DOI 10.36145/DoC2020.02

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Metaphors We Communicate by

"[...] academics need to communicate their ideas

and beliefs on a global level [...]" (Lehman, in the present volume)

Abstract: The paper presents four conceptual metaphors which people communicate whenever they speak and write: the CONDUIT metaphor, the DISCOURSE is MOVEMENT metaphor, the MEANING is (PHASERS OF) MATTER metaphor, and the BARRIERS metaphor. They organize our conceptualization of discourse. The purpose of the paper is to demonstrate the metaphorical character of discourse to help potential readers to participate more effectively in scientific discourse by avoiding superfluous discussions about meanings of particular linguistic expressions at the expense of concentrating on what really matters. Particularly important are the mechanisms responsible for communication breakdowns revealed by the PHASES OF MATTER metaphor and the BARRIERS metaphor. Both are complementary to the CONDUIT metaphor and accurately portray those cases when sending a text from the sender to the recipient is temporarily or permanently blocked. The CONDUIT metaphor alone does not offer any account of the fact that sending even the simplest signal, whether verbal or non-verbal, from a particular sender to a particular recipient, leave alone a number of recipients, involves an incredibly complex sequence of

mental and physical events , which at every point can be hindered and distorted by various obstacles. The very general, metaphorical word/concept 'barrier'/ "barrier" covers all kinds of ways in which effective communication is hindered and/or entirely blocked. Two kinds of barriers are distinguished: physical and mental. Physical barriers are easier to cope with than mental barriers, which are much more difficult to identify and diagnose due to lack of sufficient knowledge about their location. Two examples of mental barriers inhibiting communication in the area of broadly conceived linguistics serve as a specific memento for potential participants in the scholarly discourse.

Key words: metaphor, discourse, meaning, barriers

Preliminary notes – terminology and notation

Every academic text, whether a modest term paper or an advanced Nobel prize winning account of an epoch making scientific discovery, is an element of academic discourse with its obvious components: the author, the (potential) readers and the relevant situation. Perhaps less obviously every such document is preceded by the implicit **performative phrase** *I declare that what follows is true.*[1] The phrase in fact means "I (as its author) know/believe that what I write below is true." More specifically, the phrase expresses the idea that the author declares his/her faithfulness to the truth (whatever that might mean) of what is to follow. Thus, approaching academic texts in isolation from the contexts in which they function as vehicles of verbal communication is futile and practically useless.

The terms '**text**' and '**context**', as well as a few other important meta-terms, are used by various authors in a considerable number of

1. The expression "performative phrase' is my own, but it has been inspired by John Austin's theory of performative verbs (Austin, 1975/2009).

different and mutually incompatible senses.[2] Therefore, to avoid potential misunderstandings and misinterpretations, it appears necessary to introduce the appropriate notation and to specify the senses in which the relevant meta-terms will be used in the present paper.

Notation and typographical conventions

'Single quotation marks'

For linguistic expressions, i.e. lexemes, phrases, sentences, $texts_1$ (systemic texts)

"Double quotation-marks"

1. For concepts and senses
2. For quotations from other authors

Italics

1. For forms of lexemes and other expressions
2. For book titles
3. For emphasis

Italics: (between colons)

For utterances, their parts and $texts_2$ (discourse texts)

CAPITALS

1. For source and target domains of conceptual metaphors

'Bold type' (between single-quotation marks)

For metalanguage terms

<Angle brackets>

For entities

Senses of terms pertaining to texts and discourses[3]*:*

'sentence' – *In the cognitive domain of <grammar>* "'**Sentence'** is a particular category of linguistic expression constructed according to

2. For example, the term 'discourse' is occasionally used to refer to *a meaningful sequence of sentences* (as in Leech, 1974, p. 284), quoted after Lyons (1981, p. 198ff).

3. For more details and discussion see Krzeszowski (2016, pp. 115–122).

grammatical patterns in a given language." Therefore, sentences are defined in the cognitive domain of language understood as an abstract system and its grammar.

'utterance' – *In the cognitive domain of <disourse> = <verbal communication events> = <speech acts>* "a linguistic expression actually used in a specific context").

'text'$_1$ ('systemic text') – "a cohesive sequence of two or more sentences".

