

Analyzing the pragmatic structure of dialogues

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Abstract

In this article, we describe the notion of dialogue move intended as the minimal unit for the analysis of dialogues. We propose an approach to discourse analysis based on the pragmatic idea that the joint dialogical intentions are also co-constructed through the individual moves and the higher-order communicative intentions that the interlocutors pursue. In this view, our goal is to bring to light the pragmatic structure of a dialogue as a complex net of dialogical goals (such as persuasion, deliberation, information-sharing, etc.), which represent the communicative purposes that the interlocutors intend to achieve through their utterances. Dialogue moves are shown to represent the necessary interpretive link between the general description of the dialogical context or type and the syntactical analysis of the sentences expressed by the individual utterances. In the concluding part of this article, we show how this method can be used and further developed for analyzing various types of real-life dialogues, outlining possible uses and lines of empirical research based thereon.

Keywords

Argumentation, classroom dialogues, dialogue types, discourse analysis, intentions, legal dialogues, medical interviews, pragmatics, sequencing

Introduction

The theoretical model of types of dialogue (Walton, 1989; Walton and Krabbe, 1995) has been developed in argumentation theory as an instrument for analyzing patterns of ideal and possibly real dialogues. Types of dialogue are abstract representations of the

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possible conventionalized, purposive joint activities between two speech partners (Walton, 1998: 29) defined based on the joint goals of the interlocutors (Walton and Macagno, 2007). On this view, the individual goals of the interlocutors (such as obtaining information or performing a specific action) are subordinated to a joint one (sharing information, making a joint decision).

The types of dialogue are normative frameworks that capture the shared dialogical intentions. However, when such a model is used to analyze and predict the interlocutors' behavior in real communicative practices, several problems arise. Real dialogues are characterized by a 'dynamic process of meaning construction in which nothing is static' (Kecskes, 2013: 48): interlocutors advance, interpret, negotiate the goal and sub-goals of the dialogue. In this sense, dialogues consist of turn-taking dialogical sequences, namely utterances having specific dialogical goals. The speaker expresses dialogical purposes (Kecskes, 2013: 50) that the interlocutor can take up, modify, ignore, or subordinate to a different one. In this fashion, dialogues are co-constructed through utterances whose dialogical goals are relevant to the given situational context dialogue (analyzed in Van Eemeren, 2011).

If we want to address the problem of analyzing how the specific dialogical sequences and the individual dialogical goals expressed by them are related to a global communicative goal, we need to start from a different viewpoint, namely from the units contributing to and constituting such a joint communicative purpose. In this sense, we need to understand the 'dialogical game' the interlocutors are playing, and the role that utterances play within such a game (Levinson, 1992).

In this article, we refer to the single dialogical sequences as 'dialogue moves'. In the first three sections we describe dialogue moves in relation to types of dialogue. We combine a top-down approach, aimed at detecting the global goal and the institutional conventions of dialogical exchanges, with a bottom-up approach, with a view to detect how and why the single moves are functional to achieving a specific sub-goal. In this dynamic, we also discuss the role of dialogical relevance. We argue that by analyzing the relationship between sub-goals, global goals and moves, it is possible to assess the effectiveness of a specific communicative choice. In the final section of this article, we sketch the proposal of a method for the analysis of dialogue based on the notion of dialogue moves, with examples of analysis from different dialogical contexts.

Types of dialogue

In argumentation theory, dialogues are represented in terms of communicative or dialogical intentions (Grosz and Sidner, 1986: 178), which mirror the main purposes of the agents engaging in a discussion (Grice, 1975: 45; Van Eemeren and Grootendorst, 2004: 72). The joint purposes of a dialogue, namely the interlocutors' generic 'we-intentions' (Searle, 2002: 92–94), were classified by Walton (Macagno, 2008; Walton, 1989, 1990, 1998; Walton and Krabbe, 1995) in six 'types of dialogue': persuasion, negotiation, inquiry, deliberation, information-seeking and eristics. The typology of dialogue types is represented in Table 1 (Walton and Krabbe, 1995: 66).

The theory of dialogue types is a normative framework, which has been widely used in artificial intelligence. In normative, formal approaches to dialogues, such models can be thought of as protocols that agents need to comply with, and for this reason the moves

Table I. Types of dialogue and their characteristics.

Type	Initial situation	Main goal	Participants' aims	Side benefits
1. Persuasion dialogue	Conflicting points of view	Resolving such conflicts by verbal means	To persuade the other(s)	Develop and reveal positions Build up confidence Influence onlookers Add to prestige
2. Negotiation	Conflict of interests & need for cooperation	Making a deal	To get the best out of it for oneself	Reach an agreement Build up confidence Reveal positions Influence onlookers Add to prestige
3. Inquiry	General ignorance	Increasing knowledge and reaching an agreement	To find a proof or destroy one	Add to prestige Gain experience Raise funds
4. Deliberation	Need for action	Reaching a decision	To influence the outcome	Reach an agreement Develop and reveal positions Add to prestige Express preferences
5. Information-seeking	Personal Ignorance	Spreading knowledge and revealing positions	To gain, pass on, show or hide personal knowledge	Reach an agreement Develop and reveal positions Add to prestige
6. Eristics	Conflict and antagonism	Reaching a (provisional) accommodation in a relationship	To strike the other party and win in the eyes of onlookers	Reach an agreement Develop and reveal positions Gain experience and amusement Add to prestige Vent emotions

they are composed of need to belong to the same 'game' (Bench-Capon et al., 1991; McBurney and Parsons, 2009). According to the dialogue type theory, dialogues are uniform, all pursuing the same dialogical goal. Shifts and embedding of dialogues are possible, that is, participants can change the dialogue game for pursuing an intermediate goal, and then move on with the original one. However, this account cannot be useful for analyzing and investigating the structure of real dialogues.

Real dialogues are not characterized by uniform moves, all pursuing the dialogical goal characterizing the interaction from the beginning. Global dialogical (or communicative) goals cannot be solely conceived as *a priori* we-intentions that are used for interpreting (and predicting) the individual moves, or rather the higher-order and communicative intentions expressed by them (Haugh and Jaszezolt, 2012: 101; Ruhi, 2007).¹ Instead, they can be better investigated using the concept of emerging intention (Kecskes, 2013: 50):

The emergent side is co-constructed by the participants in the dynamic flow of conversation. This means that intention is not necessarily an *a priori* phenomenon; it can also be generated and changed during the communicative process.

The global communicative intention is co-constructed through individual ‘dialogue moves’ (that correspond to discourse segments; see Grosz and Sidner, 1986: 178), which can be of different nature. While the participants in a dialogue need to intend to engage in a specific joint activity, defined by the situational context, they interact by expressing their own individual communicative intentions (Haugh and Jaszczolt, 2012) that are then recognized and followed up or rejected by the interlocutor (Searle, 2002: 92–94). The global communicative ‘we-intention’ is then not only an *a priori* concept, but is rather changed and constructed by recognizing, accepting or refusing the higher-order intentions of the interlocutors during the interaction.

