

## Original Paper

# The Presuppositional Mechanism and Truth Conditions of Adversative Constructions in Chinese

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### Abstract

*In Modern Chinese adversative constructions, the propositions  $p$  (preceding clause) and  $q$  (following clause) often do not display a direct opposition at the level of surface semantics. The establishment of adversative meaning relies on a direct conflict between a presupposed element generated by  $p$  and the surface semantics of  $q$ . When  $p$  contains multiple presuppositions, these presupposed elements exhibit a hierarchical, incremental structure and jointly constitute, within the common ground, the cognitive preconditions for the validity of the adversative relation. An adversative marker can obtain truth value only when a certain presupposed element is semantically closest to  $q$  and stands in opposition to it. The hierarchy of presuppositions, the common ground, and the selection mechanism of the key presupposed element together form the truth-conditional model for adversative markers, thereby explaining the underlying reason why the adversative logic of constructions lacking direct surface-semantic opposition can nonetheless be established.*

### Keywords

*presupposition, adversative marker, Chinese*

### 1. Introduction

Since the works of Frege (1892) and Strawson (1950), presupposition has gradually become an important concept for explaining implicature and the process of language comprehension. Further developed by scholars such as Levinson (1983) and Stalnaker (2002), presupposition has come to be viewed as a shared cognitive premise between interlocutors and has been widely applied in both semantics and pragmatics.

As a semantic relation within Modern Chinese complex sentences, contrast has been defined in two major ways in the scholarly literature: (1) the direct opposition between the preceding proposition  $p$

and the following proposition q; and (2) the notion of “defeated expectation”, that is, a background assumption or pragmatic expectation triggered by proposition p is denied by proposition q, thereby giving the contrastive marker its truth-conditional force. The core feature shared by both approaches lies in the semantic divergence or opposition between p and q. However, in many contrastive sentences, the propositions in the two clauses do not form a direct conflict at the level of surface semantics. Chinese linguists represented by Lü Shuxiang (2014) have pointed out that contrastive constructions in Chinese involve a deeper cognitive factor of “expectation”, suggesting that the truth conditions of contrastive markers do not rely solely on the surface semantics of proposition p, but instead involve a deeper cognitive mechanism. Tests using the “negation method” show that for contrastive sentences whose surface semantics are not directly oppositional, the validity of the contrast does not arise from any inherent semantic incompatibility between the two propositions. Rather, it derives from the conflict between a certain presupposed element generated by p and proposition q. In other words, the establishment of such contrastive logic ultimately depends on the successful operation of a presuppositional mechanism.

## 2. A Conceptual Distinction between Presupposition and Entailment

The concept of presupposition originates from the philosopher Frege (1892) and was introduced into linguistics by Strawson (1950), who stated: “If someone says ‘The present king of France is bald’, we may say that he is presupposing that there exists a king of France”.

(1) The present king of France is bald.

$\Rightarrow \square$  (Note 1) There is a present king of France.

Subsequently, the notion of presupposition came to be divided into semantic presupposition and pragmatic presupposition: the former concerns the internal logical structure of sentences, whereas the latter involves the speaker’s psychological assumptions. Levinson (1983), considering both aspects, defines presupposition as “background assumptions that the speaker assumes the hearer to share”. Since the introduction of the concept into Chinese linguistic studies in the last century, different scholars have offered different definitions: Wang Zongyan (1988) defines presupposition as “information that the speaker or writer assumes the addressee already knows”, while Shi Anshi (1993) holds that “presupposition is the background meaning expressed by the non-assertive part of discourse”.

Entailment is a concept easily confused with presupposition. Its definition is largely consistent across Chinese and international scholarship: it refers to a truth-dependency relationship between propositions. Levinson (1983) regards entailment as “a semantic relation in which one proposition must necessarily follow from another”. Shi Anshi (1993) similarly states that “in terms of the meaning expressed by discourse itself, if proposition A necessarily implies proposition B, or A entails B, this may be expressed formally as  $A \rightarrow B$ ”. For example:

(2) 他没有兄弟姐妹。→ 他是独生子女。

‘He has no siblings.’ → ‘He is an only child.’

