Philosophy of Communication: A Logico-conceptual Approach

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Communication is present among human societies. The philosophy of communication studies the foundational aspects of communication. In this paper, the intention is to study how knowledge, information and ideas can be shared in communication. As a starting point, a simple game of communication is characterised. The simple game shows that it is possible to share knowledge, information and ideas. However, in communication, several different linguistic means of expressions are used. So, we must extend the communication game to include these different kinds of linguistic expressions. Metaphors offer an important class of expressions, which open new lines of thoughts. Metaphors are ‘poetically or rhetorically ambitious use of words,’ where, according to Davidson, the use of them is based on some kind of ‘artistic success’. However, this kind of characterisation does not help us to find a fruitful, semantical analysis for them. Possible worlds semantics offer a natural semantical tool which explains these peculiarities. Especially the identity of individuals becomes relativised to the methods of identification, which can be generalised to all modal contexts. This allows us to generalise the simple communication game. So, this paper explicates one aspect of the very important philosophical topic.

Keywords: game of communication, shared knowledge, understanding, metaphor, possible worlds semantics

INTRODUCTION
The phrase ‘Philosophy of Communication’ combines two ambiguous disciplines, philosophy and communication. Moreover, both philosophy and communication are cluster terms, which include different kinds of approaches. Communication ‘is one of the most ordinary of human practices’ (Jensen 2020); as such an everyday phenomenon it has different kinds of manifestations. The study of communication, or communication theory, is not a matter of a particular discipline, but is studied from many disciplines, including information theory, cognitive science, computer science, linguistic, communication, jurisprudence, and media science. Of course, as the list of disciplines suggests, philosophy looks at communication from many different perspectives that have connections to the disciplines mentioned above. Hence, the philosophy of communication is not a single discipline; it is a multidimensional approach which is not possible to handle in a single paper or in a single book. To get a grasp
of the multidimensionality, let us mention the following references: Fuchs 2016; Jensen 2020; Pietarinen 2006; Leßmöllmann et al. 2019; Wachsmuth et al. 2013, and the journal Media and Communication. In this paper, the approach is connected to philosophical logic and the intention is to show how it is possible to share knowledge in a communication process.

In philosophy, there are different traditions or schools which have common historical roots. In an analysis of multidimensional questions, like communication, the common historical roots should be seen as an empowering element: it is possible to find some unifying elements in the exposed problems. Communication, which is said to be at the ‘crossroads’ of many disciplines, is an excellent example of a problem which can be analysed from different points of view. Even if communication plays a central role in the present-day information society, it has been an important phenomenon in all human societies. Moreover, communication is not restricted to human societies; the phenomenon is present also within animal societies. The analysis of communication uncovers aspects that make it possible to unify different approaches to it.

As a starting point, let us take the Oxford English Dictionary, which says that communication is about ‘transmission or exchange of information, knowledge, or ideas’. In communication, knowledge, information and ideas are intended ‘to be shared’. In this sense, it is not surprising that the theory of communication ‘was first known as theory of transmission of information but which now is elliptically called information theory’ (Hintikka 1970: 3).

Before we can analyse what it means to share knowledge, information and ideas, we must have a detailed analysis of these factors. The approach allows us to tackle with questions such as what kind of expressions might be used in communication or what kind of shared philosophical background is presupposed in successful communication.

In the analytic philosophy of communication, questions connected to language have been in focus. In communication, the question about linguistic meaning is important. Moreover, a central question asks how expressions may have shared meaning. In this, we follow basic ideas generated by philosophers like Frege, Davidson, Lewis and Hintikka.

In communication, colloquial language is not the only used medium. In conveying information, pictures, facial expressions and gestures, among others, are also used. The pictorial expressions have become so common that sometimes the phrase ‘pictorial turn’ (Curtis 2009), which refers to the frequent use of pictures in communication, has been used. More generally, pictorial languages have been developed for a long time (Neurath 1936; Champagne, Pietarinen 2020). Moreover, the pictorial and metaphorical use of linguistic expressions is common in both scientific and everyday communication (Hintikka, Sandu 1998; Lu 2021; Bergman 2009).

However, the sharing of knowledge and information in communication supposes that there is some common ground, which makes common understanding possible. However, as the Habermasian communicative rationality shows, the presuppositions needed are quite strong or idealised (Bohman, Rehg 2017). Wittgenstein characterised the presuppositions of a common world-picture by certainty (Wittgenstein 1969), which is something before all knowledge.

