

PRAGMATIC IPO MODEL OF MICRO COMMUNICATION PROCESS

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Abstract: Pragmatic analysis of communication focuses on the relationship between the sender's intention and the perlocutionary effects of the message in a given context. Although researchers in Organisational Semiotics have realised the important roles of the information field, pragmatic information and validity claims in the success of a communication, no model has been developed to illustrate how these factors together contribute to the perlocutionary effects. Therefore, this paper introduces a pragmatic Input-Process-Output (IPO) model developed on the basis of pragmatic analysis of the communication and the IPO business process modelling, as a part of a study of communication in multicultural distributed workplaces from social-pragmatic perspectives. This model identifies the key elements contributing to the pragmatic effects via the communication process, namely the information field, pragmatic information, validity claims, and time. Major steps within the process and the input and output of each step are also illustrated in the model. A clear picture can be seen from the model how these key elements involved in the process and how the final pragmatic effects are generated. Therefore, this model provides a guideline for future pragmatic studies on communication with focus on pragmatic information, validity claims and the information field.

1 INTRODUCTION

Multi-cultural distributed teams refer to those locate in different sites, have members with various cultural backgrounds, and work together in a certain managerial hierarchy towards common goals. The head and local offices of an organisation locate in two culturally differed nations, the main office of a company and its offshore project team in the cultural distance, are two good examples. Communication plays a key role in improving collaboration among multi-cultural distributed teams. However, the efficiency and effectiveness of the communication in such working environments are normally low mainly due to the insufficiency of shared knowledge, weak relationships between communicators (TE'ENI, 2006), and differences in expectations, norms, interests, values and information needs (Scerri, et al., 2007; Yetim, 2007). Communication and its effects on organisational performance have been studied in Organisational Semiotics (OS) paradigm

(Reijswoud, 1996; Clarke, 2001; Gazendam, et al., 2004; Hawizy, 2007), in which communication is seen as the intentional use of signs, which leads to actions of communicators in a social context. The six-level Organisational Semiotics (OS) Framework was applied to many studies of communication from the perspective of its various levels, which was first introduced by Stamper to analyse signs used in organisations by adding three more levels (Physics, Empirics and Social World) to the Peirce and Morris's semiotic divisions of Syntactics, Semantics and Pragmatics (Liu, 2000; Sjostrom & Goldhuhl 2004). The levels of Physics, Empirics and Syntactics form the system platform and the rest of three upper levels are associated with human information functions. Connolly and Phillips (2004) applied the OS framework to analysing international communication over computer networks in distributed organisations. They identified communication problems on both human-computer communication (HCC) and computer-mediated

communication (CMC) from all six levels. Their analyses of problems of CMC in the levels of pragmatics and social world identified differences in three types of norms, namely institutional, social and environmental, which provide a valuable angle for the norm analyses when studying communication context. However, their study did not treat communication as the core for collaboration within the distributed organisation, and thus they did not address the questions of how people's intentions, beliefs, values, interests, positions and commitments affect the efficiency and effectiveness of communication in a context of organisational collaboration in a multicultural and distributed environment. The communicative acts that are very important to understanding intentions and the perlocutionary effects of a message were also not addressed in their research. Although researchers in OS have realised the important role of the information field, pragmatic information, and validity claims in the success of a communication, no model has been developed to illustrate how these factors together contribute to the perlocutionary effects. Therefore, this paper attempts to give a clearer picture demonstrating the answers as to what factors impact the perlocutionary effects of a communication, and how they do so. We will accomplish this by carrying out a pragmatic analysis of a single communication process between sender and receiver based on the concept of Input-Process-Output (IPO) model. IPO model is a functional model within conceptual schema of a system that identifies a process's inputs, outputs, and the internal procedures required to transform inputs to outputs (Anon., 2009). It has been widely used in business and organisational analyses especially in relation to information system development.

The next section introduces the classic communication process models. The pragmatic IPO model of the micro communication process developed is provided in Section III, followed by conclusions and future work in Section IV.

