

# The Textual Function of Discourse Markers under the Framework of Relevance Theory\*

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**Abstract**—Under the framework of relevance theory, this paper deals with the textual function of discourse markers (DMs). How do DMs make the text coherent? What are the principles behind it? Specifically this paper analyses DMs within the framework of Relevance Theory, including the motivation of DMs and their textual function. DMs function to influence utterance interpretation in a cognitive way in terms of the essentials of Relevance Theory and their employment is likely to provide the hearer with procedural guidelines for searching for optimal relevance, and consequently cast constraints upon his interpretation.

**Index Terms**—discourse markers, textual function, relevance

## I. INTRODUCTION

Discourse markers (DMs) have long been the central concern in pragmatics, referring to those components in a discourse which express procedural meaning and help lead communicators to communicative intention. Scholars have given different names to this linguistic phenomenon such as discourse particles, discourse operators, discourse markers, pragmatic expressions, cue words and so on, among which DMs are most widely used. The current study prefers the term “discourse markers”.

DMs have drawn attention from many researchers at home and abroad. Levinson (1983), Schiffrin (1987), Blakemore (1987, 1992, 2002), He Ziran and Ran Yongping (1999), Li Zuowen (2003), Li Jianxue (2004) and other scholars have made a detailed study on DMs.

Levinson (1983) first mentioned DMs as a subject of study in his book *pragmatics*, but there is even no exact name. He has pointed that many words and phrases in English serve to set up the relationship between an utterance and the prior discourse. Levinson only makes comments by some examples, but doesn't look into this phenomenon. Since then, DMs are studied in three main approaches: structural, cognitive and pragmatic approaches.

Schiffrin (1987) gives a detailed discussion on DMs in his book *Discourse Markers*. After explaining the functions and use of 11 English DMs: *oh, well, and, but, or, so, because, now, then, I mean, and you know*, Schiffrin proposes five distinct planes in discourse and argues that DMs function to construct discourse coherence from three aspects.

Blakemore (1987, 1992, 2002) applies Relevance Theory by Sperber and Wilson (1995), to DMs, and thinks DMs a guide for the hearer to achieve the intended interpretation. Then Blakemore (1992) holds that DMs help to make a discourse coherent in three ways: introducing a contextual implication; strengthening an assumption expressed, or introducing further evidence for it; denying, or contradicting an assumption. Fraser (1999) studies DMs from the perspective of syntax. In terms of pragmatic functions, DMs are classified into conjunctions, prepositional phrase and adverbial phrase.

The study of DMs is also concentrated on at home over the past decades. The research is done from a wide variety of perspectives. He Ziran and Ran Yongping (1999) make a study on DMs from the cognitive-pragmatic aspect. They argue that in the process of producing and interpreting utterance, DMs can help the hearer understand and interpret the utterance as the speaker expects in accordance with the specific communicative contexts; Li Zuowen (2003) discusses the textual function of DMs from the aspect of coherence theory; Li Jianxue (2004) mainly explores different functions of DMs by analyzing DMs in 54 inaugural addresses of presidents of the United States.

Although some scholars apply Relevance Theory to the DMs, they haven't given a systemic explanation to the contextual function of DMs. This paper tries to make a systemic exploration from cognitive perspective, focusing on the procedural guidelines played by DMs to explain how DMs help hearers understand speakers' intention, consequently achieve coherent function under contexts. By analyzing quite a lot of examples, the function of DMs in utterance production and interpretation is clearly demonstrated.

## II. RELEVANCE THEORY AND COHERENCE

### A. Relevance Theory

Relevance Theory is proposed by Sperber and Wilson (1986/1995). It argues that speech communication is an ostensive-inferential process and the speaker must guide the hearer to search for the speaker's intention in any given

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communication situation. According to Relevance Theory, an ostensive-inferential process can be understood from two perspectives. For the speaker, communication is a kind of ostension which lets the hearer know his informative intention. By ostensive stimulus the speaker wants to make manifest to the hearer a set of assumptions and make the information mutually manifest. For the hearer, he needs to make inference to gain the speaker's intention based on ostensive stimulus. Then combining his cognitive context and what the speaker produces, the hearer tries to get enough contextual effect and achieve optimal relevance. Hence, communication is the combination of two parts: ostension and inference.