**SIMPLE COMMUNICATION GAME**

We will specify a Simple Communication Game in which two persons are communicating on a certain topic. The presupposition is that they both have an opinion. If this would not be the case, the communication cannot start at all – they, by definition, cannot communicate
about a topic on which they have no opinion at all. Let us call the opinion at the beginning as pre-knowledge, which does not need to be well formulated. Communication is based on the pre-knowledge that the participants have. More precisely, only part of their pre-knowledge is actively known by the participants. This active part is called active knowledge of the participant. They do not know each other's active knowledge. There are several different possibilities: the active knowledge that the participants have may or may not have common parts, they may or may not be true, etc. (Hintikka 1984).

For simplicity, we assume that the pre-knowledge of the participants is true and that the intention of communication is sharing truthful information. This makes it easier to formulate the basic ideas of the logic of communication. If some of the suppositions are changed, all the details need to be reformulated, but the foundational idea remains the same (Hintikka 1984).

The intention of the communication is to find out the truth of the topic. Both participants may, for example, ask questions or make statements. If one asks a question, the other must answer it as truthfully as possible. If one makes a statement, the other must accept or reject it. The answers and the acceptance or rejection must be based on the knowledge that the player has at the moment of the game. The communication game is based on these kinds of simple definitory rules. The intention of the game is to find out a common active theory which is clear and distinct, as Descartes would say. It must be recognised that definitory rules define how to play. Besides definitory rules, there is a need for strategic rules, which define how to play well (Hintikka 1984). As in science, the final goal can be achieved within the limit, but the progress during the game can be seen and measured.

Scientific inquiry can be seen as an example of such a game. In mature science, the communication is well organised. The experimental set ups and the structure of theories are well specified. The professionals in the field share the foundational knowledge, and they have a common understanding on what important questions are in the field (Niiniluoto 1987; 2018). However, the situation changes if we consider, for example, different applications of a theory, change of theories within a field of science (Kuhnian scientific revolutions), multidisciplinary research, or popularisation of science.

In a multidisciplinary context, there are several different fields of science present. There is no possibility to subsume any weight coefficient to different fields of science. Hence, the evaluation of statements and answers remains problematic: who decides which statement is the most cogent? Of course, there are good examples in which the communication has been good, but there is no general way to specify the communication rules (Koskinen 2017).

**ON UNDERSTANDING**

As Zagzebski (2009) says, there are so many different uses of understanding that eventually the word lacks all content. Basically, according to Zagzebski, we have the following meanings: propositional understanding, which means quite the same as the usual notion of propositional knowledge. Besides this, there is explanatory understanding, which allows the understanding of why something is the case. Moreover, there is understanding of objects, such as ‘I understand X’, which can be separated from the other senses of understanding.

In communication, it is important to understand what the other means. In the philosophy of language, this means that the interpretation of the language (expressions) needs to be commonly shared. A very foundational text in this area is Russell’s famous paper ‘On Denoting’, which was published in 1905. In this paper, Russell explained how language denotes objects.
Russell specified different kinds of denoting phrases. His famous example was ‘the present king of France,’ which cannot be referred to because there is no such object (at that time). Russell separated this from the phrases like ‘the present king of England,’ which (at that time) referred unambiguously and ‘a man,’ which refers ambiguously. Russell analysed the phrase ‘the present king of France’ such that the deeper structure of the phrase becomes evident. The analysis shows that the phrase contains a hidden existential statement which is false.

Russell’s paper was extremely important. For example, it demonstrated that ordinary language is ambiguous, which is important information for the theory of communication (Bergman 2009). Russell (1905) criticises Frege’s distinction between meaning (Sinn) and denotation (Bedeutung). According to Russell, his theory of denoting analyses linguistic expressions, which reveals the denoting function of the expressions.

It is important to recognise that Frege’s meaning behaves as a function, which maps the expression to its referent (Hintikka 1975: 206). More precisely, meaning is a contextual function from the context to the denotation of the expression within the context (Hintikka 1975; Haaparanta 1985). It is interesting to recognise that Husserlian noema behaves as a similar function (Hintikka 1975: 206). In the philosophy of language, the discussion on the topic has been extensive (Martinich 2001).