'co-text'$_1$ – "a linguistic expression or linguistic expressions preceding and/or following any linguistic expression occurring in a given text$_1$".

'text$_2$' ('discourse text') – "a single utterance or a coherent sequence of utterances making up a single communication event".

Although text$_2$ is that part of communicative event that can be phonetically transcribed, no transcription is capable of representing everything that a given, spoken text$_2$ consists of, for example all subtleties of intonation and voice, as well as possible inarticulate non-linguistic kinds of noises which often accompany oral communication. However, every text$_2$ may be copied within the same medium in which it originally came into existence. Thus a phonic text$_2$ can be recorded and graphic text$_2$ can be duplicated by means of a variety of technological devices.

'co-text$_2$ – "one or more utterances preceding and/or following any utterance within a communicative event".

'situation' – "1. the place in which a given communicative event occurs; 2. the time at which a given communicative event occurs; 3. the participants, the producer and the recipient(s), viewed as human beings with their own individual experiences, individual scope of knowledge, and individual psychological profiles; 4. everything that a particular text$_2$ refers to".

'context' – "co-text$_2$ and situation".

'discourse' – "text$_2$ + co-text$_2$ + situation".

Conceptual metaphors of communication (discourse)

As all abstract concepts communication and *eo ipso* discourse can be understood in terms of a number of other concepts due to what cognitive linguists call conceptual metaphors. Cognitive linguists consider metaphors to be cognitive devices essential not only in our understanding of a large number of concepts but also determining the way in which we think and communicate. This is so because metaphors are at the very heart all our cognitive processes. Therefore, as Lakoff and Johnson put it (1980) , we live by metaphors. Consequently, we also speak by metaphors and we write by metaphors. These assertions justify the title of the present paper. The metaphorical nature of discourse manifests itself in two ways. Firstly, in the way we understand discourse (more generally communication) as a phenomenon and *talk about* it and secondly, in the way we understand the *structure* of discourse. Two powerful conceptual metaphors, respectively, organise our understanding of discourse and our understanding of its structure. These are the CONDUIT metaphor and the MOVEMENT metaphor.[4] Two other metaphors, the PHASES OF MATTER metaphor and the BARRIERS metaphor, organize our understanding of communication failures.

The four metaphors manifest themselves not only in numerous conventional linguistic expressions but also in our ability to understand and create novel expressions, as long as they are coherent with these four powerful conceptual metaphors. as well as in a number of less conventional or novel expressions, which through being coherent with the two conceptual metaphors.

4. For a more extensive discussion of these two metaphors see Krzeszowski (2004).

The CONDUIT metaphor

The metaphor owes its name to Reddy (1979) who used the word 'conduit', which in one of its directly meaningful senses denotes "a pipe or channel for conveying water or other fluids". Somewhat earlier Jakobson (1960) used the word 'channel' in his model of communication, without highlighting the metaphorical character of his model. In the extended , metaphorical sense both these words denote any material medium along which information can be conveyed, be it air-waves, radio-waves, telegraphic wires, or some electronic devices.

In Reddy's original formulation of 1979 the CONDUIT metaphor had two variants. The first variant, exemplified by the sentence 'Try to get your thoughts across better', was supposed to express the idea that the contents of our d information which was to be conveyed was contained in our minds as our thoughts, ideas, feelings. and emotions, all subsumed under the term repertoire members (RM's), are material objects, which can be sent directly through some conduit from a sender to a recipient. The second variant, represented by the sentence 'You have to put each concept into words very carefully', also treats RM's as material objects, which, however, can be put into signals (s's), i.e. linguistic expressions, conceived as containers. In fact, the second version entails the first version, which makes it possible for Johnson and Lakoff (1982) to treat them jointly and formulate it as a complex consisting metaphor consisting of four sub- metaphors:

i. THE MIND IS A CONTAINER (FOR IDEAS)
ii. IDEAS (OR MEANINGS) ARE OBJECTS
iii. COMMUNICATION IS SENDING
iv. LINGUISTIC EXPRESSIONS ARE CONTAINERS (FOR IDEAS--OBJECTS)

Reddy's first version of The CONDUIT metaphor is now expressed asto (i), (ii), and (iii), while his second version corresponds to (i), (ii), (iii), and (iv). Therefore, the second version embraces the first one.