This complexity of moves characterizing and defining a single dialogue (Levin and Moore, 1977; McBurney and Parsons, 2009; Mann, 1988; Walton and Krabbe, 1995) was acknowledged and described in Walton et al. (2014: 9), referring to the abstract structure of a deliberation dialogue, as represented in Figure 1.

According to this abstract structure, the global communicative ‘we-intention’ is defined *a priori* (Levinson, 1992), but is pursued by combining different sub-goals, all relevant to the joint goal. Considering the aforementioned model, in order for the participants to make a joint decision they need to gather relevant information, persuade each other, make proposals and back them up with information, and so on. However, we noticed that depending on the individual moves (namely the higher-order intentions expressed by them), the global dialogical intention can change, turning into a negotiation or information-seeking.

In this sense, dialogues are composed of heterogeneous higher-order intentions that at the same time are coherent with and contribute to the global dialogical goal (see the notion of motivational coherence in Mann, 1988). For this reason, actual communicative practices cannot be described in detail referring only to the global communicative ‘we-intention’. If we want to analyze how such practices are carried out and how the overall discourse intention is pursued, we need to investigate the dialogical sub-goals that the interlocutors intend to achieve through their utterances. To this purpose, we need to identify the acts performed in a dialogue and describe them according to criteria pointing out their specific dialogical function (Carlson, 1983).

Dialogue moves

The dialogue type theory provides general categories for describing the global communicative joint intentions of the interlocutors in a dialogue. Even though this model cannot predict the structure of real dialogues, it provides a system of classification that can be applied to the sequences (namely the units) constituting the dialogues (as shown in Bigi, 2016; Bigi and Lamiani, 2016; Lamiani et al., n.d.). Dialogue types can be conceived as a system for classifying higher-order intentions, namely proposals of engaging in a specific joint activity (such as exchanging information or making a joint decision) (Kádár and Haugh, 2013: 221–223). To this purpose, we need to define and introduce the concept of ‘dialogue move’ as a ‘dialogue unit’.

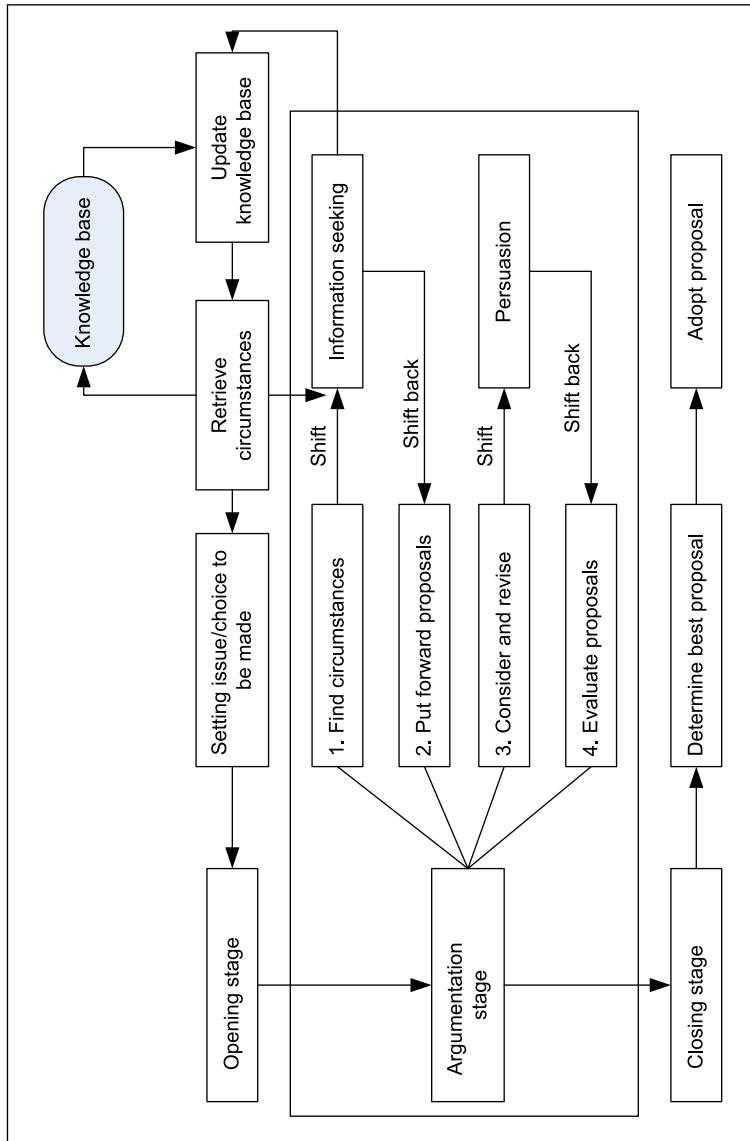


Figure 1. Decision-making dialogue in artificial intelligence.

From clauses to moves

Discourse is a controversial concept that has been investigated considering two distinct perspectives, the textual level (discourse-as-a-product), distinguished from the pragmatic/dialogical one (discourse-as-a-process), intended to capture the communicative purpose of a discourse and its parts (Wang and Guo, 2014). Depending on the level, the unit of analysis and the relations between units that are analyzed differ.

At a discourse-as-a-product level, the current approaches to discourse structure representation, such as the Rhetorical Structure Theory (RST) (Mann and Thompson, 1988; Taboada, 2009; Taboada and Mann, 2006) or the Segmented Discourse Representation Theory (SDRT) (Asher, 1993; Asher and Lascarides, 2003; Lascarides and Asher, 2008) focus on the syntactical organization of discourse, namely on the syntactical dimension of coherence (Wellner, 2009: 2; Wolf and Gibson, 2005). In these theories the minimal units of analysis are clauses and sentences, whose functions, roles and interrelations within the discourse structure (discourse or rhetorical relations) are analyzed, classified and (in SDRT) used for interpreting and constructing the logical forms of discourse (integrating them with logic of information and dynamic semantics). These approaches take into consideration the links in meaning within and between sentences.

From the point of view of discourse-as-a-process, the global purpose of a discourse cannot be captured by a composition of grammatical units (or their underlying propositions); rather, the discourse units need to be defined, starting from the global purpose (Van Dijk, 1977: 3). The concept of discourse coherence needs to be determined not only syntactically (and/or semantically) considering the connections between sentences, but also pragmatically, taking into account the concept of contribution to a joint communicative purpose (Van Dijk, 1977), or appropriateness to a conversational demand (Dascal, 1992: 45). In pragmatics, this relationship between discourse moves has been investigated in terms of cognitive effects and processing efforts (Sperber and Wilson, 1995; Wilson and Sperber, 2004), or the analysis of the locutionary, illocutionary and perlocutionary acts performed when uttering a certain expression (Levinson, 1983: 289; Moeschler, 1992). The focus is on the single move, analyzed without considering its role within the whole dialogical structure (Carlson, 1983). This approach has been developed in conversation analysis (CA), where the minimal unit is also the utterance and the analysis is based on the form that utterances take as a reaction to previous ones (see the notion of adjacency pair; Goodwin and Heritage, 1990). But in CA no pre-established intention can be described, only what is constructed in and through interaction as a reciprocal action (Goodwin and Heritage, 1990; Heritage, 2005: 105).