The core of the theory is the communicative principle of relevance that "An assumption is relevant in a context if and only if it has some contextual effect in that context" (Sperber & Wilson, 1995). According to Sperber and Wilson (1995), contextual effect is contextual implication. The new contextual effect is yielded through the interaction between newly-presented information and contextual assumptions, through which the old context is constantly revised, supplemented and improved and then constitutes the foundation of the next-step communication and inference (Sperber & Wilson, 1995). In addition, relevance principle asserts that every utterance by the speaker is supposed to be relevant and worth processing by the hearer to achieve the intended meaning. In this case, every ostensive act of communication will lead the hearer to infer the speaker's intention as a clue. Relevance degree of the utterance by the speaker depends on contextual effect and processing effort from the positive and negative aspects. The balance between contextual effect produced by an utterance and the processing effort of the hearer to understand an utterance is the position communicators expected to reach, which is called optimal relevance.

According to optimal relevance, on the one hand, the hearer believes that the speaker will produce ostensive stimulus with enough relevance which is worth processing. The hearer has to make inference from the ostensive stimulus to gain the enough contextual effect. For example, if a person notices his friend's empty glass, he can make a conclusion that he might want a drink. If his friend tries to remind him of the empty glass by different ways, such as waving the glasses in front of him, making an action of drink from the empty glass and so on, he will get the stronger conclusion that his friend is thirsty and wants a drink. On the other hand, the speaker will produce utterances with the limits of his own capabilities and preferences. So the speaker will not always produce utterances maximally relevant to the hearer, because the speaker can not offer information beyond his knowing and produce utterance in a hearer-friendly manner without considering his preferences.

Another two concepts in Relevance Theory are explicature and implicature. The interpretation of an utterance needs not only recovery of explicatures but also implicatures. According to Sperber & Wilson (1986/1995), the explicatures of an utterance are those assumptions communicated by it that are a development of the logical form it encodes. In other words, explicatures are the assumptions recovered via a combination of decoding and inference. Assumptions can be more or less explicit: the greater the role of decoding in recovering an assumption, the more explicit it is (as cited in Iten, 1998). On the contrary, the implicatures of an utterance are completely inferred from all the propositions conveyed by an utterance and involve the contextual assumptions the hearer will choose to achieve contextual effect. Sometimes speaker's utterance creates the contextual assumptions consistent with the hearer's assumptions so that the hearer can interpret the utterance quite easily. Thus the hearer may arrive at the specific interpretation of utterance intended by the speaker under the contextual assumptions. In this case, the speaker makes the implicatures of the utterance accessible to the hearer.

As Relevance Theory asserts, speech communication and understanding are concerned with searching for relevance. The speaker will manage to make his utterances relevant to the hearer, for example, the use of DMs. The hearer supposes that the speaker's utterance is relevant and tries to interpret the utterance under contextual assumptions to achieve contextual effects with least effort.

### B. *Coherence Theory*

Coherence is one of the most important features of a discourse, which refers to the semantic connection within a discourse. The study of coherence began before the birth of modern linguistics. Since then, a great deal of study has been done around coherence which can be divided into three stages: early stage, fast development and deeply developed stage. Quite a lot of definitions about coherence are proposed by linguists among which Halliday & Hasan (1976) gives a convincing definition to coherence, i.e. a text is a passage of discourse which is coherent in these two regards: it is coherent with respect to the context of situation, and therefore consistent with register; and it is coherent with respect to itself, and therefore cohesive. Neither of these two conditions is sufficient without the other, nor does the one by necessary entail the other. It is agreed that the connections between utterances contribute to the coherence of a discourse. There are different relations among utterances of a discourse, such as elaboration, cause-and-effect, comparison and contrast and so on and so forth. Coherence of a discourse is achieved by cohesion. Coherence is a concept in people's mind but cohesion is a linguistic device to make a discourse coherent.

### C. *Coherence and Relevance*

To some extent, the relation between coherence and relevance is interdependent. A coherent text indicates that the utterances in it must be relevant and a relevant text is also considered a coherent one. It can be illustrated by the example (1):

(1) A: What did Sue say, then?

