Preferred Argument Structure in Chinese: A Comparison Among Conversations, Narratives and Written Texts

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The purpose of this study is to investigate the relationship between information flow and preferred argument structure across different text types. A number of studies in both ergative and accusative languages confirm Du Bois’ (1987) grammatical constrains. Chinese is neither an ergative nor accusative language. The results of my Chinese data do not truly confirm Du Bois’ constraints. Transitivity is found to be the main key to trigger the discrepancy on argument types distribution between Sacapultec and Chinese. Ellipsis, lack of case-marking system, text difference and topic continuity are assumed to play significant roles on distribution of argument structure and information status in terms of grammatical roles. Chinese spoken discourse and written texts display the similar grammatical constraints and information statuses. The consistent tendency shows that new information prefers O role and given information favors roles A and S. Given information appear relatively less in conversations than in narratives and written texts.

1. Introduction

Du Bois’ (1987) research on the ergative language is one of the pioneered studies in exploring information flow in terms of argument roles. Based on Du Bois’ study, a number of studies in both ergative and accusative languages have been carried out. English, French, Spanish, German, Hebrew, and Japanese are all accusative languages, and they display an ergative-absolutive pattern of information flow in spoken discourse. The data studied show the tendency, which confirms Du Bois’ (1987) grammatical constrains, that the speaker tends to avoid producing more than one lexical argument or more than one new argument per clause, and to avoid having a lexical or introducing a
new referent in the A-role argument position. In this study, I would like to examine my mother language, Chinese. Chinese is neither an ergative nor accusative language; therefore, it would be noteworthy to see if the ergative grammatical pattern is also applicable in Chinese. Different from previous researches which mainly aim at spoken discourse, I will focus my data in three different text types: conversations, narratives, and written texts.

1.1. Grammatical roles and PAS

The descriptive ‘subject’ with traditional sense is not a proper term to address ergativity since the case-marking system of ergative-absolutive languages differs from the system of nominative-accusative languages. Givon (2001) indicates that in nominative-accusative languages, the case-marking morphology codes the grammaticalized subject and direct object regardless of semantic roles or transitivity. However, in an ergative pattern, the subject of an intransitive verb and the direct object of a transitive verb share an absolutive case-marking, most commonly zero, whereas the subject of a transitive verb displays ergative case-marking. Figure 1 shows how these two types of case-markings code their grammatical roles. In the ergative type, S is grouped with O, while in accusative type S is grouped with A.

![Diagram](image)

**Figure 1. Case-marking system and grammatical roles**

Because the traditional grammatical categories do not fully apply in the ergative marking system, Dixon (1979) characterizes A as ‘the NP in a TRANSITIVE clause which CAN BE AGENT’, O as ‘the OTHER OBLIGATORY NP in a TRANSITIVE clause’, and S as ‘the ONLY OBLIGATORY NP in an INTRANSITIVE clause’ (p. 108).
Following Dixon, Du Bois (1987) defines grammatical roles A, S, and O as follows: ‘S is a mention which is the sole argument of an intransitive verb (and is cross-referenced absolutely on the verb), or the subject of a non-verbal (‘equational’ or ‘copular’) predicate; A is the argument of a transitive verb which is cross-referenced ergatively; O is the argument of a transitive verb which is cross-referenced absolutely’ (p. 815).

PAS, proposed by Du Bois, refers to the strong tendency for speakers to avoid producing more than one lexical argument or more than one new argument in a clause, and the tendency to avoid having lexical or new referents in the A-role argument position. He found that in Sacapultec new information preferentially appears in the S and O roles, whereas A role tends to carry given information. Du Bois claims that the distribution of new information in the ergative patterning of discourse extends to accusative languages as well. PAS of Sacapultec Maya is formulated by Du Bois as below:

One Lexical Argument Constraint: Avoid more than one lexical argument per clause.
Non-lexical A Constraint: Avoid lexical A’s
One New Argument Constraint: Avoid more than one new argument per clause.
Given A Constraint: Avoid new A’s

1.2. Information flow in discourse

Chafe (1994) indicates that ‘information flow is a prime example of how discourse factors may influence grammatical patterning’ (p.215). A distinction for given/new information has been suggested by Chafe (1987), in which ‘active’ and ‘inactive’ correspond to the traditional terms ‘given’ and ‘new’. Given information is defined as that which is already active for the speaker and assumed to be already active to the listener as well, whereas new information is that which is currently in a listener’s consciousness, but is not yet activated. ‘Information may be accessible because it was active earlier, or because it is inferable from information that was active earlier’ (Chafe 1994 p. 216). According to Chafe (1994), given information is usually verbalized with pronoun or ellipsis, whereas new information is verbalized with a prominent word or phrase.

