denoting some intentional state of an actor  $i$ ;
- the set of act operators  $\{i\_stit: i \in A\}$  where  $i\_stit$  stands for ‘actor  $i$  sees to it that ...’;<sup>4</sup>
- the alethic modal operator  $\langle \rangle$  which stands for ‘it is possible that...’;
- the set of modal operators  $\{x: x = P_i \text{ or } x = F_i \text{ or } x = O_i \text{ for each } i \in A\}$  for the deontic status that some act or intentional state has for actor  $i$  where  $P_i$  stands for ‘it is permitted for actor  $i$  that ...’,  $F_i$  stands for ‘it is forbidden for actor  $i$  that ...’,  $O_i$  stands for ‘it is obligatory for actor  $i$  that ...’, the variable operator  $A_i \in \{P_i, F_i, O_i\}$  will be used as a general sign denoting some deontic status of a states of affairs or an act for actor  $i$ ;
- sentential mood indicators: ‘.’ for indicative mood, and ‘!’ for imperative mood;
- the two-place locution predicate ‘:’ connecting an actor  $i$  with an utterance name  $\underline{\xi}$  so that  $i: \underline{\xi}$  stands for ‘actor  $i$  says: “ $\xi$ ”’;
- the sincerity condition function  $\Psi^0$  that takes an actor’s locution and delivers the set of the actor’s intentional states expressed by the locution;
- the set of communicative act modal operators  $[i: \underline{\xi}]$  for each actor  $i$  and utterance  $\underline{\xi}$ .

This vocabulary makes it possible to describe the complex reality of objective, subjective and social

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<sup>3</sup> The notion of atomic fact is used in Wittgenstein’s sense (1922) where it denotes a combination of objects which is independent of any another combination of objects.

<sup>4</sup> The notation for act operator is taken over from Belnap et al. (2001) in a slightly modified form.

world as well as the effects that a locution regularly causes. For the first task we adopt the three-fold ontology of (Habermas, 1984).<sup>5</sup> Subjective world of an actor  $i$  comprises all the intentional states that the actor has and all the actions performed by the actor during a particular of time interval. The description of the subjective world will be given by  $I_i\varphi$ – and  $i\_stit(\varphi)$ –formula types. The intentional character of action is the reason why it should primarily be regarded as a part of the subjective world.<sup>6</sup> Typically, actions bring about changes in all three worlds. For example, in a typical case the speech act will produce sound waves, a change in the objective world, it will alter the hearer’s cognitive and motivational state, which is a change within the subjective world, and it will bring an update on the speaker's linguistic commitments, thus changing the social world. The description of the social world will be given by  $A_i\varphi$ –formula type.

It should be noted that mere production of sounds or marks will not count as a speech act although an unintentionally caused event and an act can have identical effects. Therefore, we distinguish unintentional production of an utterance  $i:\underline{\zeta}$  from the proper speech act  $i\_stit(i:\underline{\zeta})$  (“authorized utterance”). Nevertheless, in this paper only the formula type  $i:\underline{\zeta}$  will be used since our research focus lies in effects of language use. For the task of describing locution effects we will rely on the dynamic logic approach of (van Benthem, 2011). Here the main formula type is  $[i:\underline{\zeta}]\varphi$  and it stands for ‘always (normally, regularly) after  $i$  produces utterance  $\zeta$  it is the case that  $\varphi$ ’.

The syntax of language  $L_{effect}$  is given in succinct (Backus–Naur) form in Definitions 1. The

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<sup>5</sup> According to (Habermas, 1984), objective world and subjective world(s) are worlds of facts, physical and mental. Social world, on the other hand, has normative character; it is the world of that which ought to be the case and of the facts subordinated to normative requirements. Objective and social worlds are “external”, while subjective world is “internal”.

<sup>6</sup> Here we follow Davidson who wrote: “... the distinguishing feature of the mental is not that it is private, subjective, or immaterial, but that it exhibits what Brentano called intentionality. Thus intentional actions are clearly included in the realm of the mental along with thoughts, hopes, and regrets (or the events tied to these)” (Davidson, 2001a:210).

language is rich enough to distinguish the basic types of communication norms and it will be utilized here for that purpose.

**Definitions 1** (The prototype language  $L_{effect}$ ). Language  $L_{effect}$  is defined by the way of mutual recursion. The starting point is language  $L_{objective\_world}$  which is just the language of propositional logic. Language  $L_{reality}$  contains sentences  $\varphi$ , which describe the complex reality of objective, subjective and social worlds, and whose syntax is given by  $\varphi ::= p | \neg\varphi | (\varphi \wedge \gamma) | \diamond\varphi | I_i\varphi | i\_stit(\varphi) | \Delta_i\varphi | \chi$  where  $p \in L_{objective\_world}$  and  $\chi \in L_{locution}$ . Language  $L_{utterance}$  is the language of mood-designated sentences, i.e. utterances  $\zeta$  whose syntax is  $\zeta ::= !i\_stit(\varphi) | .\varphi | .\varphi \rightarrow !i\_stit(\varphi) | !i\_stit\varphi \rightarrow .\varphi | \zeta\zeta$ , where  $\varphi \in L_{reality}$ .<sup>7</sup> Language  $L_{locution}$  has sentences  $\chi$  having the form  $i:\underline{\zeta}..$  where  $i \in A$  and  $\zeta, \dots \in L_{utterance}$ . Finally, language  $L_{effect}$  contains sentences  $\varepsilon$  which describe: (i) the complex reality, (ii) transformations of it brought about by the use of language (i. e., by locutions), (iii) mental states including those about the effects of language use, (iv) deontic valuations including those concerning the language use, and (v) the expression relation between intentional states and locutions. The syntax for  $\varepsilon \in L_{effect}$  is  $\varepsilon ::= \varphi | [\chi]\varepsilon | \neg\varepsilon | (\varepsilon \wedge \varepsilon) | I_i\varepsilon | \Delta_i\varepsilon | I_i\varphi \in \Psi(i:\zeta)$ .

