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# Understanding misunderstandings. Presuppositions and presumptions in doctor-patient chronic care consultations

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**Abstract:** Pragmatic presupposition is analyzed as grounded on an implicit reasoning process based on a set of presumptions, which can define cultural differences. The basic condition for presupposing a proposition is represented as a reasoning criterion, namely reasonableness. Presuppositions, on this view, need to be reasonable, namely they need to be the reasonable conclusions of an underlying presumptive reasoning, which does not or may not contain contradictions with other presumptions. Presumptions are in turn analyzed considering their nature and their hierarchy, namely their subject matter and their possible contextual backing, which eliminates some of their possible defaults. This analysis of presupposition brings to light the relationship between misunderstandings deriving from presuppositional failures and the underlying system of presumptions. This approach is applied to the investigation of communicative issues within the medical context, and more precisely doctor-patient communication in diabetes cases.

**Keywords:** pragmatic presupposition, interpretation, misunderstanding, intercultural communication, presumption, argumentation

# 1 Introduction

Presupposition is a highly debated notion in philosophy of language and linguistics (Levinson 1983: 163), and it is used to refer to two distinct phenomena, namely semantic and pragmatic presuppositions. Semantic presuppositions are commonly understood in terms of truth condition (or meaningfulness) of a sentence: in case something semantically presupposed fails, neither the sentence nor its

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natural denial are true, so the sentence is neither true nor false (Keenan 1973; Karttunen 1973). Pragmatic presuppositions instead concern the relationship between the speaker and the appropriateness of a sentence in a context (Levinson 1983: 177). To presuppose something pragmatically as a speaker is to take its truth for granted and to assume that the audience does the same (Karttunen 1973; Stalnaker 1973, 1974), setting them as the felicity conditions of a speech act, which the hearer accepts or needs to accept in order to continue the dialogue. Pragmatic presuppositions are in this sense essentially related to the common ground, namely the set of propositions that the interlocutors assume to be not controversial and taken for granted (Stalnaker 1974, 1984; von Fintel 2008).

The purpose of this paper is to investigate the pragmatics of presupposition, and more specifically the problems that arise when the ground between the interlocutors is not shared, namely "uncommon" (Macagno et al. 2016a). We will address this issue by analyzing the conditions that make the choice of presupposing a piece of information (Ducrot 1966) reasonable. Our proposal is based on the notion of presumptive reasoning. On this view, by presupposing the speaker advances a tentative conclusion about what the hearer may accept, hold or know proceeding from factual, linguistic and epistemic rules of presumption. This approach to presupposition as a kind of argumentative reasoning allows the assessment of the implicit acts by reconstructing the rules of presumption and the presumed facts underlying it, and comparing them with the ones shared by the interlocutor. This assessment is extremely important in cases of presupposition failures, and in particular when certain presuppositions cannot be accepted, leading to misunderstanding or lack of understanding.

The analysis of failed presuppositions can become an instrument for accessing the uncommon ground, and the difference of presumptions and knowledge between the interlocutors. Analyzing the conflict between the presumptions used by the speaker in taking a proposition for granted and the ones held by the interlocutor can provide an insight on differences that in some contexts can be considered as cultural. A particularly relevant context to analyze these effects is doctor-patient communication in chronic care, in which the success of the interaction depends on the felicity of what is taken for granted. The doctor, aiming at explaining concepts to the patient or trying to persuade the latter, may take for granted propositions that are not shared, and this may result in negative effects on the following interactions.

In this paper, we will provide some excerpts from a corpus of reallife medical consultations showing the causes and the effects of unreasonable instances of presumptive reasoning underlying presupposition. These cases can bring to light some potential communicative and "intercultural" problems in doctor-patient communication rooted in unshared presumptions. The goal of this work is to use the reasoning mechanism developed theoretically to unveil possible communication problems, which can lead to further interventions.

# 2 Presuppositions, reasons, and common ground

As mentioned in the introduction, pragmatic presuppositions are requirements of the utterance of a sentence presented by the speaker as not subject to discussion (Kecskes and Zhang 2013: 377). In this sense, a proposition p is presupposed when it is taken for granted by a person in performing a speech act, and its appropriateness (or felicity) depends on the interlocutor's acceptance (or knowledge) of p (Stalnaker 1974, 2002; Allan 2013; Green 1996; Wilson 1975; Levinson 1983: 204–205). For example, it would be inappropriate to say that, "I am sorry, my fireengine broke down" when it is not mutual knowledge that the speaker has a fireengine (Levinson 1983: 26, 205). Similarly, the request "Can you please close the door?" would be inappropriate in a context in which there is no door, or the door is closed. In these cases, the speech act cannot result in its inherent consequences (informing the hearer and committing the speaker to the truth of p; getting the hearer to do something, etc.) (Searle 1976), namely the uptake is not possible and the "dialogue proposed" by the speaker is thus refused (Ducrot 1972a: 90-93). Pragmatic presuppositions are thus requirements that depend on the interlocutor's acceptance or knowledge thereof; the interlocutor's rejection of such requirements will result in the speech act being void (Ducrot 1968, 1972b).