It is evident that both presupposition and entailment involve non-explicit information and both require inferential processes on the part of the interpreter, yet their essential nature differs fundamentally: presupposition constitutes a truth assumption that is semantically or pragmatically taken for granted in advance, whereas entailment is a semantic relation in which one proposition necessarily follows from another, often manifested in the form of a hyponymic relationship. Scholars such as Lyons (1977) typically distinguish the two by means of the “negation test”. He states: “(In entailment) if sentence  $S_1$  is true, then sentence  $S_2$  must also be true; (in presupposition) whether  $S_1$  is true or false,  $S_2$  remains true”. That is, presuppositions survive negation, whereas entailments do not. For example:

(3) 他的女儿是著名的翻译家。

‘His daughter is a famous translator.’

Negation: 他的女儿不是著名的翻译家。

‘His daughter is not a famous translator.’

Example (3) presupposes “he has a daughter” and entails “his daughter has at least mastered two languages”. After applying the negation test, the sentence still retains its presupposition, but the entailment no longer holds. This illustrates the fundamental distinction between the two.

### 3. The Semantic Basis and Expectation Structure of Adversative Logic

In Modern Chinese, there are dozens of definitions concerning adversativity. Guo Zhiliang (2002) roughly divides them into two major types: one focuses on the relationship between the clauses within a complex sentence, and the other focuses on the relationship between the complex sentence and its background presuppositions. Both types emphasize the semantic incompatibility between the preceding and following clauses—that is, the proposition  $p$  in the first clause is contradicted by the proposition  $q$  in the second clause (denoted as “ $p \rightarrow \neg q$ ”). Their difference lies in whether the truth value of an adversative marker depends on a direct opposition between propositions, or on the violation of an “expectation”. The former position is represented by Ma’s *Grammar* (马氏文通 in Chinese) (1988), which states that “A, however B” constitutes a “contrary construction”. Li Jinxi and Liu Shirui (1959) affirm that “the two clauses are semantically opposed, and the connective inserted between them expresses adversativity”. For example:

(4) 老乡们知道戏文是虚构的, 是假的, 但情节却是真实的。

‘The villagers knew that the play was fictional and untrue, but the plot was real.’

In this example, the “fictional” in the first clause and the “real” in the second clause are in direct surface-semantic opposition; hence, the adversative marker has truth value, and the adversative logic holds.

The second view, represented by Lü Shuxiang (2014), maintains that “whenever two successive events are disharmonious—what we call a contradiction in sentence meaning—they fall under adversative constructions. The disharmony or contradiction typically arises because event A creates an expectation in our minds, but event B deviates from that expectation. Thus, the progression from A to B is not continuous; there is a turn in between”.

Under this interpretation, the opposition between the propositions still exists, but crucially it arises because the “expectation” triggered by the first clause is overturned by the second clause.

In fact, these two interpretations are not contradictory; rather, they may be viewed as complementary. In Chinese, there exist adversative constructions formed through direct surface-semantic opposition between clauses, as well as those established through “expectation violation”, each with its own domain of applicability. However, regarding what exactly constitutes the “expectation” in adversative constructions, scholars have expressed differing views. Some (Hu & Wang, 2003) argue that the most fundamental and widespread logical-semantic relation between the two clauses A and B is implicational opposition—namely, A implies “not B”, whereas the actual situation is “B”. For example:

(5) 她虽然梳着辫子，可也不年轻了。

‘Although she wears her hair in braids, she is not young anymore.’

Proposition p: Young girls wear braids → she wears braids → she is young.

Proposition q: She is not young.

The logical relation here is  $p \rightarrow \neg q$ : the expectation “she is young”, generated by “wearing braids”, is contradicted by “she is not young”, thereby establishing the adversative logic.

However, if we apply the “negation method” to negate the first clause—“She does not wear braids, but she is not young”—the adversative marker loses its truth value (the semantic relation indicated by but fails), rendering the sentence pragmatically infelicitous. If we negate the second clause—“Although she wears braids, she is very young”—the sentence is likewise infelicitous. Thus, based on the results of the negation test, we can infer that the relation between the two clauses in example (5) is not implicational but presuppositional: the information “she is a young girl” is not directly derived semantically but rather presupposed by the speaker as a truth-based premise.