Chui (1994) found that information flow of nominal referents correlate more with word order than with syntactic roles in Mandarin Chinese. She indicates that ‘given
information in conversation or oral narratives is preferred before the verb, either in A, S or O; new information appears more readily after the verb, either in S or O’ (p.145).

1.3. Lexical arguments in clauses

That clauses with a highly transitive verb contain at least two lexical arguments is a general assumption in the linguistics tradition. However, Du Bois’ (1987) evidence of the ergative language, Sacapultec, points out a strong tendency which indicates that in either transitive or intransitive clauses, clauses with zero or one lexical argument are common, whereas clauses with two lexical arguments are rare. In Mandarin, noun morphology is categorized into three types: lexical full noun, lexical pronoun, and zero form. By investigating naturally occurring Mandarin discourse, Tao and Thompson (1994) found that the majority (61%) of transitive clauses in Mandarin conversations contain only one overt argument, while only 19% transitive clauses have two overt arguments. Besides, their data show that ‘while transitives tend to reduce the number of arguments that are fully specified, the majority of non-transitives sustain the lexical coding of the one argument associated with them’ (p.19). In Tao and Thompson’s data, the majority of non-transitives (60%) are specified with an overt argument.

2. Research questions

Following Du Bois (1987), a great deal of researches on accusative languages has confirmed the quantity and role constraints of the ergative pattern. Since Chinese does not belong to either type of these two languages, I would like to see weather ergative PAS also holds for Chinese. I will examine the relationship between grammatical pattern and information flow in terms of different text types to see how PAS display in each text. The research questions which will direct this study are:

1. Do the constraints proposed by Du Bois hold in Chinese spoken discourse?
2. What is the distribution of argument types across different text types?

3. Methodology

3.1. Data

The data in this research consist of two ordinary conversations, three personal narratives, and five short written texts. In order to have similar numbers of clauses,
different amounts of data for each text type were collected: 159 clauses for conversations; 121 for narratives; 131 for written texts. The conversation and the narrative data were tape recorded. All the subjects are native speakers of both Mandarin and Taiwanese. The setting for the first conversation was a restaurant where two friends were having dinner and discussing their Sunday plan. The other conversation took place in a religious fellowship hall. This conversation was mainly produced by two speakers, one male and one female, who were talking about their experience of taking injection. Another speaker, father of the female speaker, broke into the conversation from time to time. These two conversations are produced mostly in Mandarin and mixed with a small portion of Taiwanese. The three narratives are speakers’ personal experiences. The narrators were asked to narrate the most unforgettable experiences in their lives. As to the written texts, which were extracted from a Chinese book titled 趣味故事 [Mood Stories]. The book is a collection of personal stories, and the stories are contributed by different writers. The five stories used for my data were selected randomly from this book.

3.2. Data analysis

The analysis is both quantitative and qualitative. The results will be explicated along with tables, figures, and statistical numbers. I will also compare my data and findings with those from other researches.

3.2.1. Transcription, Intonation units and clauses

The spoken data were transcribed according to the Du Bois et al (1993) transcription system. In the transcripts, each line represents an intonation unit. According to Du Bois, an intonation unit is ‘a stretch of speech uttered under a single coherent intonation contour’ (p. 46). Many scholars (Givon 1983b; Chafe 1987, 1994; Ono and Thompson 1995) have agreed that the ‘clause’ is the basic information unit in human discourse. In English, the term ‘clause’ refers to a predicate and its core arguments. In Chinese the most frequent grammatical structure of intonation units is the elliptical clause with zero arguments. Tao’s (1996) definition of clauses is adopted in this study, which is ‘a non-modifying verbal expression (including copular expressions), with or without zero-marking arguments, but excluding single nominal’ (p. 17).
3.2.2. Grammatical roles