A similar approach to the description of dialogue units has been provided in formal dialogue approaches. In this view, dialogue units are regarded as components of a dialogical activity as game moves within a dialogue game (McBurney and Parsons, 2009; Prakken and Sartor, 1998). The descriptive linguistic development of dialogue games (Levin and Moore, 1977) is focused on the dialogical sequences (Carlson, 1983). It analyzes how each move is connected to the others within a pre-existing dialogue game. For example, dialogue game moves can be ‘ask’, ‘reply’, ‘add’, ‘explain’ and so on, namely moves that describe how the speaker continues the dialogue by referring to the previous and following sequences. This account has also been developed successfully by models used in social sciences and education for descriptive purposes (Baker, 1992; Carletta et al., 1997; Felton and Kuhn, 2001; Mayweg-Paus et al., 2016). The unit of analysis, however, is not detected based on the

dialogical intention that an utterance expresses (what the speaker intends to do with his utterance in the dialogue), but rather on how a move is related to the other moves. A formal dialogue game move represents an intention of contributing to a sequence of moves, taking for granted that its dialogical intention is already pre-established.

In order to describe communicative practices, it is not possible to focus only on individual, unilateral acts, regardless of the dialogical context (Mann, 1988); on sequences of moves, presupposing that they all belong to a pre-established game (Levin and Moore, 1977); or on sequences of utterances without considering dialogical intentions (Goodwin and Heritage, 1990; Heritage, 2005). Questions or replies can be used in different ‘games’, or rather to achieve different common dialogical purposes (Walton et al., 2014). Such purposes are captured by neither a speech-act level description nor a sequence-level analysis. A higher-level classification is needed, in which the individual higher-order intentions that the participants express through their utterances are described according to ‘conversational demand’ (Dascal, 1992; Mann, 1988), namely their dialogical and communicative aims. The focus is not on the connection between the individual moves, but rather on the relationship between the joint purpose of the dialogue (such as making a decision) and the individual utterances, explaining why a participant is performing a specific speech act (Is he requesting information? Is he trying to persuade the interlocutor?).

Building on Van Dijk’s (1977) approach of the macro-structure of dialogue, in which dialogue moves can be defined starting from their role within the global meaning of discourse, it is possible to describe the unit of analysis as a discourse segment or – as we prefer – *dialogue move*, which can be defined as follows (Grosz and Sidner, 1986: 177):

[...] the utterances in a discourse are naturally aggregated into discourse segments. The utterances in a segment, like the words in a phrase, serve particular roles with respect to that segment. In addition, the discourse segments, like the phrases, fulfill certain functions with respect to the overall discourse.

Such sequences represent general interlocutors’ higher-order intentions, namely the interactional (or, more precisely, communicative) goals (or purposes) that people have (Haugh, 2015: 95–97; Ruhi, 2007: 109). These intentions (which we will refer to also as ‘communicative goals’ in the aforementioned sense, i.e. what a speaker is aiming to achieve through talk) are held to be a commitment of the speaker by the participants to a dialogue and affect utterance interpretation (Haugh, 2015: 18). They are conversational demands, that is, they pursue communicative goals and at the same time affect the interlocutor’s response in a specific fashion (Dascal, 1992; Levin and Moore, 1977). By analyzing them, it is possible to see how the individual higher-order intentions expressed by the speaker’s meanings contribute to the ‘we-intention’ (Dascal, 1992: 45, 50; Grosz and Sidner, 1986; Mann, 1988; Moeschler, 1992, 2010).

Classifying dialogical intentions

In a more general sense, the individual communicative intentions that the moves express can be described using the typology of Walton and Krabbe (sharing some crucial features with the typology presented in Mann, 1988: 515). Such dialogue types, even though non-comprehensive, represent the most common and generic goal-oriented types of dialogical interactions (Dunin-Keplicz and Verbrugge, 2001; McBurney and Parsons, 2009),

Table 2. Categories of the coding scheme.

Category (code)	Description of category	Example
Information sharing (IS)	Dialogue moves aimed at retrieving and providing information.	Doctor: I would like to know how you feel, and if your conditions has changed from the last visit. Patient: I feel a bit tired. In the last four months, I have been hospitalized three times. Doctor: Why? Patient: I passed out.
Persuasion (P)	Dialogue moves aimed at persuading the interlocutor, leading him or her to accept a specific point of view.	Student 1: Smoking is bad for you, because it can affect your lungs. There are many studies claiming that smoking causes lung cancer. Student 2: It is true, but smoking has also beneficial effects, such as reducing stress.
Deliberation (D)	Dialogue moves aimed at making a decision.	Speaker 1: What would you do to control illegal immigration? Speaker 2: We have no border. We have no control. People are flooding across. We can't have it. I will build a wall. I will build a wall. Speaker 3: People want to see the wall built. They want to see the laws enforced.
Negotiation (N)	Dialogue moves aimed at solving a conflict of interests or goals, and making a joint decision satisfying the interests of both interlocutors.	Speaker 1: We are determined to make reforms for paying the debt. But we cannot accept the austerity measures that have badly affected our country and that you are proposing today. Speaker 2: You need to propose a plan of reforms that we can accept quickly.
Eristic (E)	Dialogue moves aimed at reaching an accommodation in a dialogical relationship (e.g. defining roles and offices).	Doctor: Why have you made such a decision without consulting us? Patient: I thought you said so. Doctor: Look at your therapeutic plan. <i>I have never said such a thing! You were supposed to take these pills twice a day!</i> Patient: I thought ... Doctor: <i>You cannot do such a thing and then blame it on others!</i>

which can be further specified by identifying sub-goals or more specific goals related to specific contexts of interaction.

Table 2 provides an outline of the most generic categories of moves. The category indicates the type of move, the description provides an explanation of the dialogical intention instantiated by the move, and the final column provides examples from (adapted) real dialogues in different contexts.

This is a very general description of some basic types of moves. The list can be further specified, depending on the type of analysis that the analyst intends to pursue. In some dialogical practices, different types of information sharing or deliberation moves need to be distinguished. In the medical context, for example, it could be useful to differentiate between deliberation moves that have to do with strictly clinical issues and the ones that

have to do with next appointments or procedural aspects of the consultation. It is also possible to include an ‘Other’ category, which would help code the moves that are not relevant to the joint dialogical goal. These distinctions simply refine the analysis, taking into account what the dialogue move is about, and not only the general communicative purpose for which it has been uttered.

Sequencing dialogue moves

Since dialogue moves represent dialogical intentions and the text expresses sentences (whose meaning can be expressed by propositions), some criteria are necessary for determining what textual elements (sentences, group of sentences, parts of sentences) express a distinct dialogue move. The relationship between a move and the joint dialogical goal or sub-goal can be used as the basic criterion for determining the boundaries of dialogue moves. Van Dijk (1977) points out that according to this principle, ‘each proposition expressed by a discourse should be considered as relatively unimportant if it is not a condition for the interpretation of another proposition’ (p. 11). Based on this general interpretation rule, he derives three specific rules for the interpretation of discourse (i.e. guaranteeing the passage from propositions to dialogical intentions): generalization, deletion and integration. The three rules are grounded on the idea that irrelevant information (whether expressed by a proposition or textual element) may be deleted, as already expressed in the text by a proposition that provides the interpretation of the dialogical intention. Text sequences that express the same dialogical intention (continuing the dialogue in a specific fashion or addressing a specific topic or subtopic) or that do not express a different dialogical intention (not addressing a new topic or subtopic or performing a different dialogical action) can be included in the previous move. We provide some examples of sequencing in Table 3:

Table 3. Segmentation in dialogue moves.