## 1.2 Logical form of argumentation definition

Let us employ the vocabulary of  $L_{effect}$  in analyzing argumentation as a specific form of rational, language-mediated interaction. For that purpose our analysandum will be the well-known definition of van Eemeren and Grootendorst (2004).

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

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<sup>7</sup> The absence of interrogative mood is explained away by (Åqvist, 1975) treatment of questions as epistemic imperatives. The expressive completeness of the language  $L_{utterance}$  has been proved in (Žarnić, 2012).

or refuting the proposition expressed in the standpoint. (van Eemeren and Grootendorst, 2004, p.1)

If the vocabulary of  $L_{effect}$  is used for the explication of the cited definition, it will give the following translations:

1. “argumentation is a *verbal* activity” and “a constellation of propositions” translate to ‘argumentation is a one-actor-discourse, a sequence of locutions of the same actor’, or  $s : \xi_1 \dots \xi_n$  ;

2. “argumentation is a *social* activity” entails that ‘argumentation requires at least two actor roles’ where an actor plays the role  $s$  of sender (speaker or writer) and some actor plays the role  $r$  of receiver and is expected by  $s$  to play the role  $rc$  of reasonable critic ;<sup>8</sup>

3. “argumentation is a *rational* activity” is explicated in two steps: first, by ‘argumentation is an act done for sender’s reasons’, and, second, by ‘there is practical inference whose conclusion is the sender’s (intention to perform) the complex speech act’ where the premises are (3.1), (3.2), (3.3.1) and (3.3.2):

3.1 The sender  $s$  has standpoint  $\varphi$ , where  $\varphi$  is a determined attitude of the speaker, i.e., it is that what  $s$  desires to be the case or believes to be the case  $\varphi = D_s \alpha \vee \varphi = B_s \alpha$ .<sup>9</sup>

3.2 The sender desires to “convince a reasonable critic of the acceptability of a standpoint”. In our model this premise is given a strong interpretation as ‘the sender desires that the receiver (as a reasonable critic) shares the sender’s point of view to content  $\alpha$ ’, in short:  $D_s B_{rc} \alpha$  if  $\varphi = B_s \alpha$ , and  $D_s D_{rc} \alpha$  if  $\varphi = D_s \alpha$ ;

3.3 The sender makes the following knowledge claims:

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<sup>8</sup> In the “monological” argumentation it is the case that  $s = r$ . One would prefer here the term ‘non-singular system’ if Habermas’s concept of social as normative (and so not necessarily intersubjective) is to be preserved.

<sup>9</sup> Note the identification of a standpoint with a determined attitude! “Skeptical standpoints” characterized by an attitude absence are excluded for purposes of simplicity of exposition.

3.3.1 that there exists a difference of opinions, or, in other words, the sender believes that either the receiver is in doubt  $\neg I_r \alpha \wedge \neg I_r \neg \alpha$  or that the receiver consistently holds the opposite standpoint  $\neg I_r \alpha \wedge I_r \neg \alpha$ , in short  $B_s((\neg I_r \alpha \wedge \neg I_r \neg \alpha) \vee (\neg I_r \alpha \wedge I_r \neg \alpha))$ ; <sup>10</sup>

3.3.2 that there exists a linguistic possibility of reaching understanding by accepting the sender's standpoint; the sender believes that there is a discourse that can produce the desired end of reaching understanding by the receiver's attitude change, thus, in the sender's opinion there exists a sequence of utterances (messages)  $\xi_1 \dots$  which, if performed by the sender, will produce the desired receiver's attitude change, in short,  $B_s([s: \underline{\xi} \dots] \varphi)$ ; usually, the sender will believe that there is more than one discursive path of doing this and the resulting choice-situation can be shortly noted as  $B_s([s: \underline{\xi}' \dots] \varphi + [s: \underline{\xi}'' \dots] \varphi + \dots)$ . <sup>11</sup>

Now, the definition of argumentation (van Eemeren and Grootendorst, 2004) can be translated piece by piece into formal language  $L_{effect}$  and it results with translation (T1) for the definiens.

Definition 1 shows that argumentation is a conclusion of a practical inference, whose premises are formalized as conjunction (T1).

**Definition 1.** Discourse  $s: \underline{\xi} \dots$  is an argumentation if and only if (i) the sender holds a determinate standpoint  $I_s \alpha$  where  $I_s = B_s$  or  $I_s = D_s$ , (ii) the sender believes that there is a difference of

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<sup>10</sup> The 'difference of opinions' is not explicitly stated but implied by (Van Eemeren and Grootendorst, 2004) definition. It has been made explicit in the second conjunct of  $D_s(I_{rc} \alpha) \wedge B_s((\neg I_r \alpha \wedge \neg I_r \neg \alpha) \vee (\neg I_r \alpha \wedge I_r \neg \alpha))$  in the formal translation for 'the sender desires to convince a reasonable critic'; which in our interpretation is 'the sender desires to produce the attitude change in the receiver as a reasonable critic' or, more precisely, 'the sender desires to produce an attitude of the reasonable critic and believes that the receiver does not have that attitude'. The character of unity between the two communicative identities of the same actor who appears in the roles of receiver and reasonable critic opens up an interesting question for the ontology of social world but it will not be investigated here.