Hintikka (1988) characterises philosophical climate using the notions of ‘language as the universal medium’ and of ‘language as calculus’. Philosophers who accept language as a universal medium think that language has unique semantics, which cannot be expressed (in the language). Language speaks about the reality. However, it cannot be expressed; language shows its meaning (Tractatus 4.022). So, it is not possible to speak about the relationship between language and the reality. That is, there cannot be a theory of semantics of the language. Philosophers who think that language behaves as calculus think that the language can be interpreted and reinterpreted quite freely. The systematic study of the possible interpretations is called model theory, so the latter is called as model-theoretical tradition (Hintikka 1988).

Model-theoretical tradition has roots in the history of logic which comprises, among others, Boole, Schröder, Löwenheim, Gödel, later Carnap, and (in a certain sense) Tarski’ (Hintikka 1988: 2). Of course, as Hintikka mentions, in philosophy logicians, like Schröder and Löwenheim, who did fundamental works at the model-theoretical tradition, are not very well known. However, the model-theoretical approach is philosophically extremely important.

The difference between the traditions, which is important for us, is that model-theoretical tradition develops systematic semantic theories, and the universal language tradition finds that it is not possible to have a theory of semantics. It is important to recognise that Frege thought that his logic (Begriffsschrift) explicates the Leibnizian lingua characterica or universal language (Haaparanta 1985: 27, 35). He never developed an explicit semantical theory for his logic. Similarly, Russell thinks that language, which also includes logic and mathematics, speaks about the reality (Russell 1919). Wittgenstein in Tactatus (4.12) says that ‘To be able to represent the logical form, we should have to be able to put ourselves with the propositions outside logic, that is outside the world.’ This shows that semantical theory is impossible. The similar attitude remains later when Wittgenstein developed his language games. The tradition is not restricted to the analytic philosophy. For example, Heidegger’s phrases, like ‘Haus des Seins’, indicate the same philosophical opinion. More generally, this can be seen from the emphasis of certain kinds of linguistic philosophy, which is common to several different kinds of philosophers (Hintikka 1988; Lu 2021).
It is extremely important to recognize that these kinds of philosophical attitudes indicate some attitudes toward language and its interpretation. Wittgenstein developed his 'picture theory of language' in *Tractatus*. However, it is somewhat misleading to call it as picture theory. The intention of the picture theory is to show how language has its meaning. Sentences are pictures of reality. In fact, Wittgenstein (1961; 27.9.1914) said that ‘[a] proposition can express its sense only by being the logical portrayal of it’. In this quotation, the essential word is 'express', which is connected to the Wittgensteinian distinction between showing and saying. A sentence shows the meaning, but we cannot say it in the language. In *Tractatus* (4.31), Wittgenstein specified a truth table method, which pictures all the truth possibilities or possible worlds. It seems that Wittgenstein was developing a model theory for sentence logic, which is in fact the case, but Wittgenstein did not systematically develop model theory.

Neurath (1936) turned the Wittgensteinian idea upside down, and he developed pictorial language, which makes the reading of the language similar as ‘making observations with the eye in everyday experience’. In pictorial language, contrary to everyday language, the syntax pictures the semantics of the language: ‘the man has two legs; the picture-sign has two legs; but the word-sign “man” has not two legs’ (Neurath 1936: 20).

In communication, expressions should reveal the meaning of the expressions which might be true in simple cases, like the communication game above, in which mainly lexical meanings are used. However, as the simple game shows, the shared understanding cannot be achieved in a single step, but it is built up during the game. So, understanding is not a state of mind but a process (Niiniluoto 2018).

**METAPHORS IN COMMUNICATION**

Metaphors are a figurative or pictorial use of language (Hills 2017), which differentiates it from the literal use. However, metaphors expand linguistic means of expressions. Metaphors as a figurative use of language as such break the semantical rules of language. This entails that universal tradition, which is connected to the one-world assumption, cannot have an adequate semantical analysis of metaphors (Hintikka, Sandu 1998).