2 COMMUNICATION PROCESS MODELLING

Models are systematic representations of a complex object, phenomenon or process, based upon the selection of significant features determined by the designer. Communication process models help people to understand the components and sub-processes involved. In the context of organisation, the communication process can be discussed at the

macro and micro levels. The macro level refers to the organisational process level, defining how and what people communicate in business settings. The models of conversational process for the coordination of a business task also belong to macro level modelling. Micro level refers to one cycle of the interpersonal communication process that is the interaction between the sender and receiver through one-time delivery of a message to achieve social coordination. The micro communication process is a basic unit of communication to be studied in order to improve the communication efficiency and thus enhance the collaboration between communicators. The focus of this paper is on the micro level communication process. In this section, the classic communication models are briefly introduced.

Featuring the process nature of communication, many models have been developed from a simple S-R (Stimulus-Response) version at the very early stage to a more mature and well accepted S-M-C-R (Source-Message-Channel-Receiver) Model (Health & Bryant 2000). The classic communication models include Aristotle's Model of Communication, Shannon-Weaver's Mathematical Model (also called Shannon's Information Theory Model), Westley and Maclean's Conceptual Model, Schramm's Interactive Model of Communication, and Berlo's S-M-C-R Model. Berlo's S-M-C-R Model, developed in 1960, was a major breakthrough and has been widely accepted and modified to a cybernetic model that includes feedback from the receiver to the sender (Health & Bryant 2000; Thill & Bovee 2005). In a cybernetic S-M-C-R model, the message was treated as the focal element and communication was viewed as the interaction between the communicators. The communicators' attitudes, communication skills, knowledge, social and cultural backgrounds as well as the language and channel noises were of concern during the encoding, transmitting and decoding processes. Foulger (2004) further modified this model by explicitly distinguishing language and media from the message and by adding the communicator's perspectives and relationships to the model. Those cybernetic models gave us a good idea about how the intention of the sender was communicated with the receiver. However, none of this model demonstrated the pragmatic analysis of the communication process or the importance of the context, communicators' pragmatic information and their agreement on validity claims.

There are models that have been developed to give a pragmatic view of communication, such as Conversation for Action Approach, the SAMPO

approach and DEMO, which are based on the Speech Act, and Transaction Process Model based in turn on the Communicative Act (Reijswoud, 1996). However, all of these models had emphasis on the conversation, a series of transactions of single communication process for the fulfilment of a business task, which belong to macro level analysis. No model was found to represent the components and the processing steps from a pragmatic perspective in a micro communication. To fill in the blanks and also to be a part of our study on communication in multicultural distributed workplaces from social-pragmatic perspectives, a pragmatic IPO model of the micro communication process was developed and is introduced in the next section.

3 PRAGMATIC IPO MODEL OF MICRO COMMUNICATION PROCESS

In communication, pragmatic effects are mainly determined by the shared pragmatic information of both parties and the context where the communication occurs (Liu, 2000). Pragmatic information is information personally possessed, including knowledge, experience, values, and expectations (Dik, 1989; Liu, 2000). The more pragmatic information is shared, the shorter the route to reaching commitment. The degree of sharing is mainly determined by the cultural difference between communicators (Liu, 2000). The Stamper school of OS is one type of a behaviour-oriented approach. It is based on the concept of an information field; thus it is considered to be information field based OS. This school defines an information field as “a set of shared social norms that express knowledge about desirable, acceptable and exemplary behaviour in a community” (Gazendam, et al., 2004). The information field in our study will be defined by substantive norms, communication norms and control norms of the overall communication system, which will be covered by another part of our research. Habermas (1984) introduced validity claims as conditions that need to be satisfied for the receiver to understand the speech act, which include the claim to power, claim to truth, claim to sincerity and claim to justice. The claim to power is the dominant validity claim in strategic actions, while claim to truth, claim to justice and claim to sincerity are the validity claims in communicative actions (Reijswoud, 1996). The

validity claims raised in a speech act should be comprehensible, true, truthful and appropriate in relation to a given normative reality. Otherwise, communication may break down and require more efforts to repair, thus its efficiency is reduced. A speech act succeeds only when the validity claims are accepted by the receiver. A challenge on the validity claims will raise discussion or discourses, which are essential mechanisms for reaching mutual agreement.