<sup>11</sup> The idea of similarity between the practical reasoning, which includes choice among alternative ways of achieving the end, and the selection task in "inference to best explanation" (Harman, 1965) popped up in a conversation with Marcin Lewinski during conference in Postira, 2014. The operator '+' is taken over from the dynamic logic where it stands for the choice between acts that bring about the same effect; its behavior is governed by the axiom  $[\chi_1 + \chi_2] \varphi \equiv ([\chi_1] \varphi \wedge [\chi_2] \varphi)$ , cf. (Segerberg, 1993).



opinions between her/him and the receiver  $B_s((\neg I_r \alpha \wedge \neg I_r \neg \alpha) \vee (\neg I_r \alpha \wedge I_r \neg \alpha))$ , (iii) the sender desires the difference of opinions to be resolved by acceptance of the sender's (her/his own) standpoint by the receiver (conceived as reasonable critic)  $D_s(I_{rc} \alpha)$ , (iv) the sender believes that there is at least one discourse that will produce the desired resolution  $B_s([s : \underline{\zeta}' \dots] I_{rc} \alpha + [s : \underline{\zeta}'' \dots] I_{rc} \alpha + \dots)$ , and (v) the discourse  $s : \underline{\zeta} \dots$  is one of these  $\underline{\zeta} \dots = \underline{\zeta}' \dots \vee \underline{\zeta} \dots = \underline{\zeta}'' \dots \vee \dots$

$s : \underline{\zeta} \dots$  is an *argumentation* if and only if

$$\begin{aligned}
& I_s \alpha \text{ and} \\
& B_s((\neg I_r \alpha \wedge \neg I_r \neg \alpha) \vee (\neg I_r \alpha \wedge I_r \neg \alpha)) \text{ and} \\
& D_s(I_{rc} \alpha) \text{ and} \\
& B_s([s : \underline{\zeta}' \dots + s : \underline{\zeta}'' \dots + \dots] I_{rc} \alpha) \text{ and} \\
& B_s(\underline{\zeta} \dots = \underline{\zeta}' \dots \vee \underline{\zeta} \dots = \underline{\zeta}'' \dots \vee \dots)
\end{aligned} \tag{T1}$$

### 1.2.1 Theoretical argumentation

The theoretical argumentation is the argumentation type defined by the doxastic standpoint. This requires that we insert doxastic modality  $B$  in place of variable modality  $I$  in translation (T1) and thus obtain translation (T2) as its special case.

**Definition 2.** Discourse  $s : \underline{\zeta} \dots$  is a theoretical argumentation if and only if

$$\begin{aligned}
& B_s \alpha \text{ and} \\
& B_s((\neg B_r \alpha \wedge \neg B_r \neg \alpha) \vee (\neg B_r \alpha \wedge B_r \neg \alpha)) \text{ and} \\
& D_s(B_{rc} \alpha) \text{ and} \\
& B_s([s : \underline{\zeta}' \dots + s : \underline{\zeta}'' \dots + \dots] B_{rc} \alpha) \text{ and} \\
& B_s(\underline{\zeta} \dots = \underline{\zeta}' \dots \vee \underline{\zeta} \dots = \underline{\zeta}'' \dots \vee \dots).
\end{aligned} \tag{T2}$$

### 1.2.2 Results of analysis

General Definition 1 and special Definition 2 at first may seem to be non-normative, due to containing only indicative verb forms. However, a result of complying with a norm is not hard to find in it, as well as an application of normative evaluation of rationality.

The belief in the existence of disagreement fulfills normative requirement of forbidden redundancy

(receiver who shares the sender's standpoint is not to be convinced) and, so, represents a social (normative) act of compliance.

It should be noted also that the sender must correctly recognize the type of disagreement in order to avoid non-redundancy. In case of theoretical opinions from Definition 2 the disagreement types are: doubt on the standpoint,  $\neg B_r \alpha \wedge \neg B_r \neg \alpha$ , and opposition to the standpoint,  $\neg B_r \alpha \wedge B_r \neg \alpha$ . The desired end of the competitive argumentative discourse (i.e., discourse oriented towards reaching understanding by accepting the sender's determined standpoint) is the same in both cases. Therefore, two paths towards the end can be distinguished: (i) the path that removes doubt; and (ii) the path of changing the receiver's opposite attitude. The latter seems to require a more complex sequence of locutions decomposable in two parts, first of which will remove the receiver's opposite standpoint, and second of which will lead to the adoption of the speaker's standpoint.<sup>12</sup> For example, refutation sequence followed by justification sequence is an adequate instance of argumentative discourse for the opposition case. The choice operator '+' in Definition 2 stands for the possibility of choice between equally effective argumentative discourses, but always within the same category, either within the simple category of justification or the complex category of refutation followed by justification.

### 1.2.3 *Argumentation and rationality*

In the definition of argumentation the sender is conceived as a rational actor, which means that her/his beliefs and desires, and their connections are subordinated to normative requirements of rationality.<sup>13</sup> Two codes of rationality requirements can be applied in the evaluation: the code of

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<sup>12</sup> The discovery of the sequence "refutation; justification" (irony; maieutics) can be attributed to Socrates.

<sup>13</sup> Here we follow Broome (2013) who distinguishes rationality as a normative source from rationality as a property. The rationality as a normative source subordinates the actor to a set of requirements; if the actor fulfills requirements up to a certain degree, she has the property of being rational. The code of rationality is a function that connects an actor and her/his circumstances to a set of requirements.

inner and the code of external rationality.<sup>14</sup> In general Definition 1 and special Definition 2 argumentative discourse is defined as the conclusion of the practical inference. With regard to the code of internal rationality, a discourse counts as an argumentation if and only if the speaker's intentional states include those that are mentioned in the definiens. If, on the other hand, criteria of external rationality are to be applied, a new term must be introduced for designating the type of argumentative discourse that successfully achieves correspondence to the reality and the real effects of language use.