Zhang Bin (2003) was among the first Chinese scholars to explicitly connect presupposition with adversative logic. In his explanation of adversative markers, he notes that “the speaker feels that there ought to be a certain constraint between the two situations, yet the facts are precisely contrary to this presupposition”. In example (5), this “certain constraint” manifests as the expectation derived from proposition

$p$ : She wears braids  $\Rightarrow \square$  She is a young girl ( $p_1$ )

Thus, proposition  $p$  is not in direct conflict with proposition  $q$ ; rather, the adversative marker “although... but...” serves as a trigger that activates the presupposition  $p_1$ , enabling  $p_1$  and  $q$  to stand in direct opposition. It is precisely the semantic and cognitive discrepancy created when the

presupposed element—once activated—conflicts with proposition q (that is, the “violation of expectation”) that allows the adversative logic to hold.

#### 4. The Presuppositional Structure and Truth Conditions of Non-Direct-Opposition Adversative Constructions

In natural language, a single proposition often generates more than one presupposed element. These presuppositions interact with one another, forming a complex cognitive configuration.

##### 4.1 Recursiveness and Hierarchical Structure of Presuppositions

Xu Shenghuan (2003) argues that different presupposed elements exhibit transitivity, inclusion, and recursion. The recursive property can be formalized as follows: if “Presupposition 1 < Presupposition 2 < Presupposition 3 … < Presupposition N-1 < Presupposition N < Sentence A” (“p < q” meaning “p is a presupposition of q”), then N-1 must be a presupposition of A, 4 must be a presupposition of N and A, 3 must be a presupposition of N-1, N, and A, and so forth—1 must therefore be a presupposition of 3, 4, N-1, N, and A. In other words, a sentence A may contain N presupposed elements, where each earlier presupposition forms the basis for the next, and presuppositions at a lower level inevitably become shared presuppositions for higher-level presuppositions as well as for the sentence’s overall meaning.

In fact, this recursive property constitutes a hierarchical organization of presuppositions. The relations among presupposed elements are not merely semantic entailments; rather, they form a hierarchy whose organization requires cognitive prerequisites: the interpretation of higher-level presuppositions depends on the cognitive foundation supplied by lower-level ones. While this hierarchical structure resembles the logic of semantic hyponymy, its essence lies in cognitive hierarchy rather than semantic hierarchy. This structure is particularly salient in sentences that express adversative meaning.

(6) 他们天天打拳，但是身体还是不好。

‘They practice boxing-style exercise every day, but their health is still poor.’

According to the definition of adversativity, the proposition p (first clause) and the proposition q (second clause) must form some type of opposition for an adversative marker to obtain truth value. However, in example (6), “practicing boxing-style exercise every day” and “being in poor health” show no direct surface-semantic conflict; thus, presuppositions must be invoked to create the cognitive discrepancy required for the adversative relation.

Proposition p: 他们天天打拳

‘They practice boxing-style exercise everyday’.

⇒□ Practicing boxing-style exercise strengthens the body (p<sub>1</sub>)

⇒□ After strengthening the body, one should be healthy (p<sub>2</sub>)

Proposition q: 他们身体不好

‘their health is still poor.’

Proposition p contains more than one presupposition (p<sub>1</sub> and p<sub>2</sub>). The relationship among p, p<sub>1</sub>, and p<sub>2</sub>

is not a simple chain of semantic entailment but a progression of cognitive layers—from a concrete fact, to a piece of general knowledge ( $p_1$ ), and further to a higher-order causal schema ( $p_2$ ). Each layer provides the cognitive conditions necessary for interpreting the next, rather than serving as a semantically necessary inference. The process  $p \Rightarrow \square p_2$  generates an expectation (“If they practice boxing-style exercise every day, they should be healthy”). When proposition  $q$  appears,  $q$  stands in direct surface-semantic opposition to  $p_2$ , forming the basis on which the adversative logic is established.