When studying the communication process and the factors involved in it, it is natural to give attention to the input, the output and the transformation steps from the input to the output. Therefore, the concept of IPO model (Anon., 2009) was adopted to develop the pragmatic IPO model of the micro communication process. This pragmatic IPO model, as shown in Figure 1, illustrates from the pragmatic perspective, how the intention of the sender is transformed into either collaboration or the need for further communication by a basic communication process unit in a given context, identifying the processing steps (sub-processes), the input from sender, receiver, and context respectively, and the output of each sub-process. The description of the model is arranged by its sub-processes.

3.1 Sub-process: Encoding

Communication is triggered by an event, idea, or situation. When the sender decides to start a communication with the receiver, his/her intention must be encoded to form a message (Message_s). Besides the intention of the sender, essential inputs also include the pragmatic information and validity claims from the sender, and language, medium and the information field from the context. The output is Message_s, which performs the illocutionary act(s) that reflect the sender’s intention. Message_s is also the input for the sending process. In terms of the pragmatic study on communication, focus will be on intention, pragmatic information, validity claims, and information field.

We can use a simplified case to demonstrate this step: a local marketing team of a multi-national enterprise locates in a country that has very different cultures from its head office. The team identified a potential strategic partner for the enterprise through their research. According to the defined information field of the communication system between the local and head offices, the local team needed to introduce this potential partner through an email to the head office and sought their concurrence before they made further moves. This situation triggered