The subordination of the felicity of a speech act to the interlocutor's acceptance of its requirements is grounded on a twofold type of presumptive reasoning. On the one hand, the speaker acts based on specific reasons concerning what the hearer can be expected to know or accept. Since the speaker cannot know whether the interlocutor shares or can share the presupposed propositions, he needs to rely on some reasons allowing him to conclude that the hearer is not going to challenge what is taken for granted (Abusch 2002; Stalnaker 1974; von Fintel 2008). On the other hand, he also acts based on presumptions concerning the expected cooperative behavior of the hearer, namely on the assumption that the interlocutor acts cooperatively (Thomason 1990) and prevents the potential failure of a speech act, holding that the speaker is not talking nonsense (Simons 2006). These two dimensions are deeply interconnected.

# 2.1 Cooperation and the act of presupposing

The cooperative dimension of presupposition, namely the interlocutor's presumed intention to "save" the speech act by accepting its presuppositions, is at the basis of the idea of the act of presupposing (Ducrot 1966). Ducrot described presupposition defining it as an implicit speech act (Ducrot 1968: 87):

Comme le joueur d'échecs doit accepter le champ de possibilités que crée pour lui la manœuvre de son adversaire, le participant d'un dialogue doit reprendre à son compte certains au moins des présupposés introduits par les phrases auxquelles il répond.

Analyzing presupposition as an act, or an action in kind (Stalnaker 2002), it is possible to explain how and why the speaker can treat a proposition as part of the common ground even if it is not. Presupposition can be considered as the act of treating p as already shared (Atlas 2008; Lewis 1979). This act does not depend on what the interlocutors actually share, or on what the speaker believes that they share (Burton-Roberts 1989: 26).

Sometimes speakers presuppose information that is known not to be common ground in order to lead the interlocutor to a non-presumptive interpretation of the utterance (Kecskes and Zhang 2009, 2013). Informative presuppositions<sup>1</sup> (von Fintel 2008) are only the extreme case. More commonly, many conversational implicatures, ironic utterances, or metaphorical uses (Levin 1977) rely on the fact that the presupposed content is not shared and cannot be accommodated. For example, writing a recommendation letter stating that the applicant attended the classes regularly would trigger the implicature that the applicant is not adequate to the job (Grice 1975). However, this implicature is based on the presupposition that "attending the classes regularly is a reason to hire the applicant," which is advanced as a condition for accepting the statement as a recommendation. Similarly, the ironic utterance, "What's happening, have you robbed the bank again?" is ironic because it presupposes information known to be false. Finally, utterances such as "The king of France is magnificent" uttered when Napoleon was ruling France (Ducrot 1966: 42) would lead the interlocutor to interpret the phrase "the king of France" in a non-literal sense, meaning the one who is acting as a king.

<sup>1</sup> Informative presuppositions are presupposition used for informing the interlocutor of unshared information (Burton-Roberts 1989). A clear example is the following: a young woman tells her father that, "My boyfriend and I are going to live together" without her father knowing that she has a boyfriend. In this case the speaker presumes that the father does not know the presupposed information.

The possibility of presupposing unshared information, however, is not free from constraints. The act of presupposing needs to comply with specific conditions or limits (Lewis 1979): the presupposed propositions may not be controversial, or rather they need to be consistent with the previously established common ground (Atlas 2008: 41-45; Atlas and Levinson 1981). This constraint leads to the other dimension of presupposition, i.e. the reasoning based on epistemic presumptions.

# 2.2 The reasons for presupposing

The constraints of the act of presupposing lead to drawing a crucial distinction between presupposition and the reasons for presupposing. Presuppositions are usually non-controversial or undisputed because they are shared, and speakers usually (and heuristically) rely on what is presumed (or known, or believed) to belong to the common ground for their presuppositions. On this perspective, common ground is a reason for presupposing. The speaker usually presupposes relying on the presumption that the presupposed propositions are shared (or are shared knowledge) for different reasons. Kecskes and Zhang pointed out some crucial distinctions in the relationship between presuppositions and common ground. Core common ground, "relatively static, generalized, common knowledge that belongs to a certain speech community as a result of prior interaction and experience," needs to be distinguished from the emergent (or contextual) one, namely "relatively dynamic, actualized and particularized knowledge coconstructed in the course of communication that belongs to and is privatized by the individual(s)" (Kecskes and Zhang 2013: 379).

The core, commonly shared knowledge and the contextual one, created during the communication, represent two types of reasons for presupposing. The speaker can treat some propositions as accepted or acceptable by the hearer because they belong to the knowledge shared by a certain community, and the hearer belongs to such a community. This type of conclusion is drawn presumptively, as the hearer is only presumed to share information that is common within a certain community, and he is presumed to accept or not to challenge this information based on this assumption. The speaker can also presuppose emergent common ground, relying on a different type of reasons. He relies on the presumption that what is not challenged previously in the conversation is accepted, and that the interlocutors are committed to what they state or accept (Moeschler 2013).

The conditions of defeasibility are different in the two cases. In the first case, the hearer's acceptance of a certain proposition depends on the presumptive reasoning relative to what he may know and accept based on what speakers within a specific community usually accept as true. In the second case, the interlocutors are committed to what is said between them, and what is said (and the context) is a proof of their commitments (Macagno et al. 2016b; Capone 2012, 2013; Ifantidou 2001). Clearly also in this case commitments are subject to default, such as in cases in which "what is said" (or rather the explicatures) or "what is meant" is controversial.

The idea of core and emergent common ground brings to light the idea of the defeasibility of common knowledge, and leads to a possible different way of looking at presuppositions. Instead of analyzing the relationship between presupposition and common ground, it is possible to address the problem of the reasoning involved in treating a proposition as accepted (or acceptable) by the interlocutor. This issue turns the analysis of presupposition into the analysis of the reasonableness of presupposing.