B: Our train is leaving in thirty seconds.

This conversation can be interpreted in two ways. One is a coherent one. B's utterance answer the A's question directly. What sue said is "our train is leaving in thirty seconds". There is the other incoherent interpretation that B's utterance is not the answer to the A's question. And on the surface the two utterances lack coherence. But in daily life the second interpretation is also acceptable and can be consider a coherent text. The key is what context B wants the hearer to interpret his utterance in. In some sort of context the second interpretation is also taken as a coherent one. Whether a text is coherent or not lies in whether the hearer can undertand the speaker's utterance under the intended context. The hearer will understand the speaker's utterance guided by the principle of relevance. The hearer supposes that the utterance is relevant and interpret it in the intended context which comes to an optimally relevant interpretation.

According to Relevance Theory, the incoherent interpretation can also be considered optimally relevant. The coherent interpretation is clearly coherent in meaning with A's utterance; however, the incoherent interpretation is processed for relevance under the principle of relevance and B's utterance stimulates the contextual effect in hearer's cognition. B's reply seemingly has no relation with the A's question, but under B's intended context his reply can be interpreted that the train is leaving and let's discuss it later. If the hearer understands the B's utterance in the above context, the hearer will come to an optimally relevant interpretation under the principle of relevance. The first interpretation doesn't involve contextual assumptions. And second interpretation doesn't establish its contextual assumptions on the content of A's utterance, and there is no relation in meaning between the two utterances. This is the reason why the second interpretation is considered incoherent. In fact the coherence of a text is not determined by the relation in meaning but contextual effect yielded by the utterance in the hearer. In this case we can see that the second interpretation is also coherent, although it is interpreted different from the first interpretation without contextual assumptions. Coherence is a consequence of the hearer's search for optimal relevance.

Relevance Theory tries to explain the correlation between different portions in a discourse from cognitive perspective and reveal the mental mechanism in the process of understanding utterances. In this case, relevance gives a good explanation to coherence. That is to say, whether a text is coherent lies in whether the hearer can achieve the optimal relevance of an utterance.

### III. DISCOURSE MARKERS

#### A. Definition of Discourse Markers

The study of DMs has already attracted attention from linguistic scholars in this field. And DMs have been widely explored from different perspectives. Regardless of wide study of DMs, there has not been an agreement on the name and definiton of this phenomenon. Ostman (1982) uses category to define DMs, he thinks DMs are pragmatic particles with prototypical, core members and peripheral members. Levison (1983) takes DMs as signals showing the relationship between an utterance and previous discourse. Stubbs (1983) regards DMs as elements setting up relationship between syntactic units and discourse context. Schiffrin (1987) defines DMs as sequentially dependent elements which bracket units of talk. It is quite difficult to decide which linguistic item belongs to the category of DMs. Take all above into consideration, we think DMs are those linguistic items signaling coherence relations, marking pauses, transitions, or other aspects of communication.

#### B. Discourse Markers Carrying Procedural Meaning

Blakemore, Diane (1987, 1990, 1997) asserts that linguistic meaning can provide two basic types of encoding meaning. The first type is conceptual meaning related to representation. The second is procedural meaning associated with computation. When the information encoded by an element contributes to the content of the utterance, the element expresses conceptual meaning which is related to the truth condition of the utteracne; when the encoding information of an element makes constraint on understanding the utterance or leads the way to intended meaning of the utterance, the element expresses procedural meaning.

Compared with conceptual meaning encoded by most words, procedural meaning can be encoded by DMs which do not affect the truth conditions of utterances but constrain the hearer's interpretation of utterances. By constraining the logical relation between utterances, DMs can guide the hearer to the intended meaning of the speaker by inferential process. The following examples show that DMs *so* and *after all* make the utterance interpreted quite differently.

- (2) a. Tom can open Bill's safe.
- b. He knows the combination.

(Blakemore 2002:78)

This convestion can be interpreted in two ways according to the relation between the two utterances. Utterance (b) can be the conclusion inferred from (a) or the premise for utterance (a). The relation between the two utterances is cause-and-effect relation, and different interpretations lie in which is cause and which is effect. This ambiguity can be made clear by the use of DMs. They can be used to indicate the inferential procedure and guide the hearer to the intended interpretation. So and after all are used in the conversation to illustrate the two different interpretations as the following examples.