Johnson and Lakoff correctly say that the CONDUIT metaphor well fits only those cases when the participants of the same language, (possibly with insignificant individual variations) and when they make the same cultural and background assumptions, and share the same knowledge of the world, the same understanding of the topic, the same conceptual metaphors, and the same theories concerning the subject matter. Otherwise, communication is seriously hindered (disturbed) or plainly breaks down, and in this way the CONDUIT metaphor reveals its inadequacy as a model of communication.

In earlier publications I demonstrate that the CONDUIT metaphor successfully copes with such objections (Krzeszowski, 1991; 1997). With all its alleged inadequacies it still permeates our language about communication, and it is virtually impossible to utter a sentence about human communication without making use of linguistic expressions implementing the this metaphor.

The DISCOURSE IS MOVEMENT metaphor

The very word "discourse" is a typical case exemplifying the metaphor DISCOURSE is MOVEMENT pertaining to the structure of discourse. The Latin based etymology of the word 'discourse' is clear and straightforward. The word has its source in the Latin complex noun 'discursum' and the verb 'discurrere' consisting of the prefix *dis-* and the root *curs-* with the original concrete physical sense 'running to and fro', 'running about' and 'to run to and fro, to run about'. This physical sense is present in Early Modern English as is in the examples cited in *Oxford English Dictionary*, such as 'With silence [silent] looke **discoursing** over al.' (1547) SURREY *Aeneid iv*, 475 and 'A greate parte of lande [...] **discoursynge** towarde the West'. (1555) EDEN *Decades* 213.

The sense of the word 'discourse' was soon extended to acquire more abstract figurative and metaphorical senses 'to pass from premises to conclusions', 'to reason', and 'to turn over in the mind, think over', which are due to the extremely powerful conceptual metaphor PHYSICAL REALITY IS MENTAL REALITY, whereby thinking corresponds to moving.

More recent senses 'to speak with another or others, talk, converse; to discuss a matter, confer' as well as 'to speak or write at length on a subject' evoke most essential elements of discourse, such as participants and subject matter. A further extension, from only spoken to written discourse did not affect the element of movement (extension from the physical to mental movement), which is the most obvious *structural* component of the concept "discourse".

Discourse conceived as movement entails several more specific entailments and correspondences[5]:

Movement involves **participants**. Therefore, **discourse** involves **participants.**

Movement can be purposefully oriented **towards a destination** or it may be **un-oriented** (lacking a clearly defined goal). Therefore, **discourse** may lead **towards some goal** or it may **move in no specific direction**.

Movement can be **hindered by obstacles** or it may proceed **unhindered**. Therefore, **discourse** may be **hindered by obstacles** or it may proceed unhindered.

Obstacles may be due to **objective circumstances** (natural and artificial barriers, fallen trees, flooded passages, etc,) or they may be generated by **participants themselves** (interpersonal conflicts, quarrels, disagreements concerning the itinerary etc. Therefore, in a discourse **obstacles may be objective** (independent of discourse participants) or may be **caused by the participants**.

5. For analogous correspondences concerning other metaphors, such as ARGUMENT IS WAR, LOVE IS A JOURNEY see Lakoff and Johnson (1980, p. 93).

Moving participants may be **equal** or some participants may **lead others** (as in guided tours). Therefore **discourse participants** may be **equal** or some participants may **lead others**.

It must be added that the very general concept "movement" can be instantiated by various specific concepts, such as running, walking, flying, swimming, rolling, wandering, crawling, following, preceding, leading, climbing, but also fighting, battling, struggling, wrestling, etc.. Not all of them are equally relevant in our understanding of discourse. These instantiations of the general concept "movement" fall into two groups corresponding to two fundamentally different kinds of discourse. These two kinds of movement are conceived in terms of two different conceptual domains based on our experience: JOURNEY and WAR, which are source domains in two powerful metaphors structuring our understanding of two fundamentally different kinds of discourse: cooperative discourse and oppositional discourse.

Co-operative discourses may be conceived in terms of the DISCOURSE IS JOURNEY metaphor, while oppositional (antagonistic) discourses may be conceived in terms of the DISCOURSE IS A WAR metaphor This distinction does not constitute a classical dichotomy but rather refers to two idealised discourse situations which actual discourses rarely represent. A particular discourse may consist of elements of both, with a possible dominance of one type or with a tendency to evolve into one type.