Example	Sequencing	Explanation
1. Doc.: How are you? Pat.: I feel a bit tired. In the last four months, I have been hospitalized three times.	I Information sharing move	The two clauses provide a sole piece of information concerning the patient’s health condition (tiredness caused by health issues) and specifies it.
2. People want to see the wall built. They want to see the laws enforced. I think there should be consequences for violating our immigration laws. Illegal immigration should be brought under control.	I persuasion move; I deliberation move	The first two clauses provide a unique reason for a proposal that is expressed in the third and fourth clauses (the same generic proposal expressed in two distinct ways).
3. We are determined to make reforms for paying the debt. But we cannot accept the austerity measures that have affected badly our country and that you are proposing today.	I negotiation move	The two clauses express a conditional proposal.

(Continued)

Table 3. (Continued)

Example	Sequencing	Explanation
4. <i>Why have you done it? Your values are now terrible, and we need to intervene with other treatments.</i> <i>Why have you made such a decision without consulting us?</i>	I eristic move; I persuasion move	The first and the third clauses are aimed at giving vent to emotions; the second clause is aimed at providing reasons for the negative judgment on the patient's decision.

These cases show crucial differences with other methods of text sequencing (such as RST). A first observation concerns case 1. Within an RST framework, the patient's reply in this excerpt would be usually analyzed as two sequences, of which the second one (the satellite) is an explanation of the former. However, we notice that the patient's reply is aimed at addressing a request of information concerning his health in general (within the context of a medical interview). His move is intended to provide the doctor with the piece of information that is relevant to his conversational demand (tiredness caused by serious health issues). The focus in our (discourse-as-a-process) analysis is on how moves express and pursue conversational purposes, leading to specific possible continuations of the discourse. A textual (discourse-as-a-product) analysis would then provide a fine-grained overview of how the dialogical goal is expressed textually. A second observation needs to be made concerning case 4. We notice that moves are not necessarily detected based on dialogical turns. In this sense, they do not correspond necessarily to adjacent pairs as in conversational analysis. If distinct turns express the same dialogical purpose and fail to address distinct topics or sub-topics, they represent the same move.

A problem of relevance: Dialogues and dialogue moves

The structure of discourse-as-a-product level is grounded on the concept of coherence, namely the meaningful (functional) relation between the parts (sentences) of a text and between the sentences and the topic, which can thus form a unity (Wang and Guo, 2014). From the discourse-as-a-process perspective, the focus is not only on the unity of a dialogue or discourse (Macagno, 2008; Walton, 1992; Walton and Macagno, 2007), but also on the appropriateness of a move to another considering the previous moves and the overall situational context. This aspect is commonly referred to as 'relevance' (Dascal, 1992).²

The relevance of a dialogue move to another can be analyzed in terms of dialogical purposes, namely in terms of 'motivational coherence' (Mann, 1988). In this view, utterances in a dialogical setting are aimed at proposing a dialogical game (bidding), thus pursuing a dialogical goal (the 'illocutionary point' of the dialogue). A move falls within the scope of the dialogue game proposed when it serves its illocutionary point. This account of relevance or coherence (Dascal, 1979; Giora, 1988, 1997) of the dialogical moves can be further specified and analyzed in more detail by considering the components that can be considered as indicators of a common dialogical goal. These indicators have been investigated as conditions of 'contextual appropriateness' of one move to another (Moeschler, 2002: 246).

Conditions of cotextual appropriateness are imposed by initiative moves, and have scope over reactive moves. These conditions of satisfaction (thematic condition (TC), condition of propositional content (CPC), illocutionary condition (IC) and condition of argumentative orientation (CAO)) impose on the reactive move to share a common theme to the initiative move (TC), to be propositionally related to the initiative move (by implication, contradiction or paraphrase) (CPC), to bear an illocutionary force compatible with the illocutionary force of the first move (IC), and to have a shared argumentative orientation, that is, an argumentative co-orientation (CAO). (Anscombe and Ducrot, 1983)

Some of these conditions correspond to distinct dimensions of coherence developed in pragmatics and discourse studies. The thematic condition can be compared with the notion of a common discourse topic (Giora, 1985: 705–707; Reinhart, 1981: 54), while the ‘propositional relation’ can be analyzed in terms of connectors (Giora, 1985: 708; Hobbs, 1979; Lascarides and Asher, 1993). The illocutionary condition imposes a constraint on the communicative intentions underlying a move (a question can be followed by a reply, a refusal of reply, but not by another question unless it is interpreted as a different act). In this sense, a dialogue move creates the possibility of a finite set of appropriate responses (Dascal, 1992: 45; Searle and Vanderveken, 1985: 11). Finally, the argumentative co-orientation is a constraint on the implicit conclusions of the dialogue moves. A discourse move can be advanced to lead to a specific tacit conclusion (e.g. ‘It is sunny today’ can be uttered as an invitation to go outside), and the reply needs to be coherent thereto (a reply ‘It was sunny yesterday’ can be hardly interpreted as cooperative from this perspective) (Anscombe and Ducrot, 1983).

These dimensions of relevance of dialogue moves can be used to analyze the passages from one move to another within the proposed joint dialogue purpose, and the dialogue breaks, namely interruptions aimed at furthering a different and incompatible goal. Every discourse move can thus be regarded as a proposal to pursue a dialogical goal (Levin and Moore, 1977; Macagno, 2008; Walton and Macagno, 2007), relevant to a global and joint communicative intention (Walton, 1989: 68). It needs to interact with the other dialogical moves to reach the higher goal of the dialogue. The interlocutor can accept the proposed interaction (e.g. exchanging information, making a decision) or contribute to the higher goal with an appropriate response, proposing a distinct type of interaction. In this perspective, discourse moves are defined not in terms of individual intentions, but rather in terms of *proposals of joint activities* (Mann, 1988). At the same time, they pursue and construct a joint dialogical goal, which can be either accepted and continued or refused and replaced with an appropriate counter-proposal (Kecskes, 2013: 50).

Dialogue breaks can be defined as passages from one dialogue goal to another that can be identified through their lack of continuity in the subject matter, topic, illocutionary coherence or argumentative orientation. They can be considered as interruptions leading to a different dialogical purpose or sub-goal, not relevantly connected with the previous one. Sometimes dialogue breaks may also indicate distinct dialogical intentions. One party may intend to pursue a specific communicative goal, which, however, does not correspond to the dialogical intention of the other party. When there is no dialogical adjustment between these two distinct dialogical intents, the two interlocutors risk engaging in dialogues that are not coherent with each other. For example, we consider the following excerpt (Table 4) from dialogical exchanges in the medical context (Bigi, 2014).

Table 4. Dialogue breaks.

