

DOI: <https://doi.org/10.18454/RULB.2019.17.1.7>**БИОЛОГИЧЕСКИ ЛОКАЛИЗИРОВАННОЕ СЛИЯНИЕ ЗАКЛЮЧИТЕЛЬНЫХ ТЕМ В ПРЕДЛОЖЕНИЯХ  
НА ДИАЛЕКТЕ ПРОВИНЦИИ ШАНЬДУН**

Научная статья

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**Аннотация**

Элементы инверсии в конце так называемых инвертированных предложений на диалекте провинции Шаньдун фактически являются заключительными темами предложений, поскольку в них присутствуют функции [+ПРО] и [+ОПРЕДЕЛЕННЫЙ], как и в канонических темах. Заключительные темы таких предложений с функциями [+ПРО] и [+ОПРЕДЕЛЕННЫЙ] перемещаются в соответствии с Принципом притяжения функции Wh- [D. S. Ma] в направлении уточнителя Фразы темы для проверки главного элемента с помощью [+ПРО] и [+ОПРЕДЕЛЕННЫЙ] функции главной Темы в конце предложения, поскольку китайский язык является финальным языком с главной темой типа С. Внутреннее слияние заключительных тем в предложениях на диалекте провинции Шаньдун локализовано в согласованном кольце в центре Брока и области Вернике, соединенных нейронными проводящими путями через дорсальные и вентральные пути, так как перемещение тем вызвано как синтаксическими, так и семантическими требованиями.

**Ключевые слова:** слияние, естественный, тема, диалект.

**BIOLOGICALLY LOCALIZED MERGE OF SENTENCE FINAL TOPICS IN SHANDONG DIALECT**

Research article

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**Abstract**

The inverted elements at end of the so-called inverted sentences in Shandong dialect are actually sentence final topics as they share the [+ABOUT] and [+DEFINITE] features of the canonical topics. These sentence final topics carrying with themselves the [+ABOUT] and [+DEFINITE] features are moved according to the Wh-feature Attraction Principle (D. S. Ma) to the specifier of Topic Phrase to check the strong head the [+ABOUT] and [+DEFINITE] features of the head Topic<sup>0</sup> at the end of the sentence as Chinese is a head C final language. The internal merge of the sentence final topics in Shandong Dialect is localized in the concerted ring of the Broca's area and the Wernicke's area connected by the fiber tracts via the dorsal pathways and ventral pathways, as movement of topics is triggered by both syntactic and semantic requirements.

**Keywords:** merge, biological, topic, dialect.

**Introduction**

The present research article deals with a very popular sentence pattern used in Shandong Dialect which is traditionally called the inverted sentence. Such inverted sentences are formed by the inversion of the subject and the displacement of the subject at the end of the sentences. That is perhaps why it is termed inverted sentences.

However at a closer look at these sentences, more elements except for the subjects can be found to be inverted at the end of the sentences, such as the objects, the adjuncts of the sentences or even some sentences. It is not appropriate to call these sentences inverted sentences, instead as these elements raised at the end of sentences all carry the [+ABOUT] and [+DEFINITE] features of topics, so it is more reasonable to call them sentence final topics.

The sentence final topics in Shandong Dialect are moved from their original position to the end of the sentence where the specifier of the Topic Phrase is located. The movement of these elements is triggered by the need of feature checking requirement of the strong features of the head topic. According to the Wh-feature Attraction Principle [D. S. Ma], the strong features of the head topic attract the [+ABOUT] and [+DEFINITE] features of these elements to move to the spec of Topic Phrase to check off the [+ABOUT] and [+DEFINITE] features of the head topic. As the [+ABOUT] and [+DEFINITE] features of the head topic are strong in Chinese, as Chinese is a typical topic prominent language, the whole elements pied-pipe with the [+ABOUT] and [+DEFINITE] features and move together with the [+ABOUT] and [+DEFINITE] features of these elements to the spec of Topic Phrase. Displacement of the sentence final topics is also called internal merge in narrow syntax. Internal merge of the sentence final topics is localized in the concerted ring of the Broca's area and the Wernicke's area connected by the fiber tracts via the the dorsal pathways and ventral pathways as movement of topics is triggered by both syntactic and semantic requirements.

**Method**

The data of the present research article are randomly taken from the popular search for inverted sentences in Shandong Dialect on the internet via Baidu. The selected sentences are further analyzed, and according to the [+ABOUT] and [+DEFINITE] features of these elements, by deduction, these sentences are not proper to be called inverted sentences. Instead they are sentence final topic sentence structures.

A qualitative analysis of these data based on the Wh-feature Attraction Hypothesis [D. S. Ma] is made. Under the framework of Minimalism, the moved topics to the end of the sentence are triggered by the need of feature checking. As the head topic carries strong head features of [+ABOUT] and [+DEFINITE], the [+ABOUT] and [+DEFINITE] features carried

by the elements, pied-piped by the elements