We suggest the term 'sound argumentation' to be used in order to designate the argumentation that rests on truthful beliefs of the sender, who correctly identifies the type of disagreement which is the case, and who correctly recognizes the means-end relation holding between a discourse (or discourses) and its end of reaching understanding by accepting sender's standpoint. Definition 3 shows how to obtain the definition for the sound theoretical argumentation by adding criteria of external rationality in the last two lines of formula (STA).

**Definition 3.** Discourse  $s:\underline{\xi}...$  is a sound theoretical argumentation if and only if

$$\begin{aligned}
& B_s \alpha \text{ and} \\
& B_s ((\neg B_r \alpha \wedge \neg B_r \neg \alpha) \vee (\neg B_r \alpha \wedge B_r \neg \alpha)) \text{ and} \\
& D_s (B_{rc} \alpha) \text{ and} \\
& B_s ([s : \underline{\xi}' \dots + s : \underline{\xi}'' \dots + \dots] B_{rc} \alpha) \text{ and} \\
& B_s (\underline{\xi} \dots = \underline{\xi}' \dots \vee \underline{\xi} \dots = \underline{\xi}'' \dots \vee \dots) \text{ and} \\
& (\neg B_r \alpha \wedge \neg B_r \neg \alpha) \vee (\neg B_r \alpha \wedge B_r \neg \alpha) \text{ and} \\
& [s : \underline{\xi}' \dots + s : \underline{\xi}'' \dots + \dots] B_{rc} \alpha.
\end{aligned} \tag{STA}$$

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<sup>14</sup> The terminological distinction between horizontal and vertical rationality, for which in this paper we use terms 'internal' and 'external rationality' respectively, has been introduced in (Zangwill, 2005), and it is similar to Davidson's (2001b: 211) difference between the principle of coherence and the principle of correspondence as "charity principles" of interpretation. The internal rationality is a normative source whose requirements deal with logical relations between intentional states. The external rationality is a normative source whose requirements deal with correspondence relations between intentional states and the reality.

### 1.3. Logical form of postulate of undeniability of sincerity conditions

Earlier mentioned (in subsection 1.1) Searle and Vanderveken's postulate of undeniability of sincerity conditions suggests normative reading. The postulate states that there are two paths of commitments; (i) from the locution ("signed message", singleton discourse) to the sender's intentionality, and (ii) in the reverse direction, from intentionality to linguistic expression. As regards the first part of the postulate formulation: 'To express a psychological state is to commit oneself to having that state' (Searle and Vanderveken, 1985:91), we translate the expression 'to commit oneself to ...' as 'to change the deontic status (normative value) of ... to obligatory'.

Let the function  $\Psi^0$  collect all those intentional (psychological) states of an actor that regularly find expression in a message (discourse) of hers.<sup>15</sup> For example, the sentence *She said: "Write the paper!"* in our notation becomes  $she : \underline{!write\ the\ paper}$ . By the assumed expression relation, at least one intentional state finds expression in the message. For example, her belief that the paper is unwritten regularly gets expressed when she says '*! write the paper*', or  $B_{she}(\text{the paper is unwritten}) \in \Psi^0(\underline{she : !write\ the\ paper})$ . The postulate implies that the fact of saying something, e.g.,  $she : \underline{!write\ the\ paper}$ , creates a commitment to having or being in the expressed intentional state. In particular, after she says '*! write the paper*' it becomes forbidden for her not to believe that the paper is unwritten  $[\underline{she : !write\ the\ paper}]_{F_{she}} \neg B_{she}(\text{the paper is unwritten})$ . The "psychological commitments" created by the language use (LP) are reflected back as "linguistic commitments" (PL) since it is forbidden, as a matter of normative consistency, to express the absence of the intentional state that the sender ought to have. The two directions, (LP) and (PL) together imply (LL), which connects a locution to its linguistic commitments.

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<sup>15</sup> The superscript 0 in functor  $\Psi^0$  indicates the basic expression function, the standard meaning of the language in use. Possible modifications of the function may be introduced for the theoretical purpose, e. g., for the description of a closed language of a social group.

Formal translations.

If  $I_s\varphi \in \Psi^0(s : \underline{\xi})$ , then  $[s : \underline{\xi}]O_s I_s\varphi$ . (LP)

If  $O_s I_s\varphi$ , then  $F_s s : \underline{\neg I_s\varphi}$  (PL)

If  $\underline{I_s\varphi} \in \Psi^0(s : \underline{\xi})$ , then  $[s : \underline{\xi}]F_s s : \underline{\neg I_s\varphi}$ . (LL)

Let us apply normative proposition (LL) to Moore's paradox (MP)! In order to reveal the sources of absurdity, the sentence *I went to the pictures but I don't believe that I did* will be treated not as a conjunction but as sequence of two sentences.

$[s : \underline{I \text{ went to the pictures. I don't believe that I went to pictures}}]absurd$  (MP)

There is no doubt that Moore's sequence  $s : \underline{\varphi} \quad s : \underline{\neg B_s\varphi}$  commits a violation of communication norm (LL) as applied to the case of an indicative utterance. Nevertheless, the puzzle remains: how can a communication norm violation produce the impression of absurdity given that absurdity is a phenomenon of logic?