# 3 Pragmatic presuppositions as presumptions

As mentioned above, presuppositions need to be accepted in order for the speech act to be felicitous. The problem of acceptance lies on both sides of the communicative event. The hearer needs to be cooperative, and act on the presumption that the speaker is reasonable and that he intends to communicate something relevant and that makes sense. The speaker needs to presuppose something that can be accepted, namely that is shared or that can be "accommodated" by the hearer. However, how is it then possible to know that a proposition can be accepted? The problem is to identify the "limits" that restrict the possibility of making or (conversely) of reconstructing a presupposition.

We can identify two crucial limits to the possibility of presupposing. The first requirement is the availability of the presupposed information to the speaker's audience (Stalnaker 1998: 8): the speaker can presuppose some information based on the presumption that the interlocutor can retrieve it. The utterance "The king of France was at the party" can be felicitous only when the interlocutor can somehow understand whom "the king of France" may refer to within the specific context, and what party the speaker was talking about. The implicit, presupposed contents (Bach 1999) – the existence of a party and of the king of France – can be reconstructed, but if the hearer does not know the person referred to as "the king of France" or the specific party, the utterance fails to be informative. In this sense, it fails to be felicitous. The possibility of adding a proposition to a context does not mean that such a proposition can be bound to it in a relevant way for the hearer (Asher and Lascarides 1998: 255). The possibility of retrieving a presupposition depends on the possibility of drawing it from the information available to the hearer by means of a pattern of reasoning. The reconstruction of a presupposition is essentially related with the plausible reasoning underlying its retrieval.

The second limit is the hearer's acceptance of the presupposed content (Simons 2003, 2006; Thomason 1990). As mentioned above, the hearer can reconstruct (some) presupposed content. However, the possibility of reconstructing a proposition does not correspond to the acceptability thereof by the speaker. For example we consider the following cases:

- I am sorry that I am late. I had to take my daughter to the doctor (uttered in a context where it is not already part of the common ground that the speaker has a daughter) (von Fintel 2008).
- I am sorry that I am late. My house came back late from work. 2.
- 3. I have to pick up my Martian friend at the Voodoo club.
- I am sorry that I am late. My elephant got arrested (said in a European or American country by an ordinary man).

In (1) the hearer can reconstruct the presupposition that the speaker has a daughter and can accept it because the reasoning underlying its reconstruction is based on usually acceptable premises (usually people have children). Moreover, this reconstructed presupposition is not conflicting with stronger presumptions (it is not in the hearer's knowledge that the speaker cannot have or adopt children, for example) (Atlas 2008). In (2), the presupposition can be reconstructed, but not accepted. One of the premises constituting the reasoning on which the reconstruction is based (if the speaker's x came back late from work, then x must exist, work, and the speaker must have x) cannot be accepted, as it conflicts with semantic rules that (in this specific hypothetical context in which the interlocutors do not share a different situational meaning of "to work" or "the house," Kecskes, 2008) cannot be rebutted (houses cannot work).

The consistency of the common ground (Atlas 2008) is more problematic to analyze when the conflict (or incoherence) is not between knowledge, but presumptions, rules that may be defeated by stronger ones. In this case the problem is not of consistency, but rather of choice between and ordering of presumptions (Coleman 2001: 208; Walton 2016). In (3) the reconstructed presupposed proposition (the speaker has a Martian friend) conflicts with a shared presumption (Martians are known not to exist). Even though defeasible, this presumption is stronger than the one on which the speaker relies (the hearer can accept the presupposition as people have usually friends, and friends can be expected to be Martians). The same analysis applies to (4), but in this case the conflict is not between what is known and what is presumed to be acceptable, but between two presumptions. The hearer, inasmuch as an ordinary European man, holds (as part of the ground shared by his culture) that people usually do not have elephants, and that elephants usually do not get arrested. On the contrary, the speaker presupposes these propositions because he considers them acceptable by the hearer. For this reason, he presumes that people usually have elephants in Europe and that elephants can get arrested.

The possibility of presupposing needs therefore to be distinguished from the acceptability of a proposition taken for granted, and the problem of consistency (or controversiality) of the common ground (Soames 1982; Simons 2006) needs to be analyzed more specifically, taking into account the different degrees of acceptability. The process of reconstructing a presupposition consists of a chain of reasoning that is based on different types of premises. The context provides evidence, clearly stated commitments that constitute the emergent common ground. Propositions can be presupposed if they belong to this set of commitments (or explicitly shared propositions) that are "socially" and explicitly known to be accepted by the hearer (Thomason 1990). Moreover, the speaker can rely on sets of propositions that are presumed to be acceptable, inasmuch as they belong to information presumed to be known within a specific community, language, or culture. Finally, some information is presumed to be acceptable because it is based on presumptions about the world, namely defeasible rules connecting facts, events, or entities, which can be stronger or weaker depending on the available evidence to the contrary and the other conflicting presumptions.

