

Relevance and Coherence

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Abstract—Relevance and Coherence Abstract: As a tool for communication, language is unique for human beings. In some context, the speakers and listeners construct and comprehend the same text in different ways. In order to have a successful communication, they have to know the appropriate ways to express and the exact information they want to convey. In the process of discourse interpretation, Coherence and relevance are two main factors. This paper aims to investigate discourse coherence in terms of relevance and analyze the relations between the two.

Index Terms—coherence, relevance, cognition, relevance theory, interpretation

I. INTRODUCTION

Cognitive science has captured worldwide attention since 1970s. Cognitive linguistics came into being when cognitive science was combined with linguistics. Most linguists use the theory of cognitive linguistics to analyze the function of language. That gives rise to cognitive pragmatics. Relevance Theory, which is put forward by Sperber & Wilson in their works *Relevance: Communication and Cognition* in 1986, is the theoretical foundation of cognitive pragmatics. As a new prospective to the study of language, it has attracted consistent interests and attentions of the western pragmatists and the fundamental points of its theoretical framework have been all-roundly introduced, interpreted, reviewed and modified or complemented.

Relevance is an important term for the Relevance Theory and is defined according to contextual effects. To be efficient, people try to maximize the effect of the information with the least effort as possible as he can to process it. When this is successfully done, we can say that they have the optimal relevance.

Coherence is a consequence of interaction between linguistics factors and non-linguistic factors. It is defined as a semantic concept and has long been the focus in the field of pragmatics since it deals with how the discourse can be produced and interpreted. Coherence can be realized by linguistic forms and other context factors. Coherence and relevance are two psychological terms.

II. COHERENCE

The study about coherence had begun before the modern linguistics emerged. Coherence is considered as the prerequisite for a text to achieve the identity and roughly defined as an effective text whose constituents are connected closely. (Brooks & Warren, 1972) Since the notion of coherence is introduced to linguistics, many scholars such as Jacobson (1960), Harweg (1968), Van. Dijk (1972, 1977) Kintsch (1974) Halliday & Hasan (1976), Coulthard (1977) Widdowson (1978, 1979), Enkvist (1978) have devoted themselves to the research about text coherence. Usually coherence is considered as the connected relationship in meaning between every part of the text. (Brown & Yule, 1983; Crystal, 1992) As the study method is concerned, there are two ways in linguistic field, one is the study of language itself, that is, the contributions of all kinds of cohesive devices to text coherence, another is concentrating on not only linguistic forms but also non-linguistic forms such as situational factors, cultural background knowledge and cognitive ability's influences and restraints on text coherence. Widdowson and Brown & Yule are the representatives who adopt the first method while Halliday & Hasan and Danes adopt the second one.

About the definition of coherence, although different linguists agree on the point that coherence is the primary character of a text, they have different opinions. Crystal (1987) claims that coherence means that various kinds of concepts and relations expressed by a text must be relevant to each other, thereby we can infer the deep meaning of the text appropriately. He further puts forward that text coherence is 'the underlying functional connectedness'. van Dijk (1977) holds that 'coherence is a semantic property of discourse, based on the interpretation of each individual sentence relative to the interpretation of other sentences'. It is argued by Widdowson that coherence refers to the illocutionary functions of different propositions and how these functions are used to create different kinds of discourses such as report, descriptive or explanative ones. If the hearer considers that the proposition emerges in some order is connected with the illocutionary function he can accept, he will think that the discourse is coherent. (1985). Beaugrande (1981) defined coherence as the procedures that can ensure the connection conceptually, including, i. It is a kind of logical relations, ii. It can organize events, objects or situations, iii. It can reflect the human experience continuity. It is mainly about "the way in which the components of the textual world which underlie the surface text are mutually accessible and relevant" (1981). Brown and Yule's claimed that (1983) coherence is produced during the process of the readers' interaction with the text. If they can receive it logically, then the text is coherent.

About the conception of coherence, Chinese scholar Zhu Yongsheng (1996) has his own opinion, he claims that coherence is a semantic concept which refers to the connectedness among different parts of the text. This kind of connectedness exists in two different levels: one is among the sentences and another is in the real intention of the text.