By employing Dixon’s (1979) core semantic-syntactic primitives and Du Bois’s (1987) core grammatical roles, Tao and Thompson (1994) define the grammatical roles of A, S, and O in their study: A is the most agent-like argument of a transitive verb; S is the single argument of an intransitive verb; O is the most patient-like argument of a transitive verb. Tao and Thompson’s definition of grammatical roles A, S, and O is adopted in the present study. There are still other grammatical roles besides core argument roles A, S, and O in languages, such as bolique and indirect objects. Since core arguments are the main focus, other non-core arguments will not be taken into account.

3.2.3. Information status

Chaft’s (1987) formulated categories of ‘given’, ‘new’, and ‘accessible’ information status will be used in this study. Given information refers to a referent which has been mentioned in previous context; new information refers to a referent which has not been mentioned previously; accessible information refers to a referent which was previously unmentioned, but was part of previous active entity-based frame.

4. Findings and discussion

4.1. Preferred clausal type

The distribution of clauses in terms of transitivity is presented in Table 1 which shows the discrepancy in percentages between transitive and intransitive clauses among three different texts. The percentage of transitive clauses is approximately twice as more as of intransitive clauses in all three types of texts. Thus, we can say that transitive clauses are favored in Chinese regardless of text types.

<table>
<thead>
<tr>
<th></th>
<th>Conversation</th>
<th>Narrative</th>
<th>Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Transitive</td>
<td>100</td>
<td>62.9</td>
<td>80</td>
</tr>
<tr>
<td>Intransitive</td>
<td>59</td>
<td>37.1</td>
<td>41</td>
</tr>
<tr>
<td>Total</td>
<td>159</td>
<td>121</td>
<td>131</td>
</tr>
</tbody>
</table>

Table 1. Transitivity among three types of texts
4.2 Lexical arguments in clauses

Transitivity further connects in the mind with arguments. In general, the argument types in Chinese can be characterized as zero arguments, pronouns, and full nouns. Though transitive verbs can have two arguments in a clause, zero-marking arguments and pronouns are also possible to fill in these two argument positions. Figure 2 shows the distribution of clauses (transitive and intransitive combined) which contain zero lexical argument, one lexical argument, and two lexical arguments in conversations, narratives, and written texts respectively.

From Figure 2, we see that clauses with zero or one lexical argument are common, whereas clauses with two lexical arguments are rare, which seems to confirm with Du Bois’ ‘One Lexical Argument Constraint’. However, after thinking over in detail, we wonder where are the percentage values of zero lexical and one lexical argument from? Are they contributed by transitive clauses or intransitive clauses? Since transitive verbs can have two lexical arguments while intransitive verbs can have no more than one lexical argument. Therefore, it is necessary to separate transitives and intransitives in order to see their individual distribution for lexical arguments. Table 2 shows the numbers and percentages of clauses with zero, one, and two lexical arguments in transitive and intransitive clauses among three types of texts separately.
Table 2. Transitivity and numbers of lexical arguments in clauses

Table 2 tells the inside story of Figure 2. Du Bois’ ‘One Lexical Argument Constraint’ would be borne out by my data only if transitive and intransitive clauses are combined together. After separating these two types of clauses, the constraint does not hold for Chinese any more. This constraint strongly holds for Sacapultec because in this language both clauses with zero argument and one argument are the majority regardless of transitivity. My Chinese data display greatly different results from Du Bois’. In Chinese transitives, clauses containing one lexical argument are overwhelmingly predominant, and its percentage is much higher than clauses with zero lexical or two lexical arguments. Comparing to Sacapultec, transitive clauses with zero arguments are relatively fewer in Chinese. Thus, we may say that in Chinese there is a strong tendency for transitive clauses to contain one lexical argument, and clauses with zero or two lexical arguments tend to be avoided regardless of texts. With respect to the intransitive clauses, Du Bois’ data show that clauses with zero and one lexical argument hold similar percentage (51.9% to 48.1%), whereas in Chinese the percentage of intransitive clauses with zero lexical arguments is approximately two or three times more than of clauses with one lexical argument. This tendency holds for all three types of texts.