The reasoning underlying the act of presupposing a proposition and (conversely) of reconstructing a presupposition can be thus grounded on different types of premises: 1. Undefeasible premises (if x studies then x is a human being); 2. Defeasible and commonly accepted propositions (usually, if x is an adult, then x has a car/a child); 3. Defeasible but not commonly accepted propositions (usually, if x is an adult, x has an elephant). For this reason, in order for a presupposition to be successfully made, it needs to be retrievable, evaluable (namely, related with the context or the hearer's common ground and presumptions), and acceptable by the hearer. If we consider presupposition as a kind of act following Ducrot's theory (Macagno 2012, 2015; Macagno and Walton 2014), the conditions for the "act" of presupposing can be expressed in Figure 1 below (Searle and Vanderveken 1985: 13-19; Austin 1962: 14-15).

Essential Condition	Speaker ( $S$ ) sets the presupposed proposition ( $pp$ ) as a condition of the felicity of his speech act ( $SA$ ); if Hearer ( $H$ ) does not accept $pp$ , $SA$ will be void.
Propositional Condition	pp is a proposition that can be reconstructed and evaluated by $H$ .
Preparatory Condition	S can presume that $H$ can evaluate and accept $pp$ .
Sincerity Condition	S believes that pp; S believes that H can evaluate and know or accept pp.

Figure 1: Conditions of the act of presupposing.

A crucial dimension of presuppositions is represented by what is presumed to be retrievable, connectable with the interlocutor's knowledge, and acceptable. Presumptions play a crucial role for determining what can be presupposed (Thomason 1990). For this reason it is necessary to analyze this notion in depth.

# 4 Tacit premises and presumptive reasoning

The problem of assessing the acceptability of a presupposition is essentially dependent on the reasonableness of the reasoning underlying it, aimed at supporting the conclusion that "pp is presumably acceptable by the hearer." This type of reasoning, partially hinted at by Strawson's presumption of knowledge (Strawson 1964; Kempson 1975), has been studied under the label of presumptive reasoning. On this perspective, presuppositions depend on the reasonableness of the underlying presumptive reasoning establishing the possibility and acceptability of the presupposed propositions.

Presuppositions can be conceived as tentative and defeasible conclusions concerning what the interlocutor knows or can accept, based on a form of reasoning in lack of evidence (Rescher 2006; Walton 1996; Macagno and Walton 2014: Ch. 5). This type of reasoning is grounded on generic rules of inference (Thomason 1990), such as "Speakers belonging to a specific speech community usually know the meaning of the most important words of the language used therein." Presumptions are used when it is not possible to demonstrate a conclusion. This type of reasoning is rebuttable and defeasible, as it supports a conclusion until contrary evidence is produced. Presumptions work to move the dialogue further when knowledge is lacking. If not rebutted,

Premise 1:	P (the proposition representing the presumption) obtains whenever the condition C obtains unless and until the standard default proviso D (to the effect that countervailing evidence is at hand) obtains.
Premise 2:	Condition C obtains (Fact).
Premise 3:	Proviso D does not obtain (Exception).
Conclusion:	P obtains.

Figure 2: Presumptive reasoning.

the proposition representing the conclusion of this pattern of reasoning can be considered as tentatively proved. Rescher represented the structure of this type of inference as demonstrated in Figure 2 (Rescher 2006: 33).

Presuppositions can be grounded on the evidence of the context (previous moves, previous dialogues with the interlocutor, etc.) and on presumptions of different type. Such presumptions represent the conclusions in lack of evidence and knowledge that the speaker can draw on the interlocutor's ground. They can be divided in four types. Presumptions of the first type (Level 0 pragmatic presumptions) concern the pragmatic purpose of a speech act, connecting for instance an illocutionary force (assertion) with an intention (informing) (Kissine 2012; Kecskes and Zhang 2009; Kecskes 2008). The second type (Level 1 – Linguistic) refers to presumptions related to the knowledge of linguistic (or rather semantic-ontological) items and structure (called semantic presumptions). For instance, dictionary or shared meanings of lexical items are presumed to be known by the speakers of a language. Such presumptions represent the presumptive meaning of linguistic elements (Levinson 2000; Hamblin 1970; Macagno 2011), which, however, are subject to default in case the context requires a different interpretation (such as in case of metaphors, see Giora, 2003, p. 60). Other presumptions (Level 2 – Factual, encyclopedic) are about encyclopedic knowledge, such as facts, common connection between events, or behaviors and habits that are shared within a specific community, culture, society. Finally, the last kind of presumptions includes information shared by the interlocutors, i.e. presumptions about the interlocutor's behavior or knowledge based on previous conversations, interactions, or other types of evidence.

The levels of presumptions can be represented in Figure 3.

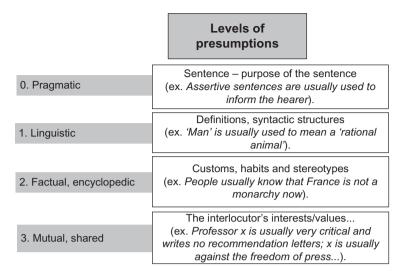


Figure 3: Levels of presumptions.

These distinct levels of presumptions can account for the defeasibility of presuppositions in different contexts. We consider for example the aforementioned sentence uttered in a normal context:

1. I am sorry I am late. I had to take my daughter to the doctor.

The encyclopedic presumption (usually adults have children, which we can label as A) is not subject to default, as no conflicting presumptions are available. In this sense, the presupposed proposition (the speaker has a daughter) can be presumed to be acceptable by the hearer. However, if the encyclopedic presumption conflicts with presumptions backed by more evidence, or less subject to default, the reasonableness of presupposition can be at stake. For example, in the case above, the speaker can be known to be a bachelor and not to have been in serious relationships. In this case, the presumption that usually bachelors have no children (presumption B) can conflict with presumption A. Further information on the speaker (he never wanted a family, etc.) may weaken the acceptability of presumption A by supporting its default conditions (Weinstock et al. 2013), and lead the hearer to not accept the presupposition.