The oppositional nature of some discourses and the corresponding term 'oppositional discourse' are familiar in psycholinguistics and have been explored by a number of authors, for example by Maynard (1985) and Shugar (1995). Yet, ironically, it is overlooked by linguists, so that this fundamental opposition is not even mentioned in books authored by such renowned scholars as Kugler (1982), Brown and Yule (1983), Coulthard (1985), Nunan (1993), and Duszak (1998). Consistent with the above

formulated correspondences is a further subdivision of co-operative discourses into oriented and un-oriented discourses. Examples of oriented or locally oriented discourses are free conversations, stream-of-conscience monologues, improvised stage dialogues and a number of private letters, diaries, etc. Most discourses are oriented towards some explicit or implicit goal and follow some more or less consciously designed plan (corresponding to pre-set itineraries). Here belong such discourses as seminar discussions, public debates but also most written discourses such as newspaper articles, applications, memoranda, lecture notes, and most literary genres. Among oppositional discourses one finds such subtypes as arguments, quarrels, brawls, disputes, etc.

The two metaphors structure our understanding of the two basic types of discourses by virtue of a number of correspondences. Thus, the schematic structure of JOURNEY as the source domain is projected into the target domain DISCOURSE as the following correspondences:

· Producing and/or hearing or reading a text corresponds to travelling.

· Producer(s) and/or recipient(s) correspond to traveller(s).

· Paragraphs/chapters/segments of a text may correspond to stages.

· Digressions correspond to detours/diversion.

· Difficulties, such as complication, unclear passages, bad grammar in the text, etc. may correspond to bumpy, rough road or rough seas in the case of travel instantiated by a sea-voyage.

In oriented discourses the following two additional correspondences hold true:

· Points, morals, revealed mysteries, revealed "who-done-its", solved problems. humorous effects correspond to goals.

· Understanding the message, the point, the moral, the conclusions, etc. of the text corresponds to reaching the destination.

A host of conventional language expressions is coherent with various correspondences making up the structural metaphor DISCOURSE IS A JOURNEY: 'Are you with me?' 'Do you follow me?' 'I can't follow you.' 'Let's move on.' 'Let's go on.' 'Let's proceed.' 'Let's stop for a while.' 'Shall we rest now?' 'This course is rather steep.' 'We're not getting anywhere.' 'We are miles apart.' 'She's miles ahead of other students.' 'We're running in circles.' 'We've been here before.' 'We've covered this very thoroughly.' 'Follow the usual path/course/route.' 'I'm completely lost.' 'They go hand in hand.' 'I don't know where this leads to.' 'We're in a conceptual jungle.' 'I'll show you the way.' 'I'm stuck.'

The conceptual potential of JOURNEY as a source domain for discourse is not exhausted at this rather high level of schematisation. Journey can be instantiated by a number of even more specific concepts, some of which may be metaphorically linked with more specific types of discourse. It appears that in fact the typology of various kinds of journeys in a large measure is projected on the typology of various kinds of discourse, all with more specific sets of correspondences. Thus, various types of discourses may resemble various types of journey-related activities, such as guided tours, business trips, leisure walks, explorative expeditions. etc. For example an informal conversation is very much like a leisurely walk in that it does not necessarily lead to any definite destination (i.e. has no clearly stated purpose except to maintain social interaction), while an academic lecture is very much like a guided tour with the lecturer being a guide leading his students in some definite direction. In this type of discourses participants are *partners*, who co-operate in maintaining polite social interaction, and in the case of oriented discourses, also in reaching the purpose of the discourse, whatever it may be.