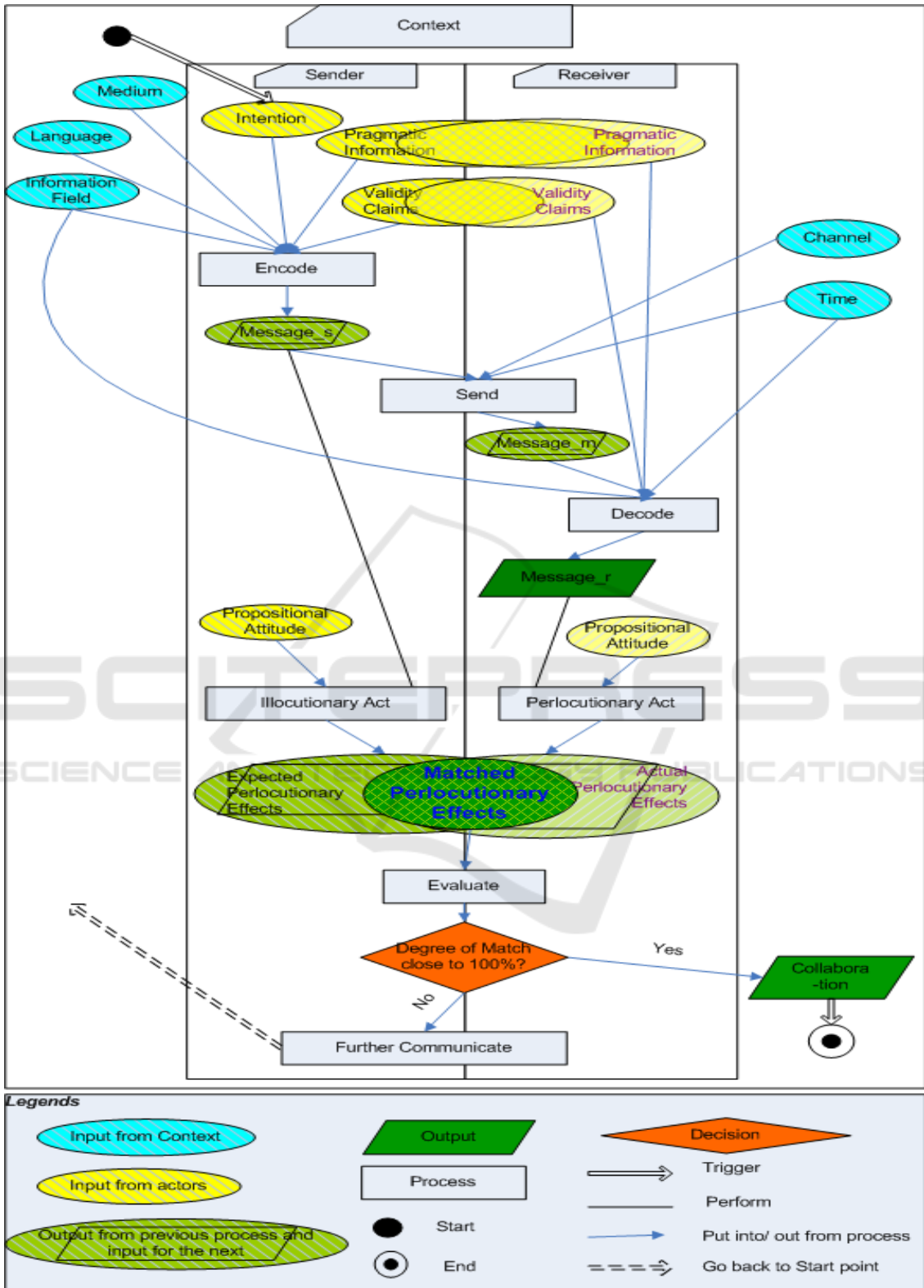


Figure 1: Pragmatic IPO Model of Micro Communication Process.

communication between the two offices. The simplified examples for each input and output are provided as follows:

- Inputs
 - **Intention of the local team:** the local team intended to share their knowledge and judgement about this potential partner and to seek the approval of their proposal from the head office;
 - **Some related pragmatic information of the local team:** the knowledge about enterprise marketing strategy (especially that relating to the local market) and the related business process; the knowledge of the status and plan of the enterprise's new market development; the knowledge of the criteria for strategic partners required by the enterprise; the knowledge of the local market and the target organisation; the experience of identifying an appropriate potential strategic partner; the values required in such partnerships; the way to express all related information and the way to persuade, etc. ;
 - **Some related information fields:** norms that regulate why, when, what, how, who to communicate, and the process of addressing communication results, in such situation. For example, the information field for such communication can be defined as: for the head office to make a correct decision, the local office should send an email to the head office, providing comprehensive evidence to support the proposal of a potential partnership with the identified organisation before further development. The head office should make the decision within two weeks under normal circumstances;
 - **Validity claims:** corresponding to the information field and all related information possessed by the local team, the claims to power, to truth, to justice, and to sincerity were comprehensible, true, truthful and appropriate;
 - **Language:** English;
 - **Media:** email.
- Output
 - **Message_s:** an email containing the introduction of the potential partner, the analysis and judgement made by the local team, and their inquiry requesting instructions about follow-ups.

3.2 Sub-process: Sending

The step of sending requires the inputs of Message_s from the sender and the channel and time elements from the context. Its output is Message_m. Message_m could differ from Message_s due to physical or human distractions during the transmission. Time and timing issues might also cause Message_m to mean a different thing or to have a different degree of impact on the receiver (Bothwell, 2006). However, in this paper we assume that Message_m is identical with Message_s, as this aspect is not the main focus of pragmatic analysis. With the assumption that Message_m is identical with Message_s, the simplified concept Message is used in this paper in the following discussions.

3.3 Sub-process: Decoding

Key inputs in this step include Message, the pragmatic information of the receiver, the receiver's judgements to the validity claims attached to the Message and his/her understandings of the information field. Time and timing are also the factors that influence the decoding result. Under the assumption of right time and right timing during pragmatic analysis, it is easily seen that the output of the decoding, Message_r, can be different from Message, due to various pragmatic information possessed by both parties, their different understandings of the information field, and/or disagreement on validity claim(s). Message_r performs a perlocutionary act, which together with an illocutionary act performed by Message determines the pragmatic effects of the communication.