4.3. Why clauses with one lexical argument are favored?

Since transitive clauses are the preferred clausal type in all three Chinese texts, we expect a higher percentage in two lexical arguments. However, the question arises is why in reality the percentage of one lexical argument is much higher? I assume that the answer is strongly related to languages-specific properties, case and ellipsis. Chinese is a language which does not have a case marking system. Take the singular third personal
pronoun as an example, 他 (he) can stand for both the subject and object of a transitive verb and for the subject of an intransitive verb as well. For avoiding confusion, speakers seldom put two third personal pronouns in a transitive clause unless the referents are present. It is more frequent to have different personal pronouns appearing in the two argument positions. Since two third personal pronouns in a clause are not prevalent, then transitive clauses with one pronoun and one lexical noun and with two overt lexical nouns are supposed to be relatively common. Yet the statistics do not support what we expect, in which clauses with two lexical arguments only occupy small portion. This is further caused by ellipsis, a special feature in Chinese. Zero anaphora and elliptical forms are prevailing grammatical structure in Chinese. This specific feature makes the numbers of lexical arguments in transitives reduced to one. This phenomenon explains why in transitives clauses with two lexical arguments are much less than clauses with one argument. Thus, we may say that ellipsis and lack of case-marking system make the clauses with one lexical argument predominant. Moreover, the two singular third personal pronouns, 他 (he) and 她 (she), and the impersonal pronoun, 它 (it), are pronounced exactly the same in Chinese. In order to avoid confusion under some circumstances, speakers tend to produce lexical arguments instead of pronouns. The following example demonstrates the confusing situation.

王先生和王太太個性很不同,他很內向而她很外向,他喜歡看書而她喜歡跳舞。

The example definitely will cause confusion in spoken discourse since the listener cannot make a distinction by hearing the identical pronunciation for both third personal pronouns. In order to make the statement clear, the speaker normally will use lexical nouns for the identification. However, this example will not cause any problem in writing because there are two distinct characters standing for these two third personal pronouns respectively, which explains why in written texts clauses containing two lexical arguments are relatively fewer than those are in conversations and narratives. The particularly low percentage of zero lexical argument shown in narratives indicates that speakers tend to avoid producing clauses with zero lexical argument when they narrate personal experiences. I assume that it is because the speaker and the listener do not have the sharing experiences. When the narrator tells his/her own private experience, he/she
needs to introduce new things along with the story which is not known by the listener, and new information is normally represented by lexical nouns. This explains why clauses with zero lexical argument are much less in narratives than those of in the other two texts. As for the intransitive clauses, once again, ellipsis plays an important role for the distribution. It is noteworthy that the result from my data is not only different from Du Bois’ in Sacapultec but also different from Tao and Thompson’s (1994) in Chinese. Tao and Thompson found that the majority of intransitives (60%) are specified with one lexical argument while my data show that clauses with zero lexical arguments are the majority of intransitives.

After finding the frequency of lexical arguments in term of transitivity, I would like to examine the distribution of lexical arguments among grammatical roles. Table 3 shows the numbers and percentages of lexical arguments among grammatical roles.

<table>
<thead>
<tr>
<th></th>
<th>Conversation</th>
<th>Narrative</th>
<th>Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>A</td>
<td>20</td>
<td>17.4</td>
<td>15</td>
</tr>
<tr>
<td>S</td>
<td>15</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>O</td>
<td>80</td>
<td>69.6</td>
<td>78</td>
</tr>
</tbody>
</table>

Table 3. Numbers of lexical arguments in grammatical role

The majority of lexical arguments appear in O role while A and S contain comparatively much smaller proportion of them, which is much different from what was found in Sacapultec. In Sacapultec, substantial proportion of lexical arguments goes to roles S and O. In Table 3, we see that in Chinese lexical arguments occur much less not only in A role but also in S role. Lexical arguments tend to avoid both A and S positions, and the phenomenon is consistent in both spoken discourse and written texts. Thus, Du Bois’ ‘Non-lexical A Constraint’ does not truly hold for Chinese. It would be more suitable if the constraint is modified as ‘Non-lexical A and S Constraint’ since lexical arguments disfavor both A and S.