1	Doctor: Let's see the values, so that we can understand what happened.
2	Patient: But I cannot understand why I am not hungry. I am almost sick.
3	Doctor: Really?
4	Patient: I swear. I thought ... I don't know. I used to eat a lot, eh?
5	Doctor: Ok, please remove your shoes.

At move 1, the doctor tries to obtain information concerning the patient's clinical parameters. However, the patient does not contribute to this communicative goal. Instead of providing information relevant to answer the clinician's question at move 2, the patient asks for information concerning an unrelated problem (loss of appetite). This passage does not contribute to analyzing the subject matter; it is a mere change of topic that is then neglected by the doctor (move 5), who moves on with the physical examination of the patient.

Whereas dialogue breaks are dialogical interruptions and signs of incompatible dialogical intentions, shifts are passages from a dialogical goal to another characterized by a relevance relation between the dialogue moves. From an argumentative and dialogical point of view, a move is relevant to a goal-directed conversation to the extent that it is functional to the goal of such a discourse or part of discourse (Walton, 2004: 169). Therefore, a relevant dialogical move needs to address the issue or claim that is the subject matter of the previous moves, contributing to analyzing it further or pursuing the goal that was at the ground of the discussion (Walton, 2003: 1312). The shifts between different dialogue issues and dialogical intentions can be regarded as dialogically relevant (Macagno, 2008; Walton and Macagno, 2007) when such shifts contribute to addressing the specific issue and achieving the dialogical goal or sub-goal. In this sense, they need to be relevant at both the content and dialogical levels. From a content point of view, the issues need to be interconnected, sub-ordered to the main issue. The content relevance of the dialogical shifts among connected topics can be represented as follows (Walton and Macagno, 2007: 111) (Figure 2):

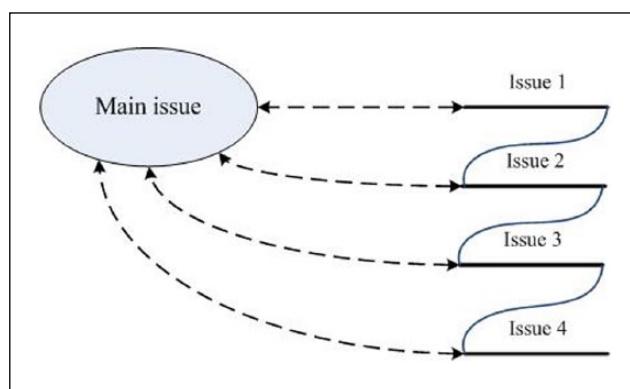
**Figure 2.** Relevance in dialogues.

Table 5. Dialogically relevant moves.

1	Doctor: ok how much water do you drink?	IS
2	Patient: ah I probably drink half liter a day	IS
3	Doctor: no try to drink no less than two liters eeeeh	D
4	Patient: eh I know you should drink drink drink	P
5	Doctor: it improves also your kidney functionality this is why I prescribed you a clearance control because it needs to be modified and we are and we come back always [there to lifestyle]	P
6	Patient: I used to drink a] glass of wine during meals a glass and a half now since these things happened I don't drink anymore not even the wine I drink half a coke maybe just like that	IS
7	Doctor: coke?	IS
8	Patient: is it bad?	IS
9	Doctor: coke I don't feel like recommending it to you. if you really want you can have diet coke that has more or less the same taste but it doesn't contain the same amount of sugar eh yes of carbs but really coke I [...]	D+D+P

IS: information sharing; P: persuasion, D: deliberation.

The passage from one move to another is illustrated in Table 5 (Bigi, 2014). In this dialogue, the final goal is to reach agreement on a joint recommendation regarding the patient's lifestyle, namely to drink more water. The various moves are connected by a common topic (drinking habits), and connectors (elaboration, explanation, etc.); moreover, the acts performed by the utterances (question–reply, recommendation–reply, explanation–acknowledgement, etc.) are coherent with each other. However, we notice that move 6 is somehow dissonant, due to a partial failure in its argumentative co-orientation: the doctor is supporting the implicit conclusion that drinking *water* helps diabetes control; the patient in 6 supports the implicit conclusion that drinking non-alcoholic liquids, including the sugary ones, is good. This argumentative disagreement is tackled at moves 7 and 9, in which the doctor challenges the interpretation of the patient's implicit claim.

Here the initial information-sharing moves (1–2) lead to a proposal (3), whose acceptability is supported by arguments (5). In 6, the patient provides further information, which then leads to an additional information-sharing move (7), resulting in a more specific recommendation (9). In this sense, the different types of dialogue contribute to the same dialogical sub-goal, addressing it from different perspectives.

Describing communicative practices

Coding communicative practices using dialogue moves can bring to light their dialogical structures. The following three excerpts are drawn from three distinct conversational (institutional) contexts with different rules and roles, namely a legal cross-examination, a students' argumentative dialogue and a parliamentary debate. In all three cases, the dialogue move approach can shed light on specific dialogical and communicative dimensions.

Analyzing communicative practices – Legal cross-examination

Legal cross-examinations consist of a series of questions to a witness formulated by the attorney of the opposing party, who intends to ascertain certain facts and/or elicit any new information (evidence) that might help him build his case.

The following excerpt is drawn from a cross-examination within proceedings of the famous O.J. Simpson criminal trial, concerning the alleged murder of Simpson's wife Nicole and a friend of hers. Lee Bailey, Simpson's defense attorney, cross-examines the detective Mark Fuhrman, who found evidence incriminating Simpson at Simpson's estate, which included a bloody glove. We analyzed the dialogue by coding each move according to the categories in Table 2.

In our analysis we are assuming that the final goal of a legal cross-examination is to construct a case, that is, to build up evidence to the effect that a certain conclusion can be drawn (Levinson, 1992: 84). Therefore, we are also assuming that the attorney's moves are aimed at verifying a hypothesis by eliciting two kinds of answers: (1) confirmations for certain interpretations of facts and (2) retrieval or acknowledgment of information. The first kind of moves have been coded as persuasion (P) moves, because they request agreement with a proposed interpretation. The second moves were coded as information sharing (IS) moves, because they aim at filling a gap of knowledge (epistemic and dialogical). The attorney is trying to either elicit new information or secure the defendant's acknowledgment of certain facts, which cannot be otherwise used to build a case. Finally, the goal of the witness's answers is to try to defend a certain (possibly contrasting) interpretation of the facts. In this sense, they provide/confirm information or express agreement/disagreement with the attorney's proposed interpretation of certain facts. The court's meta-dialogical moves (not represented in this excerpt) have been coded as negotiation (N), in the sense that their goal is to reduce – if not solve – the conflict of interest between the two parties (Table 6).

The analysis reveals an interesting dialogical pattern consisting of the alternation between IS and P moves. Indeed, it looks like IS moves always prepare P moves. This would be consistent with the goals of a legal cross-examination, that is, to build a case, which can be done by verifying evidence and finding agreement on a certain interpretation of the evidence.