Coherence from different angles (semantics, pragmatics, cognitive science) has been explored by most of the linguists who establish their own theory about text coherence such as Theory of Macrostructure by van Dijk (1977), Mann & Thompson's Rhetorical Structure Theory (1988) and Beaugrande & Dressler's Procedure Practice Model (1981) etc.

But different scholars have different opinions about the elements and the degree which occur in the discussions about coherence. It is argued by Givon (1995) that coherence is a mental phenomenon,

"Coherence is not an internal property of a written or spoken text, but a property of what emerge during speech production and comprehension—the mentally represented text, and in particular the mental processes that partake in constructing that mental representation." (Givon, 1995) Givon focuses on the effect of cognition in the dynamic process of constructing a coherent discourse mentally.

Up till now there is no general theoretical framework and well-defined concept of coherence though a lot of scholars have done some researches on it.

I think that coherence should be defined in a broad term with the enlightenment of their different views on coherence. We should first realize what coherence intuitively means for language users. Stubbs (1983) holds that it is the reader's interpretation that creates the coherence of a text. Separating the notion of coherence from the receiver is a wrong path to have some research on it, since it is not only a general concept for the texts overall connectedness, meanwhile it also reflects how the reader evaluate and percept the text. And it is accordance with Baugrand's claim, "coherence is clearly not a mere feature of text, but rather the outcome of cognitive processes among text users" (1981). Coherence is dependent on its receivers' processing.

The process of coherence involves different factors and can be received and understood on different levels, such as syntactic, semantic, pragmatic and stylistic elements paradigmatically. On the other hand, during the process of receiving the coherence, a lot of individual units that can transfer information are given much more concern, such as the units in morphemic, lexical and sentential levels, and coherence in different levels is constructed builds on the coherence of next level, thus, constitute the coherence of the whole text.

A lot of factors can influence the coherence of a text. Hu Zhuanglin (1994) discusses the contribution of context, including co-text, situational context, and cultural context, to discourse coherence. The following sections of this thesis will have a discussion on cognitive context's contribution to the discourse coherence.

III. THE CONCEPTION OF RELEVANCE

Relevance is a logic notion which is a two-placed predicate representing the relations between different things. (Wang, 1994) The first linguist who uses the notion of relevance in analyzing verbal communication is H.P. Grice. In his co-operative principles, he puts forward four maxims of Quality, Quantity, Relevance and Manner. In his opinion, both the participants in communication hope the utterance is relevant. Sperber & Wilson's Relevance Theory developed the concept of "relevance", they argue that the key of relevance, a notion which is based on a universal view of cognition of human beings, their definition of relevance is a technical term that can characterize a property of mutual process. According to Sperber and Wilson, relevance can be evaluated and measured according to the relations between the cognitive effect and processing effort. If we say some information has a contextual effect in a given context, it will get relevance. A context may involve different assumptions, when an input (e.g. a discourse) is proposed in a context of available assumptions, it may yield some cognitive effects, by modifying or reorganizing these assumptions in the following approaches: a. to strengthen the assumption that existed; b. to contradict and eliminate the assumption existed; c. to connect with an assumption existed and gain implication in a given context, i.e. this implication can be derived not from the new information or the context separately, it can only derive from the combination of the new information and the context. That is to say, you construct an assumption to expect that you can connect it with the given assumptions to gain a new one.

For example:

1) It may provide further evident for, and hence strengthen, an existing assumption.

(1) A: Mary works very hard.

B: She is excellent one in her school.

In this example, the newly-presented information 'she is excellent one in her school' gives more evidence for A's conclusion. So it enforces the present contextual assumption and thus produces new contextual effect.

2) It may contradict an existing assumption.

(2) A: Mary does not a good job in her study.

B: She is excellent one in her school.

In this example, as the new information, 'she is excellent one in her school.' contradicts the assumption 'Mary does not a good job in her study' and even negate it. In this case, the addressee can produce various kinds of contextual effects on the basis of their respective contextual assumptions: it might be inferred that the communicator is joking, because Mary is really excellent in her study; it can alternatively be inferred that Mary does not deserve to be called

first one because she is not good at all subjects, etc.