In the following, three commonly used argument types will be explored in order to see how is the distribution of each argument type in terms of grammatical roles. Table 4 displays numbers of argument types among grammatical roles.
Table 4. Numbers of argument types among grammatical roles.

It is obvious that O role is filled with a great deal of lexical arguments, and it seems to have a hierarchy emerged according to numbers of lexical arguments in each role. O role contains the most lexical arguments, then S role has much less of them, and A has the least. The hierarchy is O > S > A in the percentage of lexical arguments, and this hierarchy is applicable to all three texts. By examining roles A and S closely, we see that in conversations pronominals occupy the biggest portion among three argument types; in narratives, zero-marking arguments appear the most; in written texts, zero-marking arguments have the highest percentage in A role while pronouns appear the most in S role.

4.4. Why argument types distribute differently in each role and how is the distribution related to texts?

Topic continuity is the reason to affect the distribution of various argument types in terms of grammatical roles. Humans are the main topics in these three texts. According to Chui (1994), human referents mostly appear in A or S positions. Since human referents are repeatedly mentioned in the content, they tend to re-appear by zero-marking arguments or pronouns. Generally new information is represented by full NPs, whereas zero-marking arguments and pronouns carry the information which have been known by both the speaker and the listener. In Chinese new information is usually introduced in O position (it is evident in the later section), and that explains why O is mostly filled with lexical arguments. Du Bois indicates that genres correlate with information pressure. The relative high or low of information pressure depends on the ratio of new entities in clauses. In some genres, pressure is relatively high, such as third person stories about
strangers, and in others, it is often low, such as conversation between friends or family members. In my data, the conversations are produced among intimate friends, and interlocutors refer to each other with first and second person pronouns, which explain why pronominals hold the substantial portion in roles A and S. In narratives, the experience each narrator uttered is personal and private, so the listener does not have the sharing background. Since more new entities need to be brought up by the narrators, the percentage of lexical arguments in roles S and O would be relatively higher. As to the higher percentage of zero-marking arguments in A and S, it is because the narratives are first person monologues, ellipsis is used a lot to replace the first person pronoun. Written texts in the present study consist of five short stories, and all the protagonists are humans. I expected to see more zero-marking arguments occurring in roles A and S, but the result does not seem to accord with my original expectation. I assume that it is related to the length of each story. The numbers of clauses for these five stories are 19, 19, 21, 30, and 43. The stories are short, so the protagonists are shifted too frequent. Each time when the protagonists are shifted, lexical nouns and pronouns have to be brought up to specify the change. That is why zero-marking arguments appear much less than they usually are in longer-length writing.

4.5. New arguments in clauses

Each argument position and grammatical element has its own specific properties. The appearance of argument types among argument positions is the grammatical dimension of PAS. In current section, pragmatic dimensions of PAS will be discussed.

The relationship between new arguments and transitivity is illustrated in Table 5.

<table>
<thead>
<tr>
<th></th>
<th>0NewArg</th>
<th>1NewArg</th>
<th>2NewArg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>N</td>
<td>W</td>
</tr>
<tr>
<td>Transive</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Intransive</td>
<td>50</td>
<td>84</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>62</td>
<td>51</td>
</tr>
</tbody>
</table>

Table 5. Numbers of clauses with zero, one, and two new arguments.
The percentages of intransitive clauses with zero and one new argument are similar with what Du Bois found in Sacapultec, in which clauses with zero new arguments are predominant. However, the distribution of transitive clauses is opposite to Sacapultec. In Sacapultec, the percentages of clauses with zero versus one new argument distribute similarly regardless of transitivity (72.4% to 27.6% in transitives and 73.0% to 26.9% in intransitives). My data show that the majority of intransitive clauses contain zero new argument, while less portion of clauses have one new argument. In transitives, the distribution is inverse, in which substantial numbers of clauses contain one new argument whereas relatively less portion of clauses has zero new argument. Do Bois found no single clause contain two new arguments in Sacapultec; however in Chinese, clauses with two new arguments are found in all three texts. Du Bois’ ‘One New Argument Constraint’ holds for Chinese as well, but only it is not an absolute avoidance as in Sacapultec.