The analysis of presuppositions in terms of presumptive reasoning allows one to analyze presuppositional failures and the process of accommodation in terms of failures of presumptions and conflicts between incompatible presumptions. The crucial issue is that while presuppositions based on the context and the previous conversations are backed by evidence on the interlocutor's ground (Thomason 1990), the ones based on the core common ground are more problematic. The speaker relies on presumptions concerning the presumptions at the basis of communication and interpretation (level 0), a specific language (level 1), the expectations and knowledge of the world (level 2), and the specific behavior of the interlocutor (level 3). Such presumptions at the same time define cultures (including sub-cultures) (Kecskes 2015), and constitute the means that can allow the interlocutors to bridge the gap between their individual (and cultural) knowledge.

This analysis of presupposition can lead to raising awareness on potential misunderstandings or infelicities as clues for unveiling conflicting or defaulted presumptions. More importantly, analyzing the set of presumptions on which the interlocutors ground their presuppositions can allow one to bring to light why communication can be less effective than expected, and indicate the possible shortcomings of the presumptions used for communicating between different cultures. In order to show this fundamental relationship between presumptions, knowledge, and cultures, we will take into account a specific type of communication, the one between doctors and patients in diabetes cases. Such interactions are particularly interesting because their analysis can unveil unshared presumptions that can play a major role in addressing health issues.

# 5 Uncommon ground in chronic care consultations

Chronic care consultations about diabetes are crucial cases in which the notions of common and uncommon grounds play a major role. In medical communication, the crucial importance of "background knowledge" and its relationship with overt misunderstandings and communication problems has been pointed out in several studies (Roberts and Sarangi 2005; Angelelli 2004; Schouten and Meeuwesen 2006; Flores 2000). Background beliefs are at the center of studies aimed at improving physicians' cultural competence, aimed at addressing the communication and interpretation problems resulting from differences in language, ethnicity, race, and social classes (Ferguson and Candib 2002). Studies in conversational analysis have pointed out how misunderstandings or infelicities can result from information presupposed by the physician and not shared by the patient (Robinson 2006; Boyd and Heritage 2006), underscoring the crucial importance of the relationship between presupposition failures and uncommon ground. This pragmatic dimension of medical interactions can reveal cultural differences that need to be addressed in order to improve communication.

In this section we will show how presuppositions and the underlying presumptions can affect doctor-patient communication, and in particular how the uncommon ground can result in ongoing or a-priori misunderstandings.

# 5.1 Presuppositions, presumptions, and common ground in chronic care consultations

Medical encounters are characterized by an epistemic difference between the doctor and the patient (Bigi 2011, 2014a). On the one hand, from a dialogical point of view, the doctor is presupposed to have superior knowledge concerning medical issues (certified by the institutional setting and acknowledged by the patient) and the power to make a decision on behalf of the patient on specific issues (provided by the institutional setting and acknowledged by the patient). On the other hand, the patient has access to his own preferences, conditions, and habits, which the physician cannot know a priori.

In the context of chronic care, one crucial goal of medical interviews is to bridge the epistemic gap between doctor and patient, i. e. the ground that is not shared and that is essential for making a sound recommendation (Macagno and Bigi 2017). The final purpose of medical interviews in chronic care consultations about diabetes is not only to prescribe drugs, but also to identify and agree upon a course of action that the patient needs to comply with in order to prevent complications (Bigi 2014a; Wagner et al. 2001). The doctor and the patient need to share information about the disease and the patient's conditions. Moreover, for the purposes of long-term adherence to treatment and healthy lifestyle, the doctor needs to understand the patient's lifestyle, preferences, and habits (Epstein and Gramling 2012; Elwyn and Miron-Shatz 2010; Street et al. 2012; Brennan and Strombom 1998; Street and Haidet 2011; Chewning et al. 2012). For this reason, addressing the background beliefs and making the two unshared and uncommon grounds meet and overlap to a certain extent is fundamental for medical communication.

Presuppositional failures, resulting in miscommunication and misunderstandings, can reveal such epistemic differences and thus become indicators of the possible need of a metadialogue aimed at sharing information that cannot be taken for granted. Within the specific dialogical context considered herein, the doctor and the patient can often belong to distinct "cultures" (in Kecskes' sense) also relative to the language used and the explanations of scientific facts (Bigi 2016; Ferguson and Candib 2002). Moreover, in some cases also the very roles of the doctor and the patient are conceived differently. Some patients act based on the presumption that the doctors should decide a treatment and the patient has no other role than obeying (or not obeying). Other patients instead presume that they also have a role in the decision making process. These "cultural" differences can be conceived as presumptions at various levels that can be subject to default; at a semantic (the language used), encyclopedic (the knowledge about relations between facts or events), pragmatic (presumed communicative intentions), or mutual (how people generally behave or what they like most) level.

The default of these presumptions is particularly serious when they are used as the grounds for presuppositions, namely when they constitute the reasons for developing an interaction based on a specific ground taken as uncontroversial and shared. In such cases, dangerous misunderstandings may arise concerning the purpose of a speech act, the meaning of a word, or the explanation of some conditions and the possible effects of some habits. If these presuppositions are not brought to light and discussed, the risk can be an on-going misunderstanding or failure to address the cause of an incorrect behavior.