A co-operative discourse may always turn into an oppositional discourse as soon as participants become opponents (adversaries) rather than partners. According to Lakoff and Johnson (1980), "The

basic difference is a sense of being embattled" (Lakoff, & Johnson 1980, p. 78). However, this sense of being embattled is a result rather than a cause of becoming an opponent instead of being a discourse partner. Partners become adversaries when their values clash. Therefore, the most fundamental difference between the two kinds of discourses is in the domain of axiology.[6]

The MEANING IS (PHASES OF) MATTER metaphor

The word 'meaning' is extremely difficult to explicate. Its numerous senses have been described, explicated, and defined in virtually thousands of books and articles by philosophers, linguists (semanticians, lexicologists, lexicographers), sociologists, psychologists and other "-ists" more or less closely concerned with meaning of 'meaning'. Among the causes of this definitional El Dorado is the fact that meaning, like everything else, can be differently conceptualized by different experiencers relating meaning to different conceptual domains. Another reason is that all possible explications of the meaning of 'meaning' require using some words other than the word 'meaning' itself, which very quickly leads to circularity of explications and calls for new explications. Furthermore, one has to face the disturbing fact that meanings of words are not stable, being subject to constant changes, so that to serve as useful and precise explicatory instruments they must undergo the process of *stabilization*, which must result in *freezing* (*fossilizing, petrifying*) their senses.

The early, crude version of the CONDUIT metaphor described in the previous section is based on the false assumption that meanings are stable and permanent and do not change, very much like concrete things in the containers. This crude version of The CONDUIT metaphor

6. For a mo extesnsive discussion see Krzeszowski (1992) and Krzeszowski (2004).

fits the expectations not only of native and foreign language teachers, but perhaps even more importantly scientists and lawyers. All of them expect people to say and write "exactly what they mean" by matching proper words with "precise" and "stable" meanings.

Yet, in reality, there is no such thing as stability of meaning. Instead, there are only more or less persistent attempts to introduce and implement certain rigors of communication formulated as the cooperative principle, conversational maxims, the terminological principle, etc. With all these laudable endeavors *panta rhei*, and successful communication is constantly endangered. Meanings of words and scopes of concepts keep changing, fluctuating, extending, and shrinking, thereby changing their degree of stability.

The MEANING IS (PHASES OF) MATTER metaphor very well portrays the unstable nature of meaning. Popular though not very accurate knowledge holds that there are 3 phases of matter: solid, liquid and gaseous. A slightly more expert version includes plasma as the fourth phase (state) of matter.[7]

The phases of matter have certain characteristic physical properties: solids have a fixed shape and a definite volume, which does not normally change when a solid is put into a container; a liquid has a fixed volume, but when put into a container, it assumes the shape of the container; a gas, when placed in a container also assumes not also its shape and but also its volume. By contrast to the previous three phases, plasmas are characterized by completely different properties connected with the behavior of elementary particles. This idealized and grossly oversimplified description of physical reality is sufficient to describe the unstable character of meaning, because it

7. These four states correspond to focal phases. More refined expert models, which we need not consider here, account for several hundred states with fuzzy and changing boundaries correlated with external factors and processes responsible for these changes.

does not pass over the fact that regardless of its phase matter is never completely stable since in the material (physical) world everything is in constant interaction with everything else. In particular, every fragment of the material world is always subjected to various external factors, such as changes of temperature and pressure. With the increased temperature some solids melt into liquids, liquids vaporize into gases and gases ionize into plasma(s).

Dictionary explications of the word 'solid' reflect the way in which people understand the word in everyday English by enumerating such properties of solids as very high density and extreme viscosity, i.e. no tendency to flow under moderate stress, resisting external forces (such as compression) that could deform its shape and/or size. By contrast 'fluid' as a partial synonym of 'liquid' is typically explicated as "a substance that exists, or is regarded as existing, as continuum characterized by low resistance to flow and the tendency to assume the shape of its container" (*AHDL*). Likewise, 'gas' is explicated as "The state of matter distinguished from the solid and liquid states by very low density and viscosity, relatively great expansion and contraction with changes in pressure and temperature, the ability to diffuse readily, and the spontaneous tendency to become distributed uniformly throughout any container" (*AHDL*). Finally 'plasma' is characterized by chaotic arrangement of highly ionized particles of gas subjected to extreme heat and pressure.