- (3) Tom can open Bill's safe. So he knows the combination.
- (4) Tom can open Bill's safe. After all, he knows the combination.

(Blakemore 2002:79)

The different DMs in the two utterances don't add semantic information to the proposition but constrain the procedural relation between two segments and help the hearer reach intended information. Specifically, *so* indicates that the relation between the two segments is implication. We can infer that Tom knows the combination from his being able to open Bill's safe. On the contrary, *after all* indicates the relation between the two segments is the relation of premise and conclusion. Tom knowing the combination is a premise to his being able to open Bill's safe. Thus, DMs here expresses "procedural meaning" instead of "conceptual meaning".

DMs are the typical linguistic form expressing procedural meaning which is not a component of utterances. The use of DMs is to make sure that the hearer can interpret utterances correctly with least processing effort by playing a procedural role.

#### IV. RELEVANCE THEORETICAL ACCOUNT OF THE TEXTUAL FUNCTION OF DISCOURSE MARKERS

The textual function of DMs here refers to their helping to make a discourse coherent. According to Relevance Theory, discourse coherence is a process of the hearer's search for optimal relevance. However, DMs can help the hearer's achieving optimum contextual effect at the cost of least processing effort by constraining the hearer's interpretation of utterances, ultimately help the hearer achieve optimal relevance and make the discourse a coherent whole. This is the cognitive explanation to the textual function of DMs.

##### A. The Textual Function of Discourse Markers

Halliday (1985) asserts that textual function is concerned with the textual resources the speaker has for creating coherence. Discourse coherence is related to communicators' mental activities and interaction between communicators and the context of situation. A very general characteristic of many DMs is to build up the connection of communicated ideas with a context. And the textual function of DMs is to contribute to coherence in a discourse. Schiffrin (1987) holds that the textual properties of DMs refer to the relation between sequentially arranged segments in discourse between one proposition and the next proposition, between one utterance and the following utterance, between speakers' turns, between discourse topics, etc. DMs function to connect not only adjacent utterances but also utterances and context. DMs with textual functions, such as *and*, *therefore* and *moreover* can show clearly how the speaker conveys the relation between propositions expressed by utterances.

e.g. (5) Stella: *And* try to understand her *and* be nice to her, Stan *and* admire her dress *and* tell her she's looking wonderful.

(the example from *A Streetcar Named Desire*)

Repetition of *and* in the example reminds the hearer that the information is not finished and the following is relevant, *and* indicates the continuation of information.

(6) This means that it can utilize indirect sunlight, for example on cloudy or rainy days, and even, indoor light. *Moreover*, it can release electrical energy anytime, even in the dark.

*Moreover* indicates the proceeding utterances are extending the previous parts in meaning.

(7) I've never been to China and *therefore* I don't know much about it.

*Therefore* shows that the proceeding segment is enhancing the previous segment. The logic relation between two segments is the relation of cause and effect.

Textuality is closely related to DMs. Schiffrin (1987) gives a definition to DMs as "sequentially dependent elements which bracket units of talk", which marks that DMs serve as "discourse glue" providing coherence.

In addition, DMs *and* mainly contribute to construct textual meaning of a discourse, put linguistic units in paralleling position at different level as the following example.

e.g. (8) Stanley: *And* what have we here? The treasure chest of a pirate! *And* diamonds! A crown for an empress!

(the example from *A Streetcar Named Desire*)

In the following examples, *well* shows its feature of interrelation. On the one hand, it helps to construct a discourse on the textual level; on the other hand, *well* makes the relationship between the speaker and the hearer clear. The two functions may appear simultaneously, but its function is decided by certain text. However, one function always overwhelms the other in specific context.

e.g. (9) Blanche: ...Do you all like parrot stories? *Well*, this one's about the old maid and the parrot.

(10) Stanley: You hens cut out that conversation in there!

Stella: You can't hear us.

Stanley: *Well*, you can hear me and I said to hush up!

(the example from *A Streetcar Named Desire*)

In the example (9), *well* makes the text more coherence, while the example (10) indicates the close relationship between two participants.