Metaphors have ‘attracted more philosophical interest and provoked more philosophical controversy than any of the other traditionally recognized figures of speech’ (Hills 2017). For example, according to Davidson (2001: 435), ‘[t]here are no instructions for devising metaphors; there is no manual for determining what a metaphor “means” or “says”’. The use of metaphors is based on some kind of ‘artistic success’, which makes metaphors in communication extremely difficult. Davidson (2001: 441) says, as a consequence of his study, that ‘the sentence in which metaphors occur are true or false in a normal, literal way’.

In ordinary communication, metaphors are fluently used. In fact, means of expression in ordinary communication are extraordinarily rich. Besides metaphors, pictures and fictive expressions are used. When we speak about pictures, we easily have in mind pictures resembling what is imagined, which was the basic idea behind Neurath when he developed his picture language. Wittgenstein (1988) called this kind of picture a portrait that behaves like a proper noun, which can be expressed as follows: ‘the picture of Johnny Depp denotes Johnny Depp’ (Lammenranta 2019).

Pictures have more expressive power than the mere use of portraits indicates, which is demonstrated by Wittgensteinian (1988) genre pictures or cluster pictures, which could be modelled by model sets (Hintikka, Hintikka 1986). If we believe the usual phrase that ‘a picture is worth of thousand words’, then these genre pictures are so rich that ‘we simply lack
words for all those properties’ (Lammenranta 2019). A reason why we cannot simply characterise genre pictures by words is that these cluster pictures narrate something to us, and as a narration, they are complete stories (Wittgenstein 1988).

This shows that there is a proper need for some semantical tools which extend the one-world interpretation. The answer comes from modal logic, in which possible worlds semantics have been developed from the 1950s on (Copeland 2002). It can be clarified by an analysis of a simple example: ‘A knows that p’ which is true (in a world w) if p is true in all the worlds w’ that are accessible from the world w’ (Copeland 2002: 120). In modal logic, the class of possible worlds and the character of the accessibility relation play a central role. In fact, the model sets above are methods to generate classes of models (Hintikka, Hintikka 1986).

The possible worlds semantics enforces us to ask about the identity of entities. If I know that Tomas is a chair of the session, then this knowledge statement is analysed as mentioned, such that there are several possible worlds in which the sentence ‘Tomas is a chair of the session’ is true. However, it does not necessarily entail that the sentence ‘there is someone who is a chair of the session’ would be true. The reason is that my knowledge does not necessarily determine uniquely the individual named ‘Tomas’. This shows that the identity of the individuals is not determined within a world, but between the worlds (a cross-world identity) (Hintikka 1975: 28–29). However, the identification is relative to the method of identification, which might be, for example, physical (continuity) or phenomenal (subject-centered) (Hintikka 1975: 29–30).

Possible worlds semantics is an amazingly effective philosophical method to manage several different kinds of semantical problems. For example, possible worlds semantics offer tools to analyse how it is possible to learn from fictive literature. It might seem that truth can be learned from books and papers that are true or, at least, truthlike (Lammenranta 2019). However, fictive literature describes possible worlds in which there are certain persons, like Sherlock Holmes or Hamlet. But ‘[b]ecause there are no fictional entities, fictional names are empty or meaningless and fictional sentences (and pictures) do not express complete propositions’ (Lammenranta 2019: 72). In fictional texts, real-like individuals and real-like courses of events, which are not real but imaginative, exist.

All the descriptions in fiction are incomplete. However, they specify certain well-characterised courses of events that might happen in the real world. These kinds of deliberated courses of events are called thought experiments in methodology, which can be used in different fields of science, similarly as proper experiments in experimental science. Thought experiments are especially valuable in human and social sciences and in philosophy (Brown, Fehige 2019.) From these thought experiments, it is possible to abstract general knowledge that Carnap (1962) calls structure description, which can give general knowledge. Because individuals in fictive worlds are not real-world individuals, they can convey only general information, which can be made applicable in the reality by reflective analysis (Niiniluoto 2018).

In Neurathian and Wittgensteinian pictorial languages it is possible to formulate statements. Wittgenstein (1988: 171) emphasised that pictorial expressions need not be translated to understand them: ‘A sentence in a story gives us the same satisfaction as a picture’. However, pictures are restricted by the one-world assumption: ‘The picture, however, cannot represent its form of representation; it shows it’ (Tractatus 2.172).