Some of these physical properties of particular phases of matter are metaphorically projected on the conceptual domain of meaning, and in tis way particular phases of matter correspond to phases of meaning, thereby validating the MEANING IS MATTER metaphor[8]:

8. For more details and discussion see Krzeszowski (2016, pp. 226-234).

THE MEANING IS (PHASES OF) MATTER METAPHOR

phases of meaning c*orrespond to* **phases of matter**

degrees of stability of meaning degrees of stability of matter

stable meaning solids

cohesion viscosity

psychological and/or social stress physical stress

feelings and emotions temperature and pressure

changes flow(ing)

resistance to psychological and/or social impact resistance to external forces

fluid meaning liquids (fluids)

fuzziness and gradation of meaning fuzzy boundaries between phases of matter

low resistance to psychological and/or social impact low resistance to flow

linguistic expressions (words) containers

unconscious observation of conventional senses* assuming the container shape

fleeting meaning gases

meager denotation low density

easily modifiable denotation low viscosity

metaphorization expansion (extension)

metonymization contraction (shrinking)

chaotic meaning (absence of meaning) plasma

Notwithstanding the above correspondences, linguistic expressions are frequently used in their apparently stable rather than fleeting senses, which is motivated by the necessity to sustain effective communication and to prevent communication breakdowns.

Numerous synonyms of words denoting the three focal states are also consistent with the PHASES OF MATTER metaphor:

Synonyms of 'solid' (adj.):

authoritative, block, close, conclusive, consistent, continuous, convincing, decisive, dense, dependable, safe, firm, fixed, genuine, good, hard, hardy, hearty, high-quality, honest, implacable, massed, massive, monochrome, persuasive, plain, real, reliable rigid, rooted, safe, satisfying,selfcolored, sensible, set, sober, square, stalwart, staunch, steady, stiff, stout, strong,sturdy, substantial, successful, tight, trustworthy, unanimous, unbroken, undivided,upstanding, valid, weighty, whole, self-coloured

Synonyms of 'fluid' (adj.):

changeable, changing, fickle, flowing, fluent, liquid, mobile, runny, smooth, unsettled, unstable, variable, watery

Synonyms of 'liquid' (adj.):

flowing, fluent, fluid, limpid, liquified, mellifluous, melted, smooth, soft, swimming

Synonyms and related words of 'liquid' (n.);

fluid, liquidity, liquidness, liquid state, liquor

Synonyms of 'gaseous':

steamy, vaporous, volatile;

Synonyms of 'to gas' (v.)':

blow, blow one's own trumpet, to bluster, to boast, to brag

In the physical reality under the influence of pressure, temperature and energy things may change their states. Such changes may take place in two directions: from solid through liquid to gas (and

eventually plasma), as well as in the opposite order. Some of the names of these processes are familiar in their metaphorically extended senses as familiar meta-linguistic terms pertaining to meaning, language and discourse.

The noun/adjective 'crystal' and the verb 'to crystalize' are very special instantiations of 'solid' and 'solidify'. 'Crystal' as a noun denotes: "a body that is formed by the **solidification** of a chemical element, a compound, or a mixture and has a regularly repeating internal arrangement of its atoms and often external plane faces" (*Merriam-Webster*). The relevant sense of the verb 'to crystallize' denotes "to cause to take a definite form". Not surprisingly, in the sentence 'he tried to crystallize his thoughts' the verb is obviously used in its metaphorical sense, consistent with the MEANING IS (PHASES OF) MATTER metaphor. Consistent with the same metaphor are (near) antonyms of the metaphorical reading of the adjective 'crystal'; dim', 'hazy', 'misty', 'nebulous', and 'muddy'.

The difficulties connected with external and internal factors exercising impact on the meaning and use of linguistic expressions as portrayed by the MEANING IS (PHASES OF) MATTER are well portrayed by the BARRIERS metaphor, which is presented in the next section.

The BARRIERS metaphor[9]

Problems inhering in human communication culminating in communication breakdowns are caused by "communication barriers", which itself is a metaphorical concept.

The BARRIERS metaphor is consistent and complementary with the CONDUIT metaphor described above. The metaphorical concept

9. Originally published in: Duszak, & Okulska (2006).

"barrier" as applied to verbal communication accurately portrays the situation in which sending a text from the sender to the recipient is temporarily or permanently blocked. The CONDUIT metaphor alone does not offer any account of the fact that sending even the simplest signal, whether verbal or non-verbal from a particular sender to a particular recipient, leave alone a number of recipients, involves an incredibly complex sequence of mental and physical events , which at every point can be hindered and distorted by various obstacles, which we shall call '**barriers**'. The very general, metaphorical word/concept 'barrier'/ "barrier" can be understood in a variety of ways, because it covers all kinds of ways in which effective communication is hindered and/or entirely blocked. Every barrier necessarily presupposes movement, which is momentarily or permanently, more or less effectively blocked.