Some DMs which carry procedural meaning, does not affect the truth condition of the utterance, but mainly contribute to interactional meaning as the following example.

(11) *I suppose*, you are not going o cinema....

By and large, DMs have various functions, but its main function is to construct textual coherence. DMs' signaling coherence can be realized on two levels: local coherence and global coherence.

### 1. Discourse Markers' Signaling Local Coherence

According to Schiffrin (1987), DMs refer to 'sequentially dependent elements which bracket units of talk' that signal relationships between immediately adjacent 'units of talk' and which thus have a coherence building function at a local level (Lenk, U., 1998). Local coherence refers to the semantic relevance between the adjacent utterances in a discourse or the adjacent utterances in a turn of talk. The Use of DMs can make the relationship between adjacent utterances much clearer and eliminate misunderstanding. DMs constrain the choice of possible logico-semantic relations between information expressed in utterances. Specifically, the relation between utterances can be interpreted in different ways, especially for different hearers, thus DMs can constrain the hearer's choice from many possible realtions between utterances and lead the hearer to the intended one. For example:

(12) The student was late for the lecture. [ ] he missed his train.

The slot in the example can be filled with "for" indicating causality, "and" indicating coordination. Clearly there exist several possible semantic relations between the two utterances. The hearer is likely to misunderstand the information conveyed by the speaker without ostensive marks. However, with the help of DMs, the hearer is guided to choose one certain relation suitable for the context, achieving the intended information of the speaker. The use of DMs connects the two utterances tightly and makes the discourse coherent. DMs signal local coherence from the following respects:

Firstly, DMs enhance the coherent relation between discourse units. Some relation between utterances in a discourse may be recognized easily, but sometimes the relation is not so clear, in order to help the hearer achieve enough contextual effect or some communicative purpose, the speaker adds DMs to the discourse deliberately. For example:

(13) James came to school. He attended class.

(14) James came to school. *Then*, he attended class.

The example (13) is interpreted sequentially as James coming to school followed by his attending class, but then in (14) enhances the sequential relation between the two utterances which avoids the possibility of ambiguity.

Secondly, DMs are also used to make a further explanation to the previous parts. Sometimes it is necessary to use DMs to explain what the speaker wants to express. According to Relevance Theory, communication is a dynamic process. When making utterances, the speaker usually will have an evaluation on the hearer's comprehension ability so that he can make utterances which will be easily understood by the hearer. When the speaker considers that the hearer has difficulty to interpret the communicative intention, he may give some explanation, or offer some background of utterances for the hearer. DMs is one of effective way to introduce the explanation and guide the hearer to explore further, consequently help the hearer achieve the communicative intention expected by the speaker. In this case, the discourse marker serves to construct the local coherence.

(15) There are three meta-functions in Halliday's systemic functional grammar, that is, ideational function, interpersonal function and textual function.

(16) We must finish the assignment on time, *in other words*, we need to finish doing the investigation this Friday.

Both *that is* and *in other words* in above examples introduce explanatory language in the following part. They serve to mark that the following part is relevant and can help you interpret the previous part as an explanation, consequentially, guide the hearer to the intended meaning of the utterances.

Thirdly, DMs indicate the coordination relationship between adjacent utterances which is widely used to show intra-sentential relationships. Such DMs include and, or, meanwhile, at the same time, etc. for example:

(17) John was doing homework *meanwhile* Peter was playing computer games.

The two utterances connected by *meanwhile* are in equally important position and happen at the same time. Here *meanwhile* indicates coordination relationship.

### 2. Discourse Markers' Signaling Global Coherence

Global coherence, in contrast with local coherence, refers to the relations between non-contiguous utterances. The widely-discussed case of non-contiguity is what is called "digression" (Wilson, 1998; Lenk, 1998). Global coherence, in this case, exists between the parts of discourse before and after the digression. Wilson (1998) asserts that DMs used between the parts of discourse before and after the digression can enhance coherence between the whole discourse and the portion or between two portions. DMs' signaling global coherence can be divided into following cases.

Firstly, DMs introduce external information to justify the content of discourse. The speaker usually uses DMs to look for authentic information so as to enhance the reliability of discourse. As evidential signal, DMs make the hearer believe what the speaker says is right and achieve the speaker's communicative intention.