Normative proposition (LL) does not mention "psychological commitments" and, thus, it cannot depend on the normative code of rational requirements over intentional states. Besides the illocutionary logic perspective of Searle and Vanderveken, there are other theoretical perspectives with different determinations of the source communication. Are all communication norms emanations of the rationality of mind? Robert Brandom (1994) disagrees: in the perspective of normative pragmatics, the normativity is a *sui generis* phenomenon, a source, not a projection. As argued elsewhere (Žarnić, 2013), Brandom sees the normative structure of discursive practice as the basic structure upon which the logic of locutions rests. However, a traditional philosophical perspective where *logos* is seen as the origin enables us to escape this dilemma and reconcile it at a more general level. If we acknowledge that logicity is the origin of some communication norms, then both illocutionary logic and normative pragmatics face a counterexample: (i) against illocutionary logic (Searle and Vanderveken), we argue that the existence of logical communication

norms shows that requirements of rationality include the logical requirements governing the use of language; (ii) against normative pragmatics, we argue that the existence of logical communication norms proves that some communication norms are neither self-originated nor have originated from other communication norms, but are projections of the logical structure of the language used in communication. This third stance or projectivism rests upon the view that the logical structure of language-in-use is a necessary precondition of communication. Projectivism is compatible with Johan van Benthem’s theory of dynamics of the language-mediated interaction (van Benthem, 2011), which treats the logical structure of language as the root logic, the logic which manifests itself in the effects of language use (describable by the formal language  $L_{effect}$  introduced above). The philosophical standpoint of this paper, which is in accordance with the dynamic view, is that the language-in-use does not create its own logic, but, rather, displays it in the effects of language use, which include commitments of rationality (psychological commitments) as well as linguistic commitments. Nevertheless, the difference between logical and other communication norms does not depend on specific theoretical assumptions of illocutionary logic, normative pragmatics or dynamic semantics.

## 2 Logical norms of language use

Any norm of action assigns a deontic value to a norm-subject’s act under certain conditions, rendering it obligatory, forbidden or permitted for the norm-subject to perform. We can read its general logical form as: *if condition C obtains, then actor i’s seeing it to that a has some deontic value  $\Delta_i$  (obligatory, forbidden or permitted for i).*

$$\text{If } C, \text{ then } \Delta_i i\_stit(\alpha) \quad (\text{Norm of action})$$

Norm of communicative action is a kind of norm of action where deontic value is assigned to the norm-subject’s act of language use (communicative act). The actor is the sender who sees to

it that a certain sentence is produced by her,  $s\_stit(s:\underline{\xi})$ . The performance of a communicative act implies that something is written or said, but not *vice versa*. With the risk of over-generalization, but in order to simplify notation, the formula  $s:\underline{\xi}$  will be used instead of  $s\_stit(s:\underline{\xi})$  always standing for a communicative act and not for an unintentional production of a string of marks or sounds that accidentally obeys the syntax of some language.

In its general form, the norm of communicative action assigns a normative value to the communicative act under some specified condition  $C$ . Its form is given in the formula below, and obtained by specialization from the norm of action.

$$\text{If } C, \text{ then } \Delta_s s : \underline{\xi} \quad (\text{Norm of communicative action})$$

A special case are norms where the norm precondition is the sender's own anterior discourse (her/his history of language use). By instantiating  $C$  with the sender's anterior language use  $i:\underline{\xi}..$  one obtains the type of norm which connects anterior and posterior language use.

$$\text{If } i:\underline{\xi}.., \text{ then } \Delta_j j : \underline{\xi}'. \quad (\text{Norm of language use})$$

It is visible from the formula that the antecedent part of norm of language use does not mention any mental state or social relation. Therefore, it displays a pure regularity of pragmatics.

The dynamic logic notation is convenient for representing regularity and succession. So, instead of propositional 'if ..., then ...' statement, the agentive sentential form 'always after the act ... it is the case that ...' or 'the act ... regularly (normally) produces effect ...' will be used.

$$[i:\underline{\xi}..] \Delta_j j : \underline{\xi}' \quad (\text{Norm of language use in act/effect notation})$$

$$[s:\underline{\xi}..] \Delta_s s : \underline{\xi}' \quad (\text{Norm of sender's language use})$$

The logical form of the norm displays a non-repetitive generality: the norm of language use is not the one of doing the same in lot of situations, but, rather, it is the name for a family of norms which couple discursive situations with discursive acts. In this paper only the family of norms of

sender's language use will be discussed. This family of norms is infinite, but does not of necessity include all discursive situations, like those where confusing discourse produces absurdity. Formula (No linking) represents the fall or collapse of language use.

$$[s : \underline{\zeta} \dots] \text{absurd} \quad (\text{No linking})$$

The communicative collapse shows that something went wrong with the anterior discourse  $s : \underline{\zeta} \dots$ . Its destructive power is the result of the way how and which messages are put together in the sender's discourse. The recognition of the destructive power of a discourse enables the recognition of logical norms of language use, with the logic of locutions as the normative source. If absurdity is the effect of sender's discourse composed of  $n$ -messages, then there is a logical norm that forbids the sender to continue the sequence of  $n-1$  anterior messages with the  $n$ -th message. This relation between earlier discourse and a locution which combined with it leads *ad absurdum* is a regularity which holds solely in virtue of the logical relations between them.

$$\text{If } [s : \underline{\zeta}_1 \dots \underline{\zeta}_n] \text{absurd, then } [s : \underline{\zeta}_1 \dots \underline{\zeta}_{n-1}] F_s s : \underline{\zeta}_n. \quad (\text{Absurdity avoidance})$$