The presuppositional failures and the resulting misunderstandings can be classified and analyzed based on the types of presumptions that are subject to default. Some of these defaults result in more serious communicative problems, as they in turn presuppose failure of more basic presumptions that are more difficult to detect and address. The effect of these failures is an on-going misunderstanding, in which the interlocutors continue to interact and even reach pseudo-agreements (Naess 1966: 92-93), but they take for granted different concepts and interpretations of the words used. Other defaults are easier to identify: the hearer may fail to uptake the speaker's speech act (or dialogue move), or the speaker may understand that the purpose of his speech act has been misunderstood, or the hearer may refuse an explanation based on an unacceptable presupposed relationship between events.

In order to explain these differences, we will illustrate some cases of miscommunication due to presuppositional failure at different levels. In this paper, we propose the analysis of a few excerpts extracted from a corpus of 60 videorecordings of doctor-patient encounters collected at a public diabetes outpatient clinic in northern Italy between 2012-2014 (Bigi 2014b).

# 5.2 Linguistic presumptions

Linguistic presumptions can underlie presupposition failure inasmuch as they result in the speaker and the hearer taking for granted different concepts (and related factual knowledge). A clear example is the following excerpt, which can be understood by considering some basic facts about diabetes. In diabetes care, the problem is the control of glycaemia, i.e. the levels of sugar in the blood; therefore, a crucial issue is the glycemic index of food. Bread has a high glycemic index, higher than sliced rusk. In Italian, rusk is called "fette biscottate". The word "biscottato" can refer to the browning of baked food (slices of bread, cake, biscotti), but when used in combination with "fette" ("slices") it is used as a phrase and it refers to "rusk" (Zwieback). The doctor in case 1 below presupposes that it should be clear what the expression "fette biscottate" refers to, because it is an item that belongs to the common knowledge of the Italian community. The patient and his wife seem to focus on the ambiguity of "biscottato" and presuppose that the issue is with toasting bread and not with the nature of the baked good they eat (pre-sliced bread for toast has a higher glycemic index than sliced rusk).

### Case 1

- 1. D: What do you have for breakfast? Coffee with milk and two fette biscottate (rusk)...
- P: Two fette biscottate 2.
- 3. D: or biscotti?
- 4. P: no, two slices of rusk, toasted bread
- 5. D: ah! that's a different thing, toasted bread
- 6. Wife: no, it's not toasted, it's those slices of bread that you can toast but we don't toast it.
- 7. P: they're from Buitoni
- Wife: Mulino Bianco, Buitoni [popular Italian brands of baked goods]
- 9. D: Buitoni... but, can't you get the normal *fette biscottate*?
- 10 P: ehmm...
- 11. D: the normal ones? Fette biscottate?
- 12. P: I think those are normal... why, what do you mean by fette biscottate? These are slices
- 13. D: fette biscottate?
- 14. P: slices
- 15. D: all right

<sup>2</sup> The participants are a diabetes doctor, the patient and his wife. The patient is an 80-year old man who has been assisted at this clinic for many years. In this and other recordings he is coming to the visit accompanied by his wife, who always seems rather preoccupied about her husband's disease and often intervenes during the consultations.

The patient, his wife and the doctor interact on the basis of different presumptions. At 1 and 9, the doctor presumes that slices of toasted bread are a concept different from rusk, or rather that two distinct words refer to these concepts, and that fette biscottate refers exclusively to rusk ("can't you get the normal fette biscottate?"). On the contrary, at 2, 4, 12, and 14, the patient presupposes that fette biscottate refers to two synonymous concepts: rusk and toasted bread ("two slices of rusk, toasted bread"; "These are slices"). This ongoing misunderstanding is based on defaulted and conflicting presumptions on both sides. Both the doctor and the patient presume that the meaning of *fette biscottate* is shared (linguistic presumption). Moreover, they both ground their interaction on the presumption that the interlocutor knows respectively the equivalence or the difference between rusk and toasted bread for the purposes of diabetes care. On this view, encyclopedic presumptions underlie the linguistic ones; the equivalence (presumed by the patient and disregarded by the doctor) indicates that the speaker does not know that bread is much more detrimental to his condition than rusk. Conversely, the doctor presumes that this difference is shared, and does not insist on this point.

# 5.3 Factual presumptions

Factual presumptions are particularly crucial in doctor-patient interactions when they underlie causal explanations. Causal links are often presumed by both the patient and the doctor to be shared. However, sometimes this is not the case, as in the second excerpt,<sup>3</sup> in which the defaulted presumption leads to a-priori misunderstanding, immediately detected and corrected by the doctor. In this case, the presupposition is not accepted, and the ongoing misunderstanding is avoided by correcting the factual presumption underlying it. The case concerns the same patient who was involved in Case 1, who throughout the encounter has been trying to make the point that he has not been eating enough, implying that the eating habits he had to adopt because of the diabetes are not satisfying him. Noticing that the doctor is not acknowledging this point, he starts the following conversation:

<sup>3</sup> This excerpt comes from the same consultation as Case 1. Only the patient and the doctor are involved in this brief exchange.

### Case 2

- 1. P: I started taking insulin, and since then I lost ten kilos
- 2. D: No, let me tell you that you did not lose weight because you are taking insulin, but because your diabetes is still not fully controlled. So your weight loss is not physiological, it depends on the level of your diabetes.