(18) The Bible tells us, "we need to have a 'new heart' or, in modern terms, a heart transplant".

(19) As the old saying goes, "No pains, no gains".

(20) According to Dr Nick Middleton, a geographer at Oxford University, if the damage carries on, the impact on all living creatures is likely to be profound.

By connecting the present utterance with the authentic statement, the speaker tries to make his communicative intention interpreted correctly by the hearer.

Secondly, one function of DMs is introducing a topic. Some DMs such as *first of all*, *first and for most*, *to begin with*, *to start with*, *once upon a time* and *so on and so forth* are usually used at the beginning of a discourse marking the start of a topic.

(21) *First of all*, I would like to introduce myself.

(22) *To begin with*, we extend our welcome to your coming.

In the above examples, the DMs function to build up the connection between the situational context and the proceeding discourse. Clearly the context is concerned with a speaker's beginning his speech by DMs. In this way the discourse is considered a coherent one.

Thirdly, DMs are endophoric markers which are used to refer back to some portion of the Discourse and build up the connection the utterance in which DMs are and the other part in a discourse. In systemic function grammar, endophor is a kind of way to make a discourse coherent. Here DMs function to make a discourse globally coherent.

(23) In these circumstances, it is not surprising to find that population loss from inner areas has been running at a lower rate in the 1980s and that the government's efforts at introducing more private investment have met with some measure of success. *As mentioned in the previous section*, there are sound reasons by the slowdown in big-city population decline.

The discourse marker in the example (23) refers back to the content of previous section, so building up the connection between the following utterances and the previous section, consequently making the discourse coherent.

Fourthly, DMs can be used to end a topic. *finally*, *at last*, *in conclusion*, *in short*, *to sum up*, *to conclude* mark the end of the utterance. DMs serve to make a conclusion to the previous part and make the discourse come to the end smoothly. For example:

(24) *In closing*, we would like to propose a few novel and intriguing application areas that in our opinion deserve further investigation by the research community.

(25) *In short*, we need a public policy that values universal-care coverage.

DMs help the hearer be aware of the coming of the end, so that the hearer can interpret the following part as the speaker expects. In this case the two parts connected by DMs are relevant and the communication is successful.

Fifthly, DMs are used as structural clues such as *to begin with*, *next*, *finally*; *above all*, *in addition*, *then*; *in the first place*, *in the second place*, *moreover*. They function to construct the discourse, make the ideas conveyed by the discourse spread to the hearer step by step. For the whole, the discourse is a coherent one in logic. At the same time, it is easy for the hearer to interpret the communicative intention expected.

#### B. Discourse Markers and Utterance Production

Human communication is guided by a general principle, that is, both the speaker and the hearer take responsibility to contribute to the success of communication. Specifically, the speaker will be likely to produce the utterances with the optimal relevance so that his audience can achieve the optimal contextual effect at the cost of minimum processing effort. For the hearer's part, the speaker is supposed to produce the utterance relevant to the hearer's cognitive context.

DMs function to adapt utterance-producing to the right point which is optimally relevant to the hearer. In speech communication, as far as the speaker is concerned, communication is a kind of choice. That is, before utterance-producing, the speaker has to choose the way to convey his information which is most suitable to the hearer's interpretation. In this case the speaker will first evaluate the hearer's cognitive ability and textual resources so that he can decide how explicit the information is conveyed. If the speaker thinks that the hearer lacks enough contextual resources and cognitive ability, he will choose more explicit way to convey his information so that the hearer can save processing effort to obtain the intended information of the speaker. Otherwise, the speaker will produce utterances with more implicit information suitable for the hearer's understanding. In addition, considering economic principle of language, too much information is also a burden for the hearer with strong cognitive ability and rich contextual resources. Thus the speaker's producing utterance is involved in evaluation of the hearer's environment. One of explicit way to convey information is to use DMs which can help the hearer gain the speaker's informative and communicative intention. The following is the example about KFC respectively to different kinds of audience.

(26) a. Benjamin went to KFC. The fried chicken looked good and he ordered it.

b. Benjamin went to a place where fast food is provided. It is called KFC. There he saw fried chicken which is floured and pan-fried.