In Tractatus (2.201), Wittgenstein says that ‘The picture depicts reality by representing a possibility of the existence and non-existence of atomic facts’. More precisely, pictures are like linguistic expressions, which may be true or false: ‘The picture agrees with reality or not;
it is right or wrong, true or false' (*Tractatus* 2.21). However, in logic and in ordinary language, we have symbols for negation which extend the expressive power of languages. Intuitively, negation makes it possible to describe negative facts or to express when something is inaccurate. Pictures have their form of representation that does not contain a negation symbol. Hence, it is not possible to picture negative facts (Hintikka, Hintikka 1986.)

According to Hills (2017), ‘[m]etaphor is a poetically or rhetorically ambitious use of words, a figurative as opposed to literal use.’ The use of metaphors in communication makes communication both polysemic and rich in content. Someone might say that metaphors make communication inconceivable. Metaphors, as a figurative use of language, do not refer in the ordinary sense of the words. Surely, they are meaningful, but the meaning of them does not follow ‘usual meaning lines’ (Hintikka, Sandu 1998: 280). The basic idea is that the meaning lines of a metaphor are based on contextual similarity. Hence, the semantics of metaphors become an essentially practical question.

The semantics of metaphors are based on a merger of literal meaning and imaginative meaning. If someone says, ‘Mr. Smith is a pig’, this refers to the abstract idea that pigs have distinct properties that Mr. Smith also has. Here, we have a simple direct abstraction. The similarity may also refer to historical facts, like Marx’s metaphor on religion, or to the cultural context, like in calling McEnroe ‘the Hamlet of Wimbledon’ (Hintikka, Sandu 1998: 287). So, a reference point of metaphoric names may be in both reality and in fiction.

**GAME OF COMMUNICATION RECONSIDERED**

The communication game above was remarkably simple in which a basic idea was the information theoretic idea of sharing information. However, we must take into consideration that language in communication may, and usually does, include several different kinds of expressions. So, analysis of merely the descriptive use of language is good enough. Moreover, communication is not the formal sharing of information but epistemic interplay, in which the intention is to achieve common knowledge (Hendricks, Rendsvig 2014).

The epistemic elements make the logic of communication more complex than in the communication game above. An obvious consequence is that we must use possible worlds semantics in the analysis of the game. A second consequence is that, because of the complexity of linguistic expressions, we must use several classes of possible worlds, which means that the analysis is multimodal (Hendricks 2006). Multimodality is needed because of the complexity of the logic of communication. In practical life, there is a need for a rich repertoire of linguistic expressions. Moreover, in practice, values take place in communication.

The complexity of the communication game entails that the linguistic sensitivity of the nuances of the context of communication becomes important. The fundamental idea of the game of communication is not to show how a player could give the intended information to the other player, but how to construct together a common understanding which emphasises strategy of the game (Hintikka 1984; Margolin 2021).

In the simple game of communication, the situation is straightforward. There is a given problem, and both players have some background knowledge of it. Only its some part is active. The basic idea is to generate a common truthful opinion on the topic. The basic strategic rules are the same as in scientific inquiry; so, the strategic situation is clear, basically the main strategic principle is epistemic. However, in the complex communication game, strategic situation is more complex, even messy. The strategic principles are combinations of different modalities which need to be weighed. There are no general principles which determine the weight for
different modalities. Moreover, as recognised, modalities might be practically oriented, which makes the modality extremely context sensitive (Hendricks 2006; Bergman 2009).

Hence, communication is, from a logico-philosophical point of view, a multimodal game, where strategies are families of strategies for different modalities. There is not an upper limit on the complexity of communication games (Hendricks 2006; Russil 2005).

CONCLUDING REMARKS
Communication is a phenomenon which takes place in every human society. The complexity of communication depends on both formal factors, such as the topic or the goal of the communication, and practical factors. It is possible to analyse different kinds of communication situations and to give some general logico-conceptual characterisations of them. However, there is no general theory under which all the communication could be subsumed.

The logico-conceptual approach that we have presented in this paper could also be applied to the communication of animal societies. In these applications, there are several special questions to be considered. Let us mention, for example, the identification methods. It is plausible that animals have perceptual methods of identification, which open interesting applications. It is an interesting and important question as to what methods of identification animals could manage. However, this is a topic for another paper.

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References
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Santrauka

Raktažodžiai: bendravimo žaidimas, daliyimas žiniomis, supratimas, metafora, galima pasaulio semantika