As mentioned in the previous section, the categories used here are still rather general and should be specified according to the peculiar contextual constraints on dialogue. In this case, for example, it would probably be useful to distinguish at least four sub-types of the IS category, namely (1) retrieval of information useful for supporting a specific interpretation (case) ('Do you normally order Phil Vannatter around?'), (2) acknowledgement of information already known ('Didn't you tell us that *p* before?'), (3) retrieval of interpretations ('Why have you performed action *A*?') and (4) questions regarding the meta-dialogical level (e.g. 'Do you understand my question?').

Analyzing communicative practices – Classroom debates

The analytical method and the coding scheme can be used to analyze dialogues from a different communicative practice, namely classroom debates. The following excerpt is

Table 6. Analysis of a legal cross-examination.

1	Q	Do you understand that at some point prior to climbing the wall you expressed the notion that there might be suspects around, do you know that?	IS
2	A	Yes.	IS
3	Q	Suspects in the premises means in this case, someone who might be connected with the double murder, doesn't it?	P
4	A	Yes.	P
5	Q	That person should always be considered by any intelligent officer to be potentially armed and dangerous; is that not so?	P
6	A	Yes.	P
7	Q	Did you give consideration to the possible existence out there in the Simpson shadows of someone who was armed and dangerous?	IS
8	A	At that point it was somewhat remote since we had already entered the house.	IS
9	Q	Now, did entering the house shield you from any danger by the south wall, is that what you are telling us?	IS
10	A	Of course not.	IS
11	Q	You understood something unusual had taken place out there; correct?	P
12	A	No. That was Kato's description, something unusual, that was what he described.	P
13	Q	You thought it was important enough to go right out there didn't you?	P
14	A	I thought it should be investigated.	P

IS: information sharing; P: persuasion.

taken from a corpus of peer-peer discussions on the topic of whether ‘banning cigarette sales in the US’, between students from two biology classes (10th graders) at a public high school in New Jersey. The students here engage in a persuasion type of dialogue, in which they need to support a specific viewpoint (a proposal on whether to ban cigarettes, coded as deliberation) by providing informed reasons (persuasion moves) (Table 7).

This dialogue mostly consists of exchanges of persuasion moves. The sequencing at turns 5 and 7 shows a lack of correspondence between turn (clause) and move. The move is represented by two distinct turns (P (a) and P (b)), expressing the same intention and leading to a sole interlocutor’s reaction.

Analyzing communicative practices – Political debates

The following excerpt³ is drawn from a recent debate (21 January 2016) of the European Parliament on the issue of increased terrorism threat. The goal is to discuss the Commission’s proposal for European Union (EU) action plan against illicit trafficking in and use of firearms and explosives. In European Parliament debates, precise rules (Parliament’s Rules of Procedure, 2007/2124(REG)) define the content, the speaking time and the relevance of the interventions (Van Eemeren and Garssen, 2009). In this case, rule 123 (Statements by the Commission, Council and European Council) together with rule 141 (governing the content of the interventions) and 162 (speaking time) apply. In this excerpt, reporting the beginning of Mr. Petr Ježek’s speech to the parliament, we notice how deliberation moves are supported by information sharing (or rather sharing) and persuasion moves (Table 8).

Table 7. Analysis of a classroom debate.

1	A	It should be banned, because I do not know how to treat a person that does something bad, I do like to see them harm	D+P
2	B	I am against banning because there are people that are like 100 years old, and sometimes even more, and they have smoked for 80 years and they are still alive	D+P
3	A	Yeah, but then again there are a lot of people who are saying	P
4	B	Yeah, everyone takes it differently. I cannot see that they are doing harm to other people. Everybody is different. I know some say that they feel stressed, then they smoke, what do you say about that?	P
5	A	They do not have to just smoke, like they can go to the gym and release it there	P (a)
6	B	People are lazy, people are lazy	P
7	A	And then they can shop, they can cook, they can do something, it does not have to be smoke	P (b)

P: persuasion; D: deliberation.

Table 8. Analysis of a parliamentary debate.

1	Mr President, terrorism has spread into our lives, values, societies and our way of living. The scope of the threat is broad and thus requires a European response in close cooperation with our partners around the world.	P D
2	A European riposte to the asymmetric war should focus in my view on the following issues: terrorism financing, internal and external security, and the root causes of terrorism.	D
3	We must adapt our legislation to better prevent and track terrorism financing. It is not expensive to conduct attacks such as those in Paris. We need tighter rules on tools like prepaid cards and stricter anti-money-laundering rules.	D(a) P D(b)
4	Regarding ISIS there are some ten sources of its financing.	IS
5	We must strangle them all, starting with oil trafficking.	D
6	Europe cannot be insecure.	P
7	We must reinforce security measures at all levels, from local to EU-wide. Of course they should be effective but not excessive.	D

ISIS: Islamic State of Iraq and Syria; EU: European Union.

From a sequencing perspective, two observations need to be made. At 1, the moves – detected based on the communicative intentions – do not correspond to the syntactical units. The persuasion move consists in a description of the scope of terrorism supporting a more global value judgment (the scope of the threat is broad), which pursues a sole communicative goal, supporting the deliberation move (a response to a serious threat to European citizens is needed). At 3, two moves are detected, a proposal (deliberation move) expressed in a more general and more specific fashion, interrupted by a persuasion move, aimed at supporting the whole proposed measures.

Discussion and further steps

The analysis of the three communicative practices shows how the sequencing and classification criteria work. In particular, analysis of the discourse-as-a-process through discourse moves presupposes an interpretation of the global goal of the conversation. In some communicative practices (such as the pedagogical dialogue or the parliamentary debate), the global purpose is clear. For this reason, the interlocutors' communicative purposes are defined from the beginning (persuading the interlocutor in the first case; proposing and supporting a decision in the second case). In the cross-examination dialogue, on the contrary, the interlocutors pursue a twofold goal: one explicit, namely retrieving and giving information (which in some cases is already known), and one implicit, namely persuading the jury and the judge. For this reason, the interpretation of the moves is more complex, involving an analysis of the possible reasons and effects of a question (whether asked to retrieve and confirm information or to commit the interlocutor to a specific interpretation of the state of affairs).

The advantages that this method of analysis provides are several. First, it shows how dialogues consist of cooperative efforts and individualistic intentions. The global dialogical intention is built by different individual goals that are pursued by the interlocutors, who at the same time try to be relevant to the other's moves and the situational context. For this reason, this analysis brings to light when the individual goals prevail over the cooperative efforts. More importantly, this analysis clearly shows that dialogical practices involve continuous shifts between different dialogical goals in order to pursue the final dialogical purpose. Capturing the distinct dialogical goals allows the analyst to understand the communicative strategies of the interlocutors. Moreover, such analysis allows the understanding of why a move is incoherent, irrelevant, or dissonant with the other ones, and helps detect interpretation and communication problems, with useful implications for the improvement of dialogical exchanges in real-life settings.

This method can be developed and applied to the quantitative investigation of and interventions in specific practices. The detection of the various dialogical goals can be used for investigating correlations between intentions and quality of a discussion. The higher frequency of some moves in specific contexts (such as persuasion moves or deliberation moves in clinical interviews) can be correlated with effectiveness calculated in different ways depending on the context (e.g. medical interviews leading to more specific recommendations). These quantitative analyses can be then used for designing patterns and styles of ideal interaction, useful for training purposes. Another step would be to use the coding scheme in experimental designs, in which the variation of one or more independent factors (like a specific condition under which the interviews take place or the type of interlocutor in the interview) influences the frequency of how often specific moves are used within the interview.