We continue to use the example introduced in the Encoding sub-process and demonstrate the simplified input and output items for this sub-process:

- Inputs
 - **Message:** an email containing the introduction of the potential partner, the analysis and judgement made by the local team, and their inquiry for the instruction about follow-up;
 - **Some related pragmatic information of the head office:** the knowledge about enterprise marketing strategy (especially that relating to the local market) and the related business process; the knowledge of the status and plan of enterprise new market development; the knowledge of the criteria for strategic partners required by the enterprise; the knowledge of the local market and the target organisation;

the experience of identifying an appropriate potential strategic partner; the values required in such partnerships; the way to express all related information and the way to be persuaded, etc. ;

- **Some related information fields:** the same norms as described in Encoding section;
- **Validity claims:** corresponding to the information field and all related information possessed by the head office, the head office evaluated whether the claims to power, to truth, to justice, and to sincerity were comprehensible, true, truthful and appropriate.
- Output
- **Message_r:** an email containing the introduction of the potential partner, the analysis and judgement made by the local team, and their inquiry for instructions about follow-ups.

Comparing the two sets of inputs of encoding and decoding, it can be seen that:

- i) If the information field is well-defined, if the pragmatic information of both parties has been well-shared and considered, and if the four validity claims are agreed to be comprehensible, true, truthful and appropriate, Message_r will be almost identical with Message, which provides appropriate information and expresses clear and true intention of the sender. In our case, the head office received the email from the local team. They recognized that the email contained appropriate and sufficient evidences, professional judgement of the local team, and the inquiry of approval;
- ii) If any of the three key inputs (the information field, pragmatic information, and validity claims) have issues, Message_r will be seen differently from Message. In our case, for instance, the supporting materials for the partnership evaluation were not clearly defined in the information field. The local office sent the email, believing that the information contained is appropriate, clear and sufficient to allow the head office making decision. However, the head office perceived the email differently since they had a different set of requirements regarding to the supporting materials.

3.4 Sub-processes: Illocutionary Act and Perlocutionary Act

Message, which carries the sender's intention, pragmatic information and validity claims as well as his/her knowledge of the information field, performs illocutionary act. Illocutionary act reflects the intention of the sender. It makes the sender expect certain perlocutionary effects of Message on the receiver. It also changes the sender's propositional attitudes so that they can be ready for the effects. Message_r carries the sender's intention that has been modified more or less by the receiver's pragmatic information, judgements to validity claims and knowledge of the information field. It performs perlocutionary act, which changes the propositional attitudes of the receiver and generates the actual perlocutionary effects performed by the receiver. The differences between Message and Message_r affect the degree of overlap between the actual and expected perlocutionary effects. However, from an outside view, it seems that Message performs both illocutionary act and perlocutionary act. If both sender and receiver share the complete sets of related pragmatic information, have sufficient knowledge of the clearly and appropriately defined information field in the business setting, and agree that the validity claims contained in the message were true, truthful, comprehensive and appropriate in relation to the time and the information field, they will consider the message provides appropriate information and intention to achieve collaboration. Moreover, the receiver is aware of the real intention of the sender and will act as expected by the sender. Therefore, the actual and expected perlocutionary effects should be almost identical. In our case, it means that the head office, as expected by the local team, was able to make the approval upon the email in two weeks. If there was mismatching element(s) regarding to the pragmatic information, the information field and/or validity claims, the actual perlocutionary effects would differ from the expected ones. In the scenario as described in section 3.5 (ii), the head office was not able to make any decision based on the email, to say nothing of approval.