This process can be diagrammed as shown in Figure 1 (Note 2):

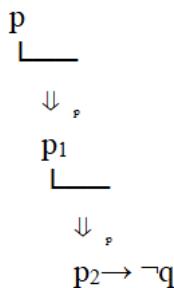


Figure 1.

In other words, in example (6), the adversative logic is not generated directly from a surface-semantic opposition between  $p$  and  $q$ , but rather indirectly emerges through the surface-semantic opposition between the second presupposition generated by  $p$  ( $p_2$ ) and reality ( $q$ ).

#### 4.2 Integration of Presuppositions in the Common Ground

The concept of the Common Ground (CG) was proposed by Stalnaker (2002) and is defined as “the set of propositions that conversational participants mutually assume to be true”. Based on this theory, all presuppositions generated by the proposition  $p$  in an adversative construction ( $p_1, p_2, \dots, p\square$ ) are incorporated into the same common ground under the premise that they are mutually assumed to be true. In other words, all presuppositional levels form a unified cognitive structure within the CG. The CG functions as an outer framework providing shared premises, while the presuppositional hierarchy establishes cognitive priorities within this framework.

For example, in example (6), if either participant in the communication lacks the cognitive assumption that “practicing boxing strengthens the body”, then  $p_1$  cannot be generated, and consequently  $p_2$  cannot be established. Without  $p_2$ ,  $q$  cannot contradict it, and the adversative marker but loses its truth value.

Thus, each presupposition or presuppositional layer within proposition  $p$  does not exist in isolation. If a proposition  $p$  contains  $n$  presuppositions, its presuppositional structure can be represented as:  $CG \supseteq$  (Note 3)  $\{p_1 \supseteq p_2 \supseteq \dots \supseteq p_n\}$

Within this structure, the common ground provides the shared premises necessary for the operation of the presuppositional hierarchy, while the hierarchy itself is arranged and organized inside the CG, determining the cognitive priority of each proposition. In an adversative sentence, establishing adversative logic requires that the propositions  $p$  and  $q$  be in opposition. When  $p$  and  $q$  do not form a direct surface-semantic conflict, the comprehender must retrieve a specific presupposition ( $p_x$ ) from the common ground to serve as the element that establishes the oppositional relation.

(7) 我有三个孩子，但我的房子很小。

‘I have three children, but my house is very small.’

The presupposition generation process is as follows:

我有三个孩子，但我的房子很小。

‘I have three children, but my house is very small.’

Proposition and presupposition hierarchy:

$p$  ‘I have three children.’

└

↓ □

$p_1$  : I need to live with these three children ( $p_1$ )

└

↓ □

$p_2$  : I need a larger living space ( $p_2$ )

└

↓ □

$p_3$  : I need a bigger house ( $p_3$ )  $\neg$  My house is very small ( $q$ )

At this point, the presuppositional structure of example (7) can be represented as:

$CG \supseteq \{p_1 < p_2 < p_3\} \wedge (Note\ 4) p_3 \rightarrow \neg q$

The presuppositional structure in this example encompasses three hierarchical levels. Presupposition  $p_3$  occupies the level closest in semantic relation to  $q$  and stands in direct surface-semantic opposition to  $q$ , thereby granting the adversative marker truth value. However, the presuppositions of  $p$  are not limited to  $p_1$ ;  $p$  can also presuppose, for instance, “I am a father or mother” ( $p_a$ ), while  $p_1$  can likewise presuppose “I need to spend a lot of money raising my children” ( $p_b$ ), etc. In the presuppositional structure illustrated above, the lowest-level presupposition  $p_3$  is not necessarily at the lowest level within the common ground; for example,  $p_3$  can continue to presuppose “I have a house” ( $p_4$ ). Therefore, the choice of  $p_x$  by the interlocutors is not random, nor must  $p_x$  be the lowest-level presupposition within the common ground. Instead,  $p_x$  is the presupposition that is semantically closest to  $q$  and forms a direct surface-semantic opposition with  $q$ .