Conclusion

In discourse studies, the various methods used for coding and analyzing discourse have mostly focused on the discourse-as-a-product level, paying less attention to the dialogical goals pursued by the individual moves of the interlocutors. The approach proposed in this article is grounded on a concept of dialogue as constructed by relevant individual

goals, pursued by the individuals cooperating and interacting in a specific situational context. In this sense, the general communicative goal is both an instrument for interpretation and a result of the dialogical activity.

The concept of dialogue move is grounded on the theory of dialogue types. This theory, developed in the field of argumentation studies, has opened various areas of research, especially in the area of artificial intelligence. However, just like the theories relative to discourse-as-a-product analysis, in this case the interlocutors' dialogical goals are not accounted for. A general communicative intention, shared by the participants, is taken for granted and pursued through the individual moves. The model that is proposed in this article is grounded on a different account of dialogue, based on recent advances in pragmatics. In the perspective presented here, the interlocutors at the same time perform moves relevant to a situational context and broad conversational goal, and co-construct it by pursuing their individual dialogical purposes.

This perspective is coherent with the structure of real dialogues. When we analyze real interactions we notice that dialogical sequences are not homogeneous in nature, as participants constantly pursue different communicative intentions, even in the same dialogical turn. The notion of dialogue move captures the individual conversational intentions co-constructing the global dialogical goal. This model can provide a 'pragmatic' structure of a dialogue, representing the distinct dialogical goals. By analyzing the goals pursued by the participants, it is possible to assess whether their moves are intertwined, complementary, adequate to, or simply irrelevant to the joint and co-constructed dialogical goal. This analysis can be integrated by other methods, providing a pragmatic interpretation of the utterances that can be used for coding or analyzing the sentences from a syntactic perspective.

The idea of dialogue moves used to analyze communicative practices can have practical implications. This analytical method can provide an outline of the common dialogical structure detected in real practices. When put in relation to the quality of the dialogical outcome, the frequency of the moves can bring to light possible areas of intervention and indicate a possible way of improving a communicative activity.

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Notes

1. We will use 'global communicative/dialogical intention' or 'dialogue goal' interchangeably to refer to a 'we-intention' that characterizes the interaction to which the individual utterances need to be relevant. The term 'dialogical intention' will refer to the higher-order intention expressed by the individual move (negotiating; obtaining information, etc.), which in turn embeds the communicative intention (the specific intention of performing a specific action through one's utterance) (Haugh and Jaszczolt, 2012: 102).

2. With this term, we refer to a concept distinct from the cognitive one formulated in relevance theory (Giora, 1997).
3. The European Parliament: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+CRE+20160121+ITEM-004+DOC+XML+V0//EN&language=EN> (accessed 26 September 2016).

References

- Anscombe J-C and Ducrot O (1983) *L'argumentation dans la langue*. Bruxelles: Pierre Mardaga.
- Asher N (1993) *Reference to Abstract Objects in Discourse*. Amsterdam: Springer.
- Asher N and Lascarides A (2003) *Logics of Conversation*. Cambridge: Cambridge University Press.
- Baker M (1992) Modelling negotiation in intelligent teaching dialogues. In: Moyse R and Elsom-Cook M (eds) *Knowledge Negotiation*. London: Academic Press, pp. 199–240.
- Bench-Capon TJM, Dunne PE and Leng PH (1991) Interacting with knowledge-based systems through dialogue games. In: *Proceedings of the Eleventh International Conference on Expert Systems and Applications*, Avignon, 4–8 September. London: Springer, pp. 123–140.
- Bigi S (2014) Healthy reasoning: The role of effective argumentation for enhancing elderly patients' self-management abilities in chronic care. In: Riva G, Ajmone Marsan P and Grassi C (eds) *Active Ageing and Healthy Living: A Human Centered Approach in Research and Innovation as Source of Quality of Life*. Amsterdam: IOS Press, pp. 193–203.
- Bigi S (2016) *Communicating (with) Care: A Linguistic Approach to the Study of Interactions in Chronic Care Settings*. Amsterdam: IOS Press.
- Bigi S and Lamiani G (2016) The power of words: Deliberation dialogue as a model to favor patient engagement in chronic care. In: Graffigna G (ed.) *Transformative Healthcare Practice through Patient Engagement*. Hershey, PA: IGI Global, pp. 66–92.
- Carletta J, Isard S, Doherty-Sneddon G, et al. (1997) The reliability of a dialogue structure coding scheme. *Computational Linguistics* 23(1): 13–31.
- Carlson L (1983) *Dialogue Games: An Approach to Discourse Analysis*. Dordrecht: Reidel.
- Dascal M (1979) Conversational relevance. In: Margalit A (ed.) *Meaning and Use*. Dordrecht: Reidel, pp. 153–174.
- Dascal M (1992) On the pragmatic structure of conversation. In: Parret H and Verschueren J (eds) *(On) Searle on Conversation*. Amsterdam; Philadelphia, PA: John Benjamins, pp. 35–57.
- Dunin-Keplicz B and Verbrugge R (2001) The role of dialogue in cooperative problem solving. In: Davis E, McCarthy J, Morgenstern L, et al. (eds) *Proceedings of the 5th International Symposium on Logical Formalization of Commonsense Reasoning*, New York: New York University, pp. 89–104.
- Felton M and Kuhn D (2001) The development of argumentative discourse skill. *Discourse Processes* 32(2): 135–153.
- Giora R (1985) Notes towards a theory of text coherence. *Poetics Today* 6(4): 699–715.
- Giora R (1988) On the informativeness requirement. *Journal of Pragmatics* 12(5–6): 547–565.
- Giora R (1997) Discourse coherence and theory of relevance: Stumbling blocks in search of a unified theory. *Journal of Pragmatics* 27(1): 17–34.
- Goodwin C and Heritage J (1990) Conversation analysis. *Annual Review of Anthropology* 19: 283–307.
- Grice P (1975) Logic and conversation. In: Cole P and Morgan J (eds) *Syntax and Semantics 3: Speech Acts*. New York: Academic Press, pp. 41–58.
- Grosz B and Sidner C (1986) Attention, intentions, and the structure of discourse. *Computational Linguistics* 12(3): 175–204.
- Haugh M (2015) *Im/Politeness Implicatures*. Berlin: Walter De Gruyter.
- Haugh M and Jaszczołt K (2012) Speaker intentions and intentionality. In: Allan K and Jaszczołt K (eds) *The Cambridge Handbook of Pragmatics*. Cambridge: Cambridge University Press, pp. 87–112.