To those addressees who are familiar with the KFC, the brief introduction in (26a) is a better choice whereas to those who know little about KFC, (26b) is the preference of the speaker. Conversely, if talking (26a) to those who do not know what KFC is, then it can be anticipated that the addressees will fail to understand the utterance. For the same reason, if speaking (26b) to those who know KFC very well, then processing the surplus and unnecessary information will also become a burden to the addressees and waste their cognitive resources and processing effort.

As previous parts mention, in order to make communication successful, the speaker usually evaluates the hearer's cognitive ability, contextual resources, etc., before the speaker produces an utterance. According to the evaluation towards the situation of the hearer, the speaker will choose a suitable way to express his information. As for the hearer lacking enough cognitive ability, the speaker will take measures to constrain the hearer's interpretation towards the intended information among which DMs are widely used measure. DMs can not only help the hearer save processing effort but also make utterance optimally relevant.

Generally speaking, there may exist many kinds of relationship between two utterances. DMs function as signaling their relation clearly. For example:

(27) A: I disliked the person we met yesterday.

B: He's our new manager.

(28) A: I disliked the person we met yesterday.

B1: *Anyway*, he's our new manager.

B2: *After all*, he's our new manager.

Since there are no any connectives between the two utterances in (27), the conversation can be interpreted differently in different contexts. It may express the persuading, warning, etc., in this case, the hearer can not gain the speaker's intended information which consequently causes the failure of communication. In example (28), DMs are used to build up a connection between two utterances. *Anyway* helps to constrain the hearer's inference towards the communicative intention, indicating that we can't change the fact that he is the new manager although you hate the person. *After all* implies the meaning of persuading others to show kindness to the person because he is the new manager.

DMs mainly function to constrain the hearer's inference and eliminate the ambiguity of utterances. For example:

(29) James likes to please Mary.

(30) He is Mary's favorite.

The relationship between these two utterances is unclear. Either of them can be the premise or conclusion of the other, so the hearer may find it difficult to interpret the speaker's communicative intention. When the hearer has problem in recovering the speaker's communicative intention, the speaker has responsibility to help the hearer by some extra means, say, DMs. If the speaker puts *so* or *after all* before the utterance (30), their relationship will become clear.

(31) a. James likes to amuse Mary. (conclusion)

b. *After all*, he is Mary's lover. (premise)

(32) a. James likes to amuse Mary. (premise)

b. *So* he is Mary's lover. (conclusion)

with the help of DMs, the hearer can choose the speaker's intended contextual assumptions and achieve adequate contextual effect at the cost of least processing effort. As for utterance (31), *after all* guides the hearer towards the contextual assumption expected by the speaker:

(31') If X is someone's lover then X likes to amuse this person.

A different discourse marker in utterance (32) implicates different contextual assumption:

(32') If X likes to amuse a person then X may become this person's lover.

*After all* and *so* constrain the interpretation of utterances from different degrees. *Likewise*, *you know* can also be put in front of utterances signaling the premise.

(33) Mary was coming.

*After all*, James had not noticed her.

(34) Mary was coming.

*You know*, James has not noticed her.

*After all* and *you know* introduce different propositional meaning. From the different tense in the following parts, we can get to conclusion that new information is introduced by *after all* while old information is introduced by *you know*. This is the different functions of these two DMs that constrain the production of utterances.

All above DMs, playing a procedural role, are used to constrain the inferential phase of comprehension. They draw the hearer's attention to the special relationship between utterances and guide the hearer to search for optimal relevance, that is, functioning as semantic constraints on relevance (Blakemore, 1987, 1992). So the use of DMs is an effective way for the speaker to produce a proper utterance.