The connector and can be ambiguous. It can refer to a temporal co-occurrence between two events, but also to a causal relationship. The un-specificity can be disambiguated by the context (the patient is presumed to attribute to the insulin and his diet consequences on his health). In this sense, he is presupposing a causal relation between insulin and loss of weight (a negative fact, considering the health conditions of the patient). This assertion rests on the presupposition that insulin can be the cause of weight loss. The doctor does not accept this kind of reasoning and corrects the patient's interpretation of his symptom. She starts a meta-dialogue (Krabbe 2003; Walton 2007) aimed at correcting the presumptive reasoning underlying the patient's presupposition. To do so, the doctor needs to correct the presumption that "insulin is usually known to cause loss of weight." The meta-dialogue detects a wrong encyclopedic presumption (resting on misconceptions) and corrects the patient's background knowledge (Macagno and Konstantinidou 2013).

This type of default of presupposition is the most frequent in medical interviews. Semantic presupposition triggers can signal that the interlocutor is reasoning from presumptions that need to be corrected. In the following excerpt,4 the patient presupposes (by using the connector "but," see Anscombre and Ducrot 1977; Dascal 2003: Ch. 6) that the negative implication of the first conjunct (I have not done the after dinner controls) are contradicted by the second conjunct (I have done more frequently the ones in the morning). She presupposes that morning controls and after dinner controls are equivalent, and that a higher number of the first ones can offset the lack or the low number of the latter ones. The patient presumes that the causal relation underlying her reasoning (any control can be used to assess the glycaemia for the purposes of the treatment) is shared by the doctor, who starts a metadialogue to correct it:

<sup>4</sup> In Case 3, the participants are a diabetes doctor and a patient, who is a woman in her 70s. She is well-known to the doctor as she has been assisted by the clinic's staff for many years.

### Case 3

- 1. D: Then you have not checked your glycemia after dinner, is that correct?
- 2. P: Well... But I do these controls more frequently in the morning, however.
- 3. D: But why? last time the nurse made it clear to you that the trend of the glycated hemoglobin during the whole day is of crucial importance for understanding and customizing your treatment. The morning controls are important only relative to the whole daily trend.

As in case 2 above, the doctor challenges the presupposition and the presumptive reasoning underlying it avoiding ongoing misunderstandings. She uses information from the emergent common ground (the last visit made by the nurse and the conversation with her) to challenge and replace the presumption (and the corresponding misconception) of the patient.

The detection of uncommon ground and the underlying presumptions, and the correction of the failed presuppositions is fundamental for avoiding ongoing misunderstanding. In the cases above, the doctor addresses the factual presumptions. Another effective strategy consists in correcting a presupposition through a direct attack to the presumptive reasoning underlying it. The doctor challenges the whole reasoning used by the patient, which is based on a presumption that cannot be used considering the emergent common ground<sup>5</sup>:

### Case 4

- 1. N: Can you give me your finger, so that I can check the glycaemia?
- 2. P: Ah, ok. I have just drunk a coffee, I don't know...
- 3. N: With sugar?
- 4. P: A little, yes. I wasn't able to stop the coffee machine downstairs. In any case, this morning after breakfast it was 170.
- 5. N: Yes, but now it has changed already. You cannot expect your glycaemia to be the same now, you know that.

By using "in any case" at 4, the patient presupposes that the following piece of information (this morning after breakfast it was 170) is not affected by what just said, more specifically that the negative consequences of not being able to control the amount of sugar provided by the coffee machine can be avoided by providing the data concerning the after-breakfast control. The doctor

<sup>5</sup> In excerpt 4, the patient is the same as in no. 3, but the consultation is different. In this case, the patient is interacting with one of the nurses, who has the task of checking her glycaemia and blood pressure, and of examining her feet as a preventive measure against the neurological complications from diabetes.

challenges not only the presupposition, but also the presumptive reasoning and the very use of a presumption that the patient can no longer hold (at 5).

# 5.4 Pragmatic presumptions

Uncommon ground can concern also presumptions relative to the expected roles and communicative intentions of the interlocutors. Such presumptions guide the interpretive process underlying the reconstruction of the speaker's pragmatic intention, namely the communicative goal that he intends to pursue by performing a specific speech act (Macagno and Bigi 2017). Depending on the presumptions that he takes into account and their hierarchy, the interlocutor's speech acts can be interpreted very differently. Failure to detect the interlocutor's different presumptions, and the consequent misinterpretation of a speech act, can result in ongoing misunderstanding that can affect the whole communication.

A clear example is case 5 below. 6 During the history taking phase, the doctor observes a worsening of the general situation of the patient's diabetes. She then starts looking into his self-monitoring journal and notices values that do not fully explain this global worsening. So, she looks into the glucometer and finds out that the patient has measured very high values, but has not written them in the journal, failing to comply with one of the basic instructions that all patients should follow. Without asking why and in a rather abrupt manner, she explains to the patient why it is important for him to write into the journal all the values he measures.

### Case 5

- 1. D: [not answering the patient, but as though talking to herself] 291 is almost 300; 299... that's why the values are so strange. So, dear Mr. Smith, the things you write in here [pointing to the journal] are for yourself, they are not for me, is this clear? We are collaborating; right now I have an agreement with you, I am accompanying you, to help you. But the goal of our meeting must be that your health improves, that you feel better, that you are well. If you don't display all the information, I cannot help vou improve.
- 2. P: yes yes [tries to say something but D stops him and keeps talking]

<sup>6</sup> In Case 5 the participants are the same as in Case 1, but the excerpt is taken from a different consultation.