4.6. New arguments in grammatical roles

My result has shown that lexical arguments favor role O in Chinese. Similarly, there might be a tendency for new arguments to favor or disfavor certain roles. Table 6 presents numbers of clauses with various information statuses among grammatical roles across three different text types.

<table>
<thead>
<tr>
<th>Given</th>
<th>New</th>
<th>Accessible</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>N</td>
<td>W</td>
</tr>
<tr>
<td>A</td>
<td>80</td>
<td>80.0</td>
</tr>
<tr>
<td>S</td>
<td>45</td>
<td>76.3</td>
</tr>
<tr>
<td>O</td>
<td>34</td>
<td>35.1</td>
</tr>
<tr>
<td>Total</td>
<td>159</td>
<td>63.8</td>
</tr>
</tbody>
</table>

Table 6. Grammatical roles and information status.

Table 6 tells us that substantial numbers of new arguments occur in role O regardless of text difference. Since O role monopolizes the new arguments, there are relatively much smaller proportions of them appearing in roles A and S. The distribution of new arguments is different from what was found in Sacapultec. In Sacapultec, a large portion
of new arguments goes to roles S and O, while only a small portion appears in role A. Why do new arguments in Chinese tend to appear in O position but not A and S positions? Topic continuity again plays a critical role for the distribution. To make sure if new arguments do have salient relations to role O, we should check what is the proportion of new arguments in each role. Based on Table 6, Figure 3 shows the proportions of different information statuses in each grammatical role among three texts.
Figure 3 conftrs that new arguments favor O role, and roles A and S contain much smaller amounts of new arguments respectively. The similar distribution holds for all three texts; therefore, it suggests that there should be a role constraint on information status. In Sacapultec speakers tend to avoid introducing a new referent in A position, but in Chinese new referents are avoided to appear in both roles A and S. Du Bois’ ‘Given A constraint’ only partially holds for Chinese. In order to fit the tendency better for Chinese, the constraint should be modified as ‘Given A and S Constraint’ or ‘New O constrain’.

4.7. Relation between grammatical and pragmatic dimensions.

Many scholars have pointed out the relationship between NPs and information flow. A full NP is used when the referent represents new information, whereas a pronoun is selected when the referent represents given information. In Chinese, given information is not only carried by pronouns but also by zero-marking arguments. Comparing Table 3 and Table 5, we see that lexical arguments and new arguments distribute similarly among grammatical roles regardless of text difference. Therefore, there is a strong connection between morphological type ‘lexical’ and information status ‘new’. In Table 4 and Table 6, argument types and information statuses also distribute similarly among grammatical roles. Again the morphological types ‘zero’, ‘pronominal’, and ‘lexical’ correlate with information statuses ‘accessible’, ‘given’, and ‘new’.
5. Conclusion

In this study, I investigated the relationship between preferred argument structure and information flow in three different Chinese texts, attempting to find whether texts affect the distribution of grammatical pattern and information status. From grammatical and pragmatic aspects, my Chinese data display potential PAS in distribution of clausal types, morphological types and information flow across grammatical roles among three different texts.

Transitive clauses are the preferred clausal type for both spoken and written texts. Transitivity is the crucial factor to affect distribution of argument types between Sacapultec and Chinese. Language-specific features, ellipsis and lack of case-marking system, also take part in the discrepancy. Text difference and topic continuity play significant roles on distribution of argument types and information statuses in each grammatical position. Role O is mostly filled with lexical and new arguments, while roles A and S contain mostly given information and relatively much less lexical arguments.

In sum, my Chinese data do not totally confirm to Du Bois’ grammatical and pragmatic constraints. Overall, Chinese spoken discourse and written texts display the similar grammatical constraints and information statuses. The proportion of each argument type distribute differently in roles A and S in terms of texts. As for information status, all three texts show the consistent tendency that new information prefers O role and given information favors roles A and S. Given information appear relatively less in conversations than in narratives and written texts, and which is due to low information pressure.

REFERENCES