The absurdity avoidance principle exhibits the sufficient condition for the related token of the family of logical norms of language use. General form of logical norms of the sender's language use is given in (LN).

$$[s : \underline{\zeta} \dots] F_s s : \underline{\zeta}' \quad (\text{LN})$$

## 2.1 Moore's sentence: not a paradox of semantics, but a problem for pragmatics

Let us return to Moore's sentence as the starting point of our paper. Sincerity conditions for the locutions constituting Moore's paradoxical discourse are given in (SC1) and (SC2).

$$\underline{B_s(s \text{ went to the pictures})} \in \Psi^0(s : \underline{.I \text{ went to the pictures}}) \quad (\text{SC1})$$

$$\underline{\neg B_s(s \text{ went to the pictures})} \in \Psi^0(s : \underline{.I \text{ don't believe that I went to the pictures}}) \quad (\text{SC2})$$



There seems to be no conflict between locutions SC1 and SC2, at least as far as semantics is concerned, since the intensions of the sender's messages are not disparate but interfere.<sup>16</sup>

$$\|s \text{ went to the pictures}\| \cap \|s \text{ does not believe that } s \text{ went to the pictures}\| \neq \emptyset \quad (\text{Interference})$$

The non-empty intersection of intensions covers the cases of sender's lack of true belief (that she went to pictures), inclusive of the presence of false belief.<sup>17</sup> Obviously, this leaves the paradox unresolved.

A possible solution would be to explain the paradox at the level of pragmatics by effects of language use. Let us assume together with David Lewis that “the convention whereby a population  $P$  uses language  $L$  is a convention of truthfulness and trust in  $L$ ” (Lewis, 1983: 166). The trust relation obtaining between members of population  $P$  and the use of language  $L$  can be explicated as the principle of sharing attitudes by communicative interaction: (L-Strong Trust) *the receiver adopts intentional states expressed in the sender's message*. The explication rests on the presupposition that a language-user knows how to use the language. In the strong trust relation, the receiver responds to messages in a regular way.

$$\text{If } I_s\varphi \in \Psi^0(s : \underline{\xi}), \text{ then } [s : \underline{\xi}]I_r\varphi \quad (\text{L-Strong Trust})$$

The weaker form of trust relation holds if the receiver believes that the sender is sincere: (L-Weak Trust) *the receiver believes that the sender has intentional states expressed in the sender's message*.

$$\text{If } I_s\varphi \in \Psi^0(s : \underline{\xi}), \text{ then } [s : \underline{\xi}]B_rI_s\varphi \quad (\text{L-Weak Trust})$$

Let us add a further remark on the nature of discourses regarding the expressed intentional

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<sup>16</sup> We use the term ‘intension’ in Carnap’s sense. The intension or “logical range” (Carnap, 1942)  $\|\varphi\|$  of sentence  $\varphi$  of language  $L_{\text{reality}}$  is a set of interpretations or models  $M$  where  $\varphi$  is true,  $\|\varphi\| = \{M : \varphi \text{ is true in } M\}$ .

<sup>17</sup> The sentence ‘ $s$  doesn't believe that  $s$  did so-and-so’ is ambiguous between ‘ $s$  lacks belief that  $s$  did so-and-so’ and ‘ $s$  believes that  $s$  did not do so-and-so.’

states. Some discourses have cumulative effects, and some do not. In a cumulative discourse no locution express the process of “changing one’s mind” where a previously expressed attitude of the speaker is retracted.

If  $[s : \underline{\xi}_1] \varphi_1$  and  $[s : \underline{\xi}_2] \varphi_2$ , then  $[s : \underline{\xi}_1 \underline{\xi}_2] (\varphi_1 \wedge \varphi_2)$ . (Cumulative discourse)

The cumulative effect of Moore’s paradox is the absurdity. The discourse *I went to the pictures. I don’t believe that I went to the pictures.* creates contradictory beliefs on the side of receiver provided that the weak trust relation holds, as shown in (1) and (2) below. Consequently, it results with absurdity (4) provided that the discourse is (interpreted as) cumulative, as shown in (3).

$$[s : \underline{I \text{ went to the pictures}}] B_r B_s (s \text{ went to the pictures}) \quad (1)$$

$$[s : \underline{I \text{ don't believe that I went to the pictures}}] B_r \neg B_s (s \text{ went to the pictures}) \quad (2)$$

$$[s : \underline{I \text{ went to the pictures. I don't believe that I went to the pictures}}] B_r (B_s (s \text{ went to the pictures}) \wedge \neg B_s (s \text{ went to the pictures})) \quad (3)$$

$$[s : \underline{I \text{ went to the pictures. I don't believe that I went to the pictures}}] \textit{absurd} \quad (4)$$

On the other hand, the discourse will not create an absurdity in a non-cumulative discourse where it expresses a contraction of sender’s beliefs (change in sender’s attitude towards the same propositional content). This shows that the purportedly paradoxical discourse can also produce a non-absurd effect and so, it is not possible to directly derive a general logical norm of absurdity avoidance from Moore’s paradox.

$$[s : \underline{I \text{ went to the pictures}}] F_s [s : \underline{I \text{ don't beleive that I went to the pictures}}] \quad (\text{Invalid})$$

However, a corresponding norm for cumulative discourses holds:

$$\text{For } \underline{\varphi} \in \Psi^0(s : \underline{\xi}_1), \neg \underline{\varphi} \in \Psi^0(s : \underline{\xi}_2), \quad (\text{Valid})$$

$$\text{if } s : \underline{\xi}_1 \text{ } s : \underline{\xi}_2 \text{ is cumulative, then } [s : \underline{\xi}_1] F_s s : \underline{\xi}_2 .$$

Introducing distinction between norms for cumulative and non-cumulative discourses presents a refinement of Searle and Vanderveken’s postulate on undeniability of sincerity

conditions. Further, our analysis has shown that the alleged postulate is just a variety of the logical norm of the sender's language use (LN), and not a self-justifying postulate.