It may allow the derivation of a contextual implication

(3) A: Will you do any shopping today?

B: We will have vacations for most of the weekends.

In this example, the hearer can not achieve B's communicative intention only through the literal meaning of the sentence. Only by combining this information with various kinds of contextual assumptions can the hearer infer the following possible implications:

(4) a. If we have vacations for the weekend, then we won't need any shopping.

b. If we are not at home for the weekend, then we can not go shopping.

c. If we will not do some shopping, then we won't have anything to eat after our vacation.

Different contextual implications can bring about different contextual effects: according to (4)a, A gets to know that it B considers it is unnecessary to go shopping; according to (4)b and (4)c, A infers that B considers it is necessary to go shopping. The hearer will select one interpretation because not all assumptions are hold with the same degree of conviction.

Relevance can be considered as a character of inputs for the processes of cognition including discourses, thinking, remembering, behaviors, voices, signals, tastes, and so on. Sperber & Wilson (1986,1995) put forward a primary assumption that human cognition is based on relevance. The beginning of every utterance is to attract the attentions of the hearer. In a consequence, it is expected to have relevance. Upon the utterance, different hearers have different interpretations, thus will be relevant in different approaches, they can be divided into different levels: be not relevant at all; be fairly relevant; be very relevant. Which interpretation should the hearer select? About the selection of discourse comprehension, Sperber and Wilson put forward two relevance principles and the concept of optimal relevance:

1) Cognitive principle of relevance.

Human cognition tends to be geared to the maximization of relevance.

2) Communicative principle of relevance.

Every ostensive stimulus conveys a presumption of its own optimal relevance.

3) Optimal relevance

An ostensive stimulus is optimally relevant to an audience iff: It is relevant enough to be worth the audience's processing effort. It is the most relevant one compatible with communicator's abilities and preferences.

Clearly, the interpretation that can best satisfy the audience's expectation of relevance will be selected. It is clear that, other things being the same, if the cognitive effects of a newly presented item of information is greater, the greater its relevance for the person processing it. However, it has to be remembered that all information-processing requires effort and time—that is, a cost--and that, other things being the same, the greater the cost of processing a new item of information, the less its relevance for the person processes it. On the contrary, the smaller the processing effort required, the greater the relevance.

According to Relevance Theory, it is the basic character of the cognition of human being to search for relevance. Instinctively, relevance is not only a potential character of observable phenomena, but of some cognition process such as thoughts, memories, and conclusions and so on. The main point that can improve a successful communication is to pursue the optimal relevance between the communicator and addressee. The function of the optimal relevance in communication is obtained according to the relevance principle, which is believed to be an innate constraint in our human psychological make-up. By this principle, a person thinks that what she wants to say has optimally relevance to the hearer whenever she starts to communicate something.

IV. COGNITIVE CONTEXT, RELEVANCE AND COHERENCE

Relevance theory is a cognition-based theory about human being communication and discourse interpretation. As the same with the other cognitive theories such as mental model by Johnson-Laird (1983) and modularity hypothesis by Fodor (1983), it admits the following two basic facts: i. achieving the information needs processing efforts; ii. The more efforts taken in the processing of information, the least chance for successful communication and vice versa. In addition, all these cognition-based theories agree that on the one hand information process of human being is at the aim of successful communication, on the other hand it should be as effective as possible.

As we have mentioned above, in Relevance Theory, the standard of relevance is to evaluate the balances between cognitive effect and processing effort. When an item information has a contextual effort in a given context, Sperber and Wilson say it is relevant in that context.(1995) About discourse coherence, they claims that it is the by-product which the addressee receives in the process for searching for relevance. For an utterance, if it is considered relevant to an hearer, it must be coherent. Such a point of view, just like relevance theory, does not meet general approval but receives strong objections.

As two important terms about discourse interpretation, the following parts will shed light on the relations between relevance and coherence combining with the factors of cognitive context.