3.5 Sub-process: Evaluation of Perlocutionary Effects

This step evaluates the degree of overlap between the actual and the expected perlocutionary act. A judgement is made via evaluation about whether the

actual perlocutionary effects match the expected ones. If the degree is close to 100%, we can say that the intention of the sender is fulfilled by the reaction of the receiver, and thus the communication is successful and collaboration is achieved; otherwise, further communication needs to be carried out following the same steps after first identifying and addressing the issues that caused the discrepancy. In our case, if the local office received the approval from the head office in two weeks, it means that the expected and actual perlocutionary acts matched. The local office could move on to the next stage of developing partnership with this local organisation, thus, the collaboration was achieved. On the contrary, as given example above, the head office couldn't approve the partnership potential due to the supporting material issue. The local and head offices had to first work out mutual agreements on the requirements of these materials. Therefore, a new communication process was triggered.

3.6 Utilisation of the Model

This pragmatic IPO model of communication process has a two-fold application: to design a pragmatically successful communication system of a newly established multicultural virtual team and to analyse a particular communication problem from the pragmatic perspective.

3.6.1 To Design a Pragmatically Successful Communication System of a Newly Established Multicultural Virtual Team

The information field uses norms (substantive, communication, and control) to define the communication system, which aims to enhance collaboration between distributed teams that are diverse in cultures but share common business goals. As illustrated by the model, the efficiency of a communication for collaboration relies on the degree of agreement of the actual perlocutionary effects with the expected ones, which are pragmatically affected by the sharing of pragmatic information of both parties, the acceptance of validity claims and the development and education of the appropriate information field. Therefore, when designing the communication system, the first step is to analyse related pragmatic information of the communicative parties, identifying their differences and developing solutions into the information field. The acceptance of validity claims depends on the mutual understanding of the relation of power, recognition

of each other's thinking and communicative patterns as well as the level of trust between the parties. Therefore, it is important to realise and share the pragmatic information of both parties that relates to the thinking and communicative patterns, to clearly define and communicate the appropriate relation of power, and to develop a close relationship between the communicators which in turn builds team trust and coherence. These three types of activities need to be built into the communication system. In addition, it is critical for both parties to agree on the common goals that provide mutual benefits, and to communicate them to all the team members. These factors also need to be explicitly claimed in the information field.

3.6.2 To Analyse a Particular Communication Problem from the Pragmatic Perspective

When a particular communication has a problem reaching its intended effects, the message communicated need to be carefully studied in terms of both its illocutionary and perlocutionary acts. According to the model, such a study should focus on the pragmatically related inputs for both acts. The inputs for the illocutionary act include the sender's intention and pragmatic information, the information field for the given context, and the validity claims the sender believes and expresses via the message, while those for the perlocutionary act contain the receiver's pragmatic information, his/her judgement on the validity claims, and the information field for the given context.

The first step is to evaluate whether the sender's true intention and validity claims were appropriate according to the information field and time, and whether they were clearly and correctly expressed by the message. The next step evaluates whether the receiver understands and accepts the intention and validity claims. If not, further study should be carried out to check whether the causes are based on differences of the pragmatic information. The last step is to analyse the information field, examining whether it is defined and shared correctly, thoroughly, and efficiently.

The focus of this paper is on the development of the model. The practical application of the model, which is beyond the scope of this paper, is the subject of ongoing research.

4 CONCLUSIONS AND FUTURE WORK

This paper introduced a pragmatic IPO model of the micro communication process, developed as a part of a social-pragmatic study on communication in the multicultural distributed workplace and designed to fill in the gap in pragmatic models of the micro communication process. The basis of this model included pragmatic analysis of communication and the IPO business process modelling. This model identified the key elements contributing to the pragmatic effects via the communication process, namely the information field, pragmatic information, validity claims, and time. Major steps within the process and the input and output of each step were also illustrated in the model. Via this model a clearer picture can be seen as to how these key elements were involved in the process, and how the final pragmatic effects were generated. Therefore, this model provides a guideline for future pragmatic studies on communication with a focus on pragmatic information, validity claims and the information field.

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