### 3 Other types of communicative norms

The differentiating characteristics of a logical norm of language use consist in its purely linguistic form: it connects only communicative acts. Logical norms are aimed at avoiding inconsistent (absurd-creating) discourse in which, as regards linguistic commitments, both permission and prohibition for the same locution is triggered, or, as regards the receiver's response, a confusing mental state is produced.<sup>18</sup> The inconsistent language use encompasses semantic incompatibility as well as pragmatic inconsistency, such as the one in the Moore's paradox.

As for other communicative norms which are not rooted in logic, some non-discursive condition must appear in their formulation, showing thus their non-logical normative source. The category of non-logical communication act norms hence 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  $C$ .

#### 3.1 Non-logical communication norms

General form of non-logical communication norms is represented by formula (NLN).

$$\text{If } I_i\varphi \text{ and } C, \text{ then } \Delta_j\xi \dots \quad (\text{NLN})$$

The special case arises when the actor  $i$ , whose intentional state is mentioned in the precondition part of the norm, is identical to the norm-subject  $j$ . For example, honesty principle, as termed in (van Eemeren and Grootendorst, 2004), provides an example for the  $i = j$ -type of non-logical communication norm. According to the earlier stated criterion, norms of language use are classified as logical or non-logical by absence/presence of non-discursive conditions in the antecedent. The

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<sup>18</sup> The here presented analysis of Moore's paradox rests upon confusing effect on the receiver. A similar result would have been obtained if the sender's linguistic commitments had been taken into account.

norm of sincerity (or of honesty) is to be classified as a non-logical norm. If the speaker  $s$  does not have intentional state  $I_s\varphi$  which is expressed by locution  $s:\underline{\xi}$ , then it is forbidden for  $s$  to perform the locution.

If  $\neg I_s\varphi$  and  $\underline{I_s\varphi} \in \Psi^0(s:\underline{\xi})$ , then  $F_s s:\underline{\xi}$ . (Honesty principle)

### 3.1.1 Communication principles

In order to integrate Gricean and Searlean approaches to argumentative discourse, where the former concentrate on interactional aspect of language use and the latter on expressive side, van Eemeren and Grootendorst reformulate Grice's Cooperation Principle: "(...) as a broader Communication Principle that covers the general principles that language users in principle observe and expect others to observe in verbal communication and interaction: the principles of clarity, honesty, efficiency and relevance" (Van Eemeren and Grootendorst, 2004: 76). Out of these principles they formulate five more specific rules of language use which serve as speech act alternatives to Grice's maxims (van Eemeren and Grootendorst, 2004: 77). Here we consider only two of them: honesty principle and non-redundancy rule. Honesty principle has already been analyzed in subsection 3.1 and so we now turn to non-redundancy rule: "You must not perform any speech acts that are redundant" (Van Eemeren and Grootendorst, 2004: 77). Using formal language  $L_{effect}$  it is easy to show that this is a non-logical norm of communication since it is conditional upon the sender's intentional states which are explicitly stated in the antecedent of the formal expression of (NR) below. The non-redundancy rule (NR) forbids the sender to perform a discourse under the following conditions: the sender desires that the receiver acquires certain intentional state and believes that the discourse performance is a sufficient means for this, but the speaker also believes that the receiver already has that state. The non-redundancy of theoretical argumentation is just a special case where the norm of non-redundancy relates to the receiver's doxastic state and to the role of reasonable critic, as shown in formula (TA-NR). Communicative acts are subordinated to the

requirements of external rationality and, so, to obtain non-redundancy the sender's beliefs must also be true. The statement of the strict non-redundancy, which is both internally and externally rational, is given in the formula (S-NR).

$$\text{If } D_s I_r \varphi \text{ and } B_s [s : \underline{\xi} \dots] I_r \varphi \text{ and } B_s I_r \varphi, \text{ then } F_s s : \underline{\xi} \dots \quad (\text{NR})$$

$$\text{If } D_s B_r \varphi \text{ and } B_s [s : \underline{\xi} \dots] B_{rc} \varphi \text{ and } B_s B_r \varphi, \text{ then } F_s s : \underline{\xi} \dots \quad (\text{TA-NR})$$

$$\text{If } D_s I_r \varphi \text{ and } B_s [s : \underline{\xi} \dots] I_r \varphi \text{ and } B_s I_r \varphi \text{ and } [s : \underline{\xi} \dots] I_r \varphi \text{ and } I_r \varphi, \text{ then } F_s s : \underline{\xi} \dots \quad (\text{SNR})$$

As noted above, in van Eemeren's and Grootendorst's definition of argumentation non-redundancy is presupposed since the conversion of receiver's attitude into itself is not possible.

### 3.1.2 Maxim of quality

Suppose that the speaker's belief that  $\varphi$  is expressed in assertion that  $\varphi$ , i.e., assume that  $B_s \varphi \in \Phi^0(s : \underline{\varphi})$ . The first of the two specific maxims ("submaxims") of quality Grice (1989: 27) formulates as: "Don't say what you believe to be false". It can be derived as a special case of the honesty principle. Firstly, we restrict the honesty principle to the assertive type of speech-acts with further restriction to cases where the content of utterance and intentional state is described in the same way, i.e., where the assumption made above holds. Secondly, under the assumption that the sender has consistent beliefs, the first submaxim of quality follows.

$$\text{If } B_s \neg \varphi, \text{ then } F_s s : \underline{\varphi}. \quad (\text{Submaxim of quality})$$

The sketched proof reveals the fact that the first submaxim of quality is implied by the honesty principle, but not equivalent to it.