A. *The Definition of Coherence in Relevance Theory*

In Sperber and Wilson's opinion, every behavior in an ostensive communication transmits a presumption that it is

relevant optimally. It is a must to search for optimal relevance in a successful communication. Aiming at receiving the relevance optimally, the addressee has to not only restore the literal meaning but also infer the implication of the discourse by choosing and constructing appropriate cognitive assumptions. That is to say, the assumptions are not pre-existed, but created by the addressee according to his needs. Mutual knowledge is not only the prerequisite but also the result of communication. In order to infer the understandable discourse, the addressee will use the assumptions that can help him achieve relevance as possible as he can.

According to relevance theory, context is a set of assumptions stored in the human being's memory, that is to say, on the one hand, cognitive context can be considered as a set of assumptions that can construct the relevance of the new information, on the other hand, it can be regarded as a series of assumptions changed and influenced by the new information. From relevance theoretical point of view, Blakemore puts forward two kinds of coherence. (1987) The first kind is coherence of prepositional coherence, which means that the information in utterance (t) can help construct the prepositional coherence in utterance (t+1). The second kind is the coherence of contextual effect, which means that the explanation of utterance (t+1) and utterance (t) can realize the contextual effects between the two utterances. In order to help understand these two kinds of coherence, Blakemore gives two examples:

(5) I put the butterfly on the table. It broken.

(6) I put the heavy book on the table. It broken.

In these two examples, we can see that the linguistic rule can not help the addressee receive the correct explanations. Both "it"s in the two examples are pragmatically determined pronoun. According to relevance theory, the correct understanding of "it" is based on the explanation of the contextual information of the first sentence. From the comparison of the two examples, we can understand that "it" refers to "the butterfly" in the example (5) and "the heavy book" in the example (6). Carston considers that the information analyzed above was part of the prepositional content of the discourse and claims that it was the prepositional content for pragmatics. She further puts forward that, according to relevance theory, with certain background knowledge, the addressee can find the answer beyond the linguistic content in order to achieve the reasonable explanations of the discourse. This depends on whether the information received can achieve optimal relevance or not. Here is another example:

(7) The king picked up the wine and drunk.

The addressee can receive the following explanations by taking efforts to search for relevance. "the king" picked up "wine" at t and he drunk it at t+n. So we can say that the explanation of discourse's optimal relevance can make the addressee to search for the explanation beyond the literal meaning of discourse. The explanation of the second sentence includes the information from the explaining of the first sentence. All these information is part of the propositional content of the discourse. For example:

(8) Two Muslim fundamentalists entered the city, then came a sudden eruption of new bloodshed in it.

In (8), the explanation from the first sentence can influence or determine the explanation of the second sentence. "then" in the second sentence can be looked upon as "as a result of that". The explanation of the second sentence includes the information from the first sentence. As the new information, "as a result of that" is part of prepositional content of the discourse.

Blakemore also puts forward coherence of contextual effect. According to cognitive context or relevance theory, the explaining of the discourse not only shows clearly the proposition expressed by the discourse but also includes evaluating the result achieved by putting the discourse into a set of existing assumptions. In other words, the explaining of the discourse must evaluate the degree of relevance. The coherence from this aspect is called coherence of contextual effect. According to the above illustrations, we can understand cognitive context from two aspects: on the one hand, cognitive context can be considered as a set of assumptions that can construct the relevance of the new information, on the other hand, cognitive context can be considered as a set of assumptions that is changed and influenced by the new information. Here is an example:

(9) A: The proposal was not well thought out.

B: It would have been too expensive.

Sperber and Wilson consider that the addition of the new information to the sentence can influence the context. For example, in the second sentence of (9), "it would have been too expensive" has the contextual effect for providing the evidence for the existing assumption "the proposal was not well thought out."

(9)A and (9)B is coherent because the explanation for (9)B contains the contextual effect for constructing the relevance of (9)A. That is to say, the relevance of (9)A depends on the explanation of (9)B.

According to the relevance theoretical view on context, when the new information and contextual assumptions affect each other through the ways we have noted in section III, contextual effect will be achieved. Thus the coherence can be achieved.

Discourse coherence, as Sperber & Wilson argue, is the by-product in the process of strengthening or weakening of existing assumptions.