Physical barriers adversely affect the conduit and manifest themselves as neurological disorders manifested, various kinds of aphasia, motor-sensory dysfunctions (primarily articulatory, auditory, and visual), and by acoustic interference. They can be often removed by means of presently available mechanical, technological and/or medical resources. Some of the most frequent physical barriers and their locations are presented below:

Table 1. Physical barriers and their locations

BARRIERS	**LOCATIONS**
Various aphasias	Various areas of the brain
Speech impediments	Various parts of the vocal tract
Dislexia and disgraphia	Various parts of the brain
External interference ("noise")	Usually the conduit
Malfunction of the conduit	Various parts of the conduit

Sensory deficits	Mostly eyes and ears and/or parts of the brain

Source: own elaboration.

Mental barriers are much more difficult identify, diagnose due to lack of sufficient knowledge about their location. There are still no satisfactory answers to the two fundamental questions: 1. How concepts are mapped into cerebro- neural connections? 2. How directly meaningful concepts are mapped into metaphorical concepts? Unlike neural connections, concepts are not directly accessible to empirical investigations. Being products of the mind rather than of the brain they are elements of some different reality.

The most salient types of mental barriers and their properties are presented in the following tentative list:

Mental barriers and their properties

linguistic and conceptual insufficient knowledge of relevant languages
semantic and syntactic ambiguity, polysemy, homonymy, vagueness, misinterpretation (especially of metaphors, metonymies, jokes, allusions, etc.)
psychological negative attitudes to various elements participating in the CS
mental inertia
mental deficits
lack of relevant experience
lack of empathy
cultural cross-cultural differences

Two examples exhibiting mental barriers, which cause communication breakdowns are verbatim quotations from Krzeszowski (2006):

> (1) Recent studies in connectionism have let some researchers to the claim that parallel distributed processing (PDP) and symbolic representation are incompatible. For example, having defined the conditions that have to be

met for a representation to count as symbolic and having presented the nature of (neural) distribution van Gelder says: "In a nutshell, the argument is this [...] there are quite precise formal and semantic conditions that representations have to satisfy in order to count as symbolic, and it is impossible to satisfy these while remaining genuinely distributed" (van Gelder 1990: 62).

In view of this, adherents of symbolism and of connectionism may feel forced to realise that they are on opposing sides of a communication barrier rendering communication impossible. Gelder realizes this when he writes: "Where does this leave connectionist modeling of cognitive processes? There are, broadly speaking three basic strategies, each of which currently has its adherent.: (a) Reject distribution in favor of symbolic representations. [...] (b) Construct hybrid theories which utilize various possible combinations of symbolic and distributed representations. (c) Reject symbolic representations in favor of a wholesale move to genuinely distributed representations and processes (e.g. Pollack 1988, Chalmers in press (published in 1990 T.P.K.)).[...]" (Gelder 1990:59). Yet, on closer scrutiny, the barrier turns out to be only apparent (illusory). Although, eventually, Gelder opts in favor of (c) (rejecting symbolic representation) he says: "It is now apparent that models of cognition can be constructed on the basis of representations and processes that are very different from standard symbolic paradigms, and that this is true even if the domain being modeled itself includes linguistic or symbolic structures."65??). Thus, Gerder implicitly admits that there may be some reality in which these symbolic structures occur and which is to be distinguished from the physical reality of neural connections (distributed representations). Presumably, neural connections are treated as a model of this non-physical reality. It is, therefore, clear that as such neural connections are ontologically different from what they are purported to model.

The fact that symbolic relations are modeled by non-symbolic distributed representations may be considered as a major shortcoming of the model as a model of linguistic activity, but it does not constitute a that causes communicational breakdown.