Here the doctor is presupposing that the patient has fully understood the function of the journal, the need for the self-monitoring in relation to the customization of the therapy, and the urgency of keeping his glucose values below a certain level. She is also presupposing that the patient has intentionally not written the higher values in the journal. The patient does not reply much, except displaying a certain impatience at the doctor's talk and failing to clearly uptake her utterances.

At the end of the doctor's turn, when she ends by pointing out that the very high values that had not been transcribed in the journal have contributed to increasing the overall glucose parameter (HbA1c), the patient's wife replies (at 12) by asking: "so, what can be the cause of this situation?" thereby demonstrating that she failed to understand the pragmatic function of the doctor's previous moves.

- 3. D: now, if you don't write them of course you are damaging yourself. You are the one who is feeling worse
- 4. P: basically I am not writing all of my values
- 5. D: and this is wrong because you are the first person, you are the first person...
- 6. P: yees [sounding impatient]
- 7. D: who should become aware of the fact: I have had hyperglycemias, I got up to 300, what did I do?
- 8. P: what, what, why did this happen?
- 9. D: exactly, you are the first person who should do this kind of work, then you can talk to us and we are always here for you
- 10. P: to give explanations
- 11. D: but I see you today with a glycated hemoglobin of 9 after seeing you with a 7.3, which was perfect for your age, and I think, what happened?
- 12. Wife: yes, right, what happened? what do you think it depends on?
- 13. P: this difference, this sudden change?

The pragmatic misunderstanding is at a twofold level, a local and a global one. At a local level, the Wife's reply at 12 shows the misunderstanding of the pragmatic purpose (the speaker's intention) of the doctor's rhetorical question at 11. The doctor wants to express her puzzlement for worrying values that are not documented by the only evidence that the patient is providing through his self-monitoring reported in the journal. The doctor's question is intended to express the seriousness of the effects of the patient's failure to comply with the instructions. It is aimed at backing up her global communicative intention, consisting in committing the patient more strongly to updating correctly the journal. However, the wife's reply – backed by the patient – is a reply to an interpretation of the doctor's question as an expression of uncertainty or difficulty to explain the increased values. Using the terminology of speech act theory, she interprets the doctor's speech act not as an assertive act (I cannot retrieve the information that I need for understanding the values) supporting a directive (you shall update the journal), but rather as an expressive (I do not know what happened).

At a global level, the wife (and the patient) are interpreting the doctor's words as a mere provision of information regarding a worrying situation. The doctor's presumption that the patient is aware of the gravity of his behavior, which constitutes a risk for himself, is not confirmed by the patient's reaction. The patient responds as though he were listening to a provision of information about facts that happened independently of his will. Here the unaddressed a-priori misunderstanding at turn 1, resulting from the defaulted mutual presumptions concerning the patient's behavior, results in an ongoing misunderstanding relative to the purpose of the doctor's remarks.

# 6 Conclusion

Pragmatic presupposition is analyzed as a communicative phenomenon that can be analyzed from a pragmatic and reasoning perspective. The pragmatic dimension of presupposition is investigated as an act of a kind, whose propositional content is the condition for another speech act and that needs to be reconstructed and accepted by the hearer. Propositions can be presupposed not necessarily because they belong to the common ground. Many presuppositions are known to be unshared by the interlocutor. However, they need to be presumed to be acceptable. In this sense, the basic condition for presupposing can be represented as a reasoning criterion, namely reasonableness. Presuppositions, on this view, need to be reasonable, namely based on an underlying presumptive reasoning that does not or may not contain contradictions with other presumptions, including the ordering of the hierarchy of presumptions.

Presumptions become the reasons for presupposing, and can be analyzed considering their nature and their hierarchy. Some presumptions prevail over others because supported by contextual evidence, which excludes some possible defaults. This distinction divides the emergent (context-based or backed) common ground from the core one. Moreover, presumptions can be of different kinds. They can be pragmatic, linguistic, factual (encyclopedic), or mutual. Each level can become a source of misunderstanding, and define cultural differences, as they concern not only what speakers know, but what they are expected to share in order to communicate successfully.

This analysis of presupposition brings to light the relationship between communicative infelicities or misunderstandings and the underlying system of presumptions and presumptive reasoning. Presuppositional failures at various levels can be addressed as clues for unveiling defaulted presumptions, leading to understanding the reasons of potentially ineffective or poorly effective communication. This approach can be applied to the investigation of communicative problems in specific contexts in which different cultures or sub-cultures (extensively considered) are involved. The medical context, and more precisely communication in diabetes cases, provides a clear example of presumptions subject to default that result in failures to reconstruct, accommodate, or accept presuppositions. Such examples of ineffective communication can be used for making speakers (and more specifically professionals) aware of the specific problems that can arise from communicating with a different culture.

The application of a presumption-based model of presupposition to chronic care brings to light what makes the different cultures conflicting. The studies on medical discourse analysis and cultural differences acknowledge distinctly the problems of miscommunication (and misunderstanding) and cultural difference. However, such studies do not explain what makes cultural difference a communicative problem. The theoretical account of presupposition developed in this paper shows how misunderstanding can be caused by conflicting or unshared presumptions, pointing out what is the cultural difference that needs to be addressed.

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