B. About Giora's Objection

Giora (1997, 1998) raises her objection to Sperber and Wilson's view on coherence, she argues that relevance theory is not the only one that controls human beings' communication and discourse coherence should also be considered. She holds that some utterances are relevant to an individual but not coherent and vice versa. As a reply to Giora's objection,

Wilson (1998) writes *Discourse, Coherence and Relevance: A Reply to Rachel Giora* in which she claims that Giora confuses the cognitive principle of relevance and communicative principle of relevance. She also argues that “the main aim of relevance theory in the domain of verbal communication is to explain how utterances are understood. As a by-product, it claims to shed light on certain intuitions of acceptability or unacceptability, for which coherence theorists have sometimes offered alternative accounts.” (1998)

Disagreeing with Relevance Theory, Giora uses some examples to elaborate her opinion.

(10) Bill, who has thalassemia, is getting married to Susan, and 1967 was a great year for French wines.

(11) Bill, who has thalassemia, is getting married to Susan. Both he and Susan told me that 1967 was a great year for French wines.

For the both examples, she claims that relevance theory is not able to account for their unacceptability. According to Relevance Theory, as she argued, if each discourse is relevant in a context, it can be acceptable whether they are intuitively related or not. (Wilson, 1998)

Verbal communication is dynamic and idiosyncratic. According to different addressees, it may be judged utterly differently. If both of the assumptions of two discourse segments have contextual effects in a certain cognitive context and at the same time the hearer has this assumption in his own cognitive context just like Wilson illustrates in her reply to Giora.^[28] Then we can say that the discourse is both relevant and coherent to the hearer. However, in an ordinary communication, if the speaker utters these two segments abruptly, the addressee will take more efforts to switch from one topic to another. The whole discourse is not relevant to the hearer even though both the assumptions of two segments are new to him for he does not know what communicative intention the speaker wants to transform. According to relevance theory, communication is an ostensive-inferential process. During the communication, the speaker should express his/her communicative intention as ostensive as possible if he/she has the intention to let the hearer understand his/her utterance; the hearer will try his/her best to achieve the meaning of the utterance by combining the utterance with his/her cognitive context.

As we have noted above, the speaker will try his/her best to help the hearer to understand his /her utterance if he/she aims at successful communication. Before or during the process of discourse production, he/she will have an evaluation on the hearer's cognitive context and then decides in what way he/she should organize his/her utterance. This phenomenon is coincident with communicative principle of relevance. So we can say that an utterance is coherent to an individual if it is optimally relevant to him/her. About this argument, Giora gives another example to object to it.

(12) A: What did John say?

B: Your have dropped your schoolbag.

In this example, B's utterance can be interpreted from two different ways, one is that it is a report of what Susan really said, she told B that A had dropped his/her schoolbag; the other is what A said on the spot, A was reminding B that his/her schoolbag was fallen instead of answering his/question. Giora admits that the first interpretation is both relevant and coherent to the hearer while the second is relevant but incoherent. If the discourse does take place in the second situation, the role of B's utterance play is the same as a gesture. During the conversation, B finds that A has fallen her/his wallet and tells her/him. Obviously B's utterance is not coherent with A's question for they are two different topics. However, in the daily life communication, B's utterance is not the end of the discourse, he/she will continue to answer A's question. As a single utterance it is both relevant and coherent to A. As the topic of the discourse is concerned, it is an independent one in the whole discourse. A will have a sense that B's utterance is coherent or not to his/her question only when he/she are sure that B is answering for his/question rather than other intentions.

During the process of communication, both the participants select the assumptions in their cognitive context flexibly to adapt the changes in the communication. If every segment in a discourse or different stages of a discourse is under the same topic and is relevant optimally to the hearer, it is coherent.

V. CONCLUSION

Relevance and coherence are two independent psychological terms in linguistics though there are some relations between them. Relevance theory just provides a way for the study of coherence from cognitive point of view, however, we can not use one to replace another because the judging criteria for relevance and coherence is utterly different. For example, A and B are waiting for a bus when both of them see that the bus is coming. At this moment A says: “The bus is coming”. A's utterance is not optimally relevant to B because it is not relevant enough to be worth B's processing effort but it is acceptable to A. Coherence and relevance are two definitions from different perspectives, both of them are the important factors in the production and comprehension of discourses.

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