The next case involves an effective barrier, which renders effective communication impossible:

> (2) Rakova's (2002) criticism of Lakoff and Johnson's philosophy of embodied realism (see primarily Lakoff and Johnson 1980 and 1999 in addition to what Rakova quotes in her paper) and the rejoinder by Lakoff and Johnson (2002) constitute a rather spectacular case of miscommunication resulting from a persistent conceptual barrier which is not likely to be recognised as illusionary. There is no need to recapitulate the argumentation presented by the two opposing parties to see that the barrier is indeed quite solid and cannot be easily removed. It concerns some very fundamental commitments that presumably neither party is ready to give up. In brief, Rakova argues "Some [of LJ's] claims are philosophically inconsistent, other claims are contradicted by empirical evidence." (Rakova 2002:215). She also recall some earlier criticisms emphasising "the circular character of linguistic evidence and the lack of other types of evidence that would support their theory of conceptual structure (Murphy 1996)." (Rakova 2002:222). Having examined some new evidence provided by LJ in support of their experientialist position of embodied realism, Rakova continues to entertain her doubts by concluding: "Thus, many issues that were problematic in the philosophy of experientialism still remain largely unresolved in the philosophy of embodied realism." (Rakova 2002:238). Particularly biting and relevant to the discussion in the previous paragraph of this paper is the second of her five critical points: "The neural embodiment thesis and Christopher Johnson's theory of conflation that were proposed by Lakoff and Johnson (1999) in support of stable metaphoric connections in conceptual system are contradicted by neurophysiological studies. But even if they were true, they would render metaphor as a mechanism of concept formation unnecessary." (Rakowa 2002:238).
>
> LJ's rejoinder mainly consists in demonstrating that Rakova's criticism is based on misinterpretation of their views which yields "a three-step argument in which all the steps are false" (Lakoff and Johnson 2002:246): "[...] she has first mistakenly identified embodied realism as a form of "extreme empiricism".

Then she has incorrectly assumed that conceptual metaphor theory could only be a form "extreme empiricism". Finally, she assumes that if she can debunk "extreme empiricism", then she has refuted the theory of conceptual metaphor." (ibid). They then proceed to prove that this general diagnosis is correct by meticulously defending their views against Rakova's argumentation. In this way the two parties appear to be engaged in a communicative event which might lead to some sort of consensus. However, Lakoff and Johnson seem to doubt that this is at all possible, when even before the detailed refutation, they say: "We believe that Rakova's misinterpretations of our view of emobodied realism, and, indeed, of our account of conceptual metaphor and other imaginative structures, are the result of the philosophical frames she brings to the study of language, apparently from Anglo-American philosophy." (Lakoff and Johnson 2002: 247). The subsequent detailed discussion of all Rakova's "misinterpretations" serves the motivates the final conclusion in which the possibility of any communication is denied in a still more radical way: "The question however arises as to why someone so obviously accomplished – a graduate of the University of Edinburgh and a faculty member in St. Petersburg – would write such a long paper based wholly on misreadings. The misreadings arise from her very accomplishments. Because she has successfully mastered and incorporated the Western philosophical tradition and made it part of her mode of thought, she naturally and systematically misreads our work – and will similarly misread a large body of the research in cognitive linguistics" (Lakoff and Johnson 2002:258). **There is no doubt that any further discussion is pointless since the conceptual barrier which yielded this piece of miscommunication is not likely to be dissolved by disambiguating and clarifying some terms or** specifying the area of investigation. In this case the barrier is connected with very fundamental philosophical (ontological and epistemological) commitments which are rarely changed even in confrontation with the so-called empirical evidence, which the opposing parties often selectively provide to prove their points. On the other hand, **if the philosophical barrier is removed, for example, in case Rakova radically changes her philosophical stance, communication**

may be resumed, but that would mean the beginning of a completely new communicative event." (Krzeszowski, 2006, pp. 213–214).

To conclude it is possible to state that physical barriers seem to pose a less serious threat to successful verbal communication than do mental barriers. Whereas the former can be removed either mechanically (in the case of technological problems) or medically (in the case of various pathological conditions), mental barriers, being less tangible, are more elusive. They also seem to involve the following communication paradox[es]:

Although barriers lead to miscommunication, their absence radically reduces the *need* to communicate verbally, since if people's minds exhibit a high degree of alignment, their need to communicate verbally is proportionately *smaller*, and their verbal communication tends to become phatic [communion] (in Malinowski's and Jakobson's sense). On the other hand, *chances of miscommunication grow* with the need to communicate. Briefly, the more one has to communicate the more one is likely to miscommunicate. Maybe this is why some people prefer to communicate without words.

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