### 3.1.3 Avoidance of communicative incoherence versus honesty

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 in cumulative discourse (LL) suffices to prove the minimal claim of the responsibility principle (RP).

If  $I_s\varphi \in \Psi^0(s : \underline{\xi})$ , then  $[s : \underline{\xi}]F_s s : \underline{\neg I_s\varphi}$ . (LL)

For any locution  $s : \underline{\xi}$ , there exists a locution  $s : \underline{\xi}'$  such that  $[s : \underline{\xi}]A_s s : \underline{\xi}'$ . (RP)

The minimal claim of responsibility principle is a logical principle. It can be defined using the notion of communicative incoherence since  $[s : \underline{\xi}]s : \underline{\neg I_s\varphi}$  creates absurdity if interpreted as a piece of a cumulative discourse.

Our analysis results with a clarification of the thesis that communicative norm of honesty implies the minimal claim of responsibility principle: “The honesty principle implies that everyone may be held responsible for assuming the obligations linked to the speech act that he or she has performed” (van Eemeren and Grootendorst, 2004, p.77). The responsibility principle in its minimal form is a logical norm and as such does not depend on any other principle. Therefore, the claim that the responsibility principle is implied by the honesty principle turns out to be vacuously true.

### 3.2 Further research

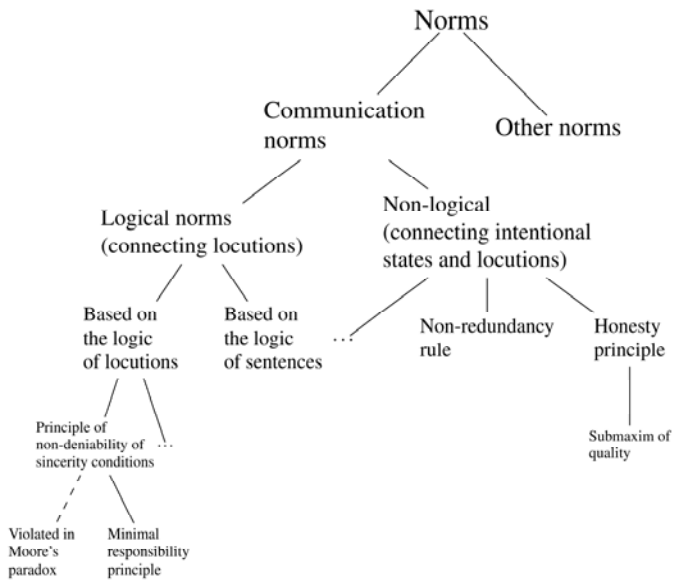
Table 1. summarizes some results of the investigation conducted and also points to the topics for further research. First, an exact delineation of the functional difference between logical and other norms with respect to communication ought to be conducted. Our conjecture is that logical norms are constitutive while the other communicative norms are regulative. Second, the ways of resolution of normative conflict between the two types of norms ought to be investigated. Third, the ways of resolving communicative incoherence arising from disagreement ought to be defined. Our conjecture is that argumentative discourse is just one, but not the sole way of reaching understanding in non-dominance discourse. The logical phenomenology of the discourse directed towards reaching understanding, but without restriction to the special argumentative case with the aim achieved by convincing the other, raises a challenging question to philosophy and formal pragmatics.

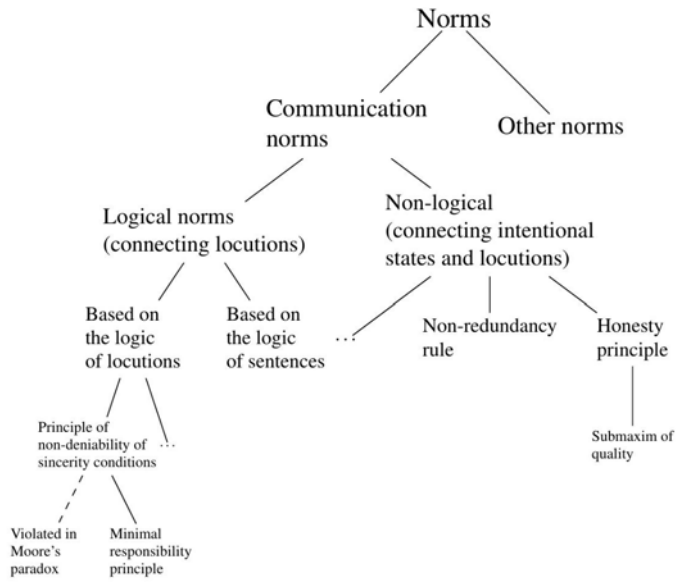
*Table 1. A comparison between logical and non-logical norms according to their morphology,*

violation effects, their interrelation with respect to validity, and their normative character.

<b>Logical norms</b>	<b>Non-logical norms</b>
Relation of locutions to the deontic value of a locution.	<i>Morphology</i> Relation of actors' intentional states to the deontic value of a locution.
Communicative incoherence.	<i>Violation effect</i> Communicative invalidity: a violation of truth, truthfulness or rightness validity claim.
Communicative coherence does not presuppose communicative validity.	<i>Interrelation of validity</i> Communicative validity presupposes communicative coherence.
Constitutive (definitory).	<i>Normative character</i> Regulative.

#### 4 Postscript







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