- Heritage J (2005) Conversation analysis and institutional talk. In: Fitch K and Sanders R (eds) *Handbook of Language and Social Interaction*. Mahwah, NJ: Lawrence Erlbaum Associates, pp. 103–147.
- Hobbs JR (1979) Coherence and coreference. *Cognitive Science* 3: 67–90. Available at: <http://www.sciencedirect.com/science/article/pii/S0364021379800439>
- Kádár D and Haugh M (2013) *Understanding Politeness*. New York: Cambridge University Press.
- Kecskes I (2013) *Intercultural Pragmatics*. Oxford: Oxford University Press.
- Lamiani G, Bigi S, Mancuso ME, et al. (n.d.) Applying a deliberation model to the analysis of consultations in haemophilia: Implications for doctor-patient communication. *Patient Education and Counseling*. Available at: <http://dx.doi.org/10.1016/j.pec.2016.11.021>
- Lascarides A and Asher N (1993) Temporal interpretation, discourse relations and commonsense entailment. *Linguistics and Philosophy* 16: 437–493.
- Lascarides A and Asher N (2008) Segmented Discourse Representation Theory: Dynamic semantics with discourse structure. In: Bunt H and Muskens R (eds) *Computing Meaning*. Amsterdam: Springer, pp. 87–124.
- Levin J and Moore J (1977) Dialogue-games: Metacommunication structures for natural language interaction. *Cognitive Science* 1(4): 395–420.
- Levinson S (1983) *Pragmatics*. Cambridge: Cambridge University Press.
- Levinson S (1992) Activity types and language. In: Drew P and Heritage J (eds) *Talk at Work: Interaction in Institutional Settings*. Cambridge: Cambridge University Press, pp. 66–100.
- Macagno F (2008) Dialectical relevance and dialogical context in Walton's pragmatic theory. *Informal Logic* 28(2): 102–128.
- McBurney P and Parsons S (2009) Dialogue games for agent argumentation. In: Simari G and Rahwan I (eds) *Argumentation in Artificial Intelligence*. Heidelberg: Springer, pp. 261–280.
- Mann WC (1988) Dialogue games: Conventions of human interaction. *Argumentation* 2(4): 511–532.
- Mann WC and Thompson SA (1988) Rhetorical Structure Theory: Toward a functional theory of text organization. *Text: Interdisciplinary Journal for the Study of Discourse* 8(3): 243–281.
- Mayweg-Paus E, Macagno F and Kuhn D (2016) Developing argumentation strategies in electronic dialogs: Is modeling effective? *Discourse Processes* 53: 280–297.
- Moeschler J (1992) Foundations of dialogue analysis. In: Stati S and Weigand E (eds) *Methodologie der Dialoganalyse*. Tübingen: Niemeyer, pp. 66–74.
- Moeschler J (2002) Speech act theory and the analysis of conversation. In: Vanderveken D and Kubo S (eds) *Essays in Speech Act Theory*. Amsterdam: John Benjamins, pp. 239–261.
- Moeschler J (2010) Is pragmatics of discourse possible? In: Capone A (ed.) *Perspectives on Language Use and Pragmatics: A Volume in Memory of Sorin Stati*. Munich: Lincom Europa, pp. 217–241.
- Prakken H and Sartor G (1998) Modelling reasoning with precedents in a formal dialogue game. In: Sartor G and Branting K (eds) *Judicial Applications of Artificial Intelligence*. Amsterdam: Springer, pp. 127–183.
- Reinhart T (1981) Pragmatics and linguistics: An analysis of sentence topics in pragmatics and philosophy. *Philosophica* 27(1): 53–94.
- Ruhi S (2007) Higher-order intentions and self-politeness in evaluations of (im)politeness: The relevance of compliment responses. *Australian Journal of Linguistics* 27: 107–145.
- Searle J (2002) *Consciousness and Language*. New York: Cambridge University Press.
- Searle J and Vanderveken D (1985) *Foundations of Illocutionary Logic*. Cambridge: Cambridge University Press.
- Sperber D and Wilson D (1995) *Relevance: Communication and Cognition*. Oxford: Blackwell.
- Taboada M (2009) Implicit and explicit coherence relations. In: Renkema J (ed.) *Discourse, Of Course: An Overview of Research in Discourse Studies*. Amsterdam; Philadelphia, PA: John Benjamins, pp. 127–140.
- Taboada M and Mann W (2006) Rhetorical structure theory: Looking back and moving ahead. *Discourse Studies*. Available at: <http://dis.sagepub.com/content/8/3/423.short> (accessed 21 September 2016).

- Van Dijk T (1977) Semantic macro-structures and knowledge frames in discourse comprehension. In: Just MA and Carpenter P (eds) *Cognitive Processes in Comprehension*. Hillsdale, NJ: Lawrence Erlbaum Associates, pp. 3–32.
- Van Eemeren F (2011) In context: Giving contextualization its rightful place in the study of argumentation. *Argumentation* 25(2): 141–161.
- Van Eemeren F and Garssen B (2009) In Varietate Concordia – United in diversity: European Parliamentary debate as an argumentative activity type. In: Ritola J (ed.) *Argument Cultures: Proceedings of OSSA 09*. Windsor, ON, Canada: University of Windsor, pp. 1–15.
- Van Eemeren F and Grootendorst R (2004) *A Systematic Theory of Argumentation: The Pragma-dialectical Approach*. Cambridge: Cambridge University Press.
- Walton D (1989) *Informal Logic*. New York: Cambridge University Press.
- Walton D (1990) What is reasoning? What is an argument? *The Journal of Philosophy* 87: 399–419. Available at: <http://www.jstor.org/stable/10.2307/2026735>
- Walton D (1992) Types of dialogue, dialectical shifts and fallacies. In: Van Eemeren FH, Grootendorst R, Blair JA, et al. (eds) *Argumentation Illuminated*. Amsterdam: Sic Sat, pp. 133–147.
- Walton D (1998) *The New Dialectic: Conversational Contexts of Argument*. Toronto, ON, Canada: University of Toronto Press.
- Walton D (2003) Defining conditional relevance using linked arguments and argumentation schemes: A commentary on professor Callen's article, rationality and relevancy: Constitutional relevancy and constrained resources. *Michigan State Law Review* 4(4): 1305–1314.
- Walton D (2004) *Relevance in Argumentation*. Amsterdam; Philadelphia, PA: John Benjamins.
- Walton D and Krabbe E (1995) *Commitment in Dialogue*. Albany, NY: State University of New York Press.
- Walton D and Macagno F (2007) Types of dialogue, dialectical relevance and textual congruity. *Anthropology and Philosophy* 8(1–2): 101–119.
- Walton D, Toniolo A and Norman T (2014) Missing phases of deliberation dialogue for real applications. In: *Proceedings of the 11th International Workshop on Argumentation in Multi-agent Systems*. Amsterdam: Springer, pp. 1–20.
- Wang Y and Guo M (2014) A short analysis of discourse coherence. *Journal of Language Teaching and Research* 5(2). Available at: <http://www.academypublication.com/issues/past/jltr/vol05/02/27.pdf> (accessed 21 September 2016).
- Wellner B (2009) *Sequence models and ranking methods for discourse parsing*. PhD Thesis, Brandeis University, Waltham, MA.
- Wilson D and Sperber D (2004) Relevance theory. In: Horn L and Ward G (eds) *Handbook of Pragmatics*. Oxford: Blackwell, pp. 607–632.
- Wolf F and Gibson E (2005) Representing discourse coherence: A corpus-based study. *Computational Linguistics* 31(2): 249–287.

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