Thus, in example (7), the truth value of the adversative marker but is established only if the following conditions are satisfied:

- (1) The proposition in the first clause, “I have three children”, generates at least one presupposition  $p_x$ ;
- (2)  $p_x$  is included in the common ground shared by both interlocutors;
- (3) There exists a presupposition  $p_x$  that is semantically closest to “My house is very small”;
- (4)  $p_x$  forms a direct surface-semantic opposition with “My house is very small”.

Based on these principles, for adversative constructions in which the preceding and following clauses do not exhibit direct surface-semantic opposition, a model can be established for the truth conditions of adversative markers as shown in Figure 2:

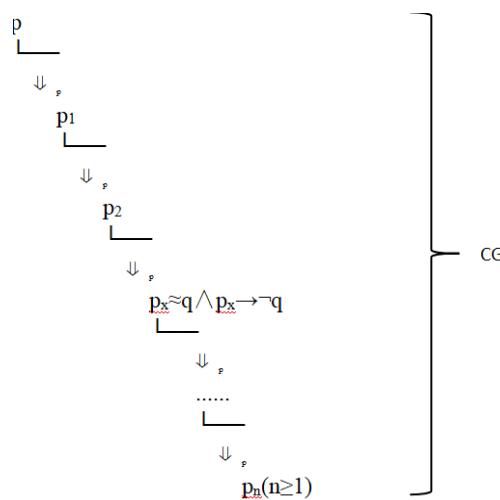


Figure 2.

Its logical formula can be expressed as:  $CG \supseteq \{p_1 < p_2 < \dots < p_n\}$ ,  $p_x \approx q$  (Note 5)  $q \wedge p_x \rightarrow \neg q$  ( $n \geq 1$ )

Thus, in the definition of adversative logic, the term “expectation” refers specifically to the presupposition  $p_x$ , while “violation of expectation” corresponds to the contravention of  $p_x$  by the proposition  $q$  in the following clause.

## 5. Conclusion

For adversative constructions in which the preceding and following clauses do not exhibit direct surface-semantic opposition, the basis of adversativity does not originate from the explicit propositions themselves. Rather, it derives from a cognitive model that takes the common ground as an outer shell, the presuppositional hierarchy as a framework, and one or more presuppositions as constituent units. Within this model, the hierarchical structure of presuppositions enables interlocutors to organize complex cognitive premises in the common ground into a prioritized framework, allowing clauses that superficially lack direct semantic conflict to establish an oppositional relation via specific cognitive pathways.

The effectiveness of this pathway depends on the interlocutors' ability to retrieve a key presupposition  $p_x$ . The choice of  $p_x$  is not random, but must satisfy the following four conditions:

- (1) The preceding clause  $p$  generates at least one presupposition  $p_x$ ;
- (2)  $p_x$  is included in the common ground shared by both interlocutors;
- (3) There exists a presupposition  $p_x$  that is semantically closest to the following proposition  $q$ ;
- (4)  $p_x$  forms a direct surface-semantic opposition with  $q$ .

When interlocutors successfully retrieve  $p_x$  within the common ground, the oppositional relation between the propositions  $p$  and  $q$  is established at the cognitive level. That is, the truth value of the adversative marker is not granted by the opposition between  $p$  and  $q$  themselves, but by the direct surface-semantic opposition between the specific presupposition  $p_x$  and  $q$ .

Therefore, the essence of adversative logic is not the traditional logical relation between propositions, but rather a manifestation of a deep cognitive mechanism. This mechanism allows interlocutors, when faced with complex or even ambiguous semantic input, to actively complete the necessary cognitive associations based on existing frameworks in the common ground, ultimately establishing a cognitive-level opposition between the presupposition  $p_x$  and the proposition  $q$ , thereby endowing the adversative marker with truth value.

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### Notes

Note 1.  $A \Rightarrow \Box B$  denotes that A presupposes B, or B is a presupposition of A.

Note 2. “ $\sqsubset$ ”denotes a presuppositional hierarchy.

Note 3. “ $A \supseteq B$ ”denotes that A contains B

Note 4. “ $\wedge$ ”denotes“and”

Note 5. “ $\approx$ ”denotes semantic closeness