### C. Discourse Markers and Utterance Interpretation

As far as the hearer is concerned, communication is a process to pursue optimal relevance. That is, his assumption towards the utterance produced by the speaker is supposed to achieve enough contextual effect. According to Relevance Theory, both the speaker and the hearer are supposed to make effort for a successful communication. After evaluating the hearer's textual resources, cognitive ability and processing ability the speaker has reasons to believe that the hearer will interpret utterances correctly with intended contextual information. As for the hearer, he also believes that the speaker will produce utterances with relevance so that he can use the provided contextual assumptions to infer the speaker's communicative intention. In most cases, the speaker has reasons to believe that the hearer can gain correct contextual assumptions to interpret the communicative intention appropriately. However, sometimes communication may end up with failure. For example, when a teacher entered the classroom, he said it was cold today. The utterance he provided can be interpreted differently on different assumptions. The hearer may not interpret the intended information with ease. It may be a statement about weather, or it carries illocutionary meaning: would someone near the window mind closing the window. One reason for the failure of communication is that the speaker fails to provide relevant information for the hearer. The other reason is that different hearers with different cognitive environments and processing ability may get quite different inference about the informative intention and communicative intention of the same utterance.

DMs can help the hearer achieve communicative intention intended by the speaker. Since communication is a dynamic process in which the speaker and hearer's contextual resources are changing constantly with the progression of communication. In the process of communication, the speaker will constantly change their way of information-conveying in order to assist the hearer with achieving communicative intention intended by the speaker. Once it is found that the hearer has difficulties to produce the intended contextual assumptions, the speaker may resort to DMs or other methods to constrain the range of hearer's choosing contextual assumptions, consequently help the hearer gain correct contextual assumptions to interpret the communicative intention appropriately.

In following examples DMs are used to constrain the hearer's selection of context in order to make sure that the hearer can gain enough contextual effects and intended information of the speakers.

(35) A: Benjamin is not coming to school today.

B: James is at home.

B1: *After all*, James is at home.

B2: *So* James is at home.

B3: *You see*, James is at home.

B4: *However*, James is at home.

B5: *Anyway*, James is at home.

Without any obvious mark, it is difficult to interpret correctly the relationship between (35A) and (35B). However, with different DMs put in-between, the logico-semantic relationship between (35B1-35B5) and (35A) becomes clear.

There is another example proving the functions of DMs:

(36a) A: Peter can find his own way home.

B: *So*, he is not stupid.

(36b) A: Peter can find his own way home.

B: *After all*, he is not stupid.

*So* and *after all* in the above examples do not affect the truth conditions of the utterances in which they occur but make the relation between utterances clear. The DMs in (36a) and (36b) indicate procedural meaning about what role the propositions of their following utterances will play in the inference process. Thus, *so* in (36a) indicates that the proposition of B's utterance serves as a conclusion and the one of A's utterance functions as the premise of B's utterance. While *after all* in (36b) introduces the information that the proposition of B's utterance is a premise for understanding the proposition of A's utterance. Here the use of *so* and *after all* constrains the hearer's contextual assumptions and help the hearer achieve contextual effect, finally guide the hearer towards the intended interpretation. The inferential processes involved in (36a) and (36b) are showed in (36a) and (36b) respectively.

(37a) If someone can find his own way home, then he must not be stupid. (major premise)

Benjamin can find his own way home. (minor premise)

Benjamin's not stupid. (conclusion)

(37b) If someone's not stupid, he can find his own way home. (major premise)

Benjamin's not stupid. (minor premise)

Benjamin can find his own way home. (conclusion)

With the constraints of *so* and *after all*, there are different major premises in interpretation. The major premise in (37a) implies that not being stupid is the necessary condition for finding his own way home, while the one in (37b), the sufficient condition for finding his own way home. So it is clear that the use of DMs makes the hearer interpret the utterance at the cost of minimum processing effort and obtain the speaker's communicative intention, making the discourse a coherent whole.

To sum up, DMs play a very important role in both utterance production and interpretation. They not only help the speaker organize information, produce clear utterances but also help the hearer to infer correctly the implicatures of the discourse, consequently guide the hearer towards optimal relevance and maintain the discourse coherence.

## V. CONCLUSION

In conclusion, the adoption of DMs in speech communication can ease the hearer's search for optimal relevance of utterances and add discourse coherence. From the viewpoint of the speaker, they can be used to help the speaker organize information, prompt communicative situation. Analyzed from the hearer, the textual function of DMs in conversation is to constrain the hearer's interpretation of utterances in order to cost the least processing effort for the hearer to achieve optimal relevance, which entitles the hearer to go ahead and recover the proposition which yields adequate contextual effects in the smallest and most accessible context. Thus DMs help the hearer search for optimal relevance and make the discourse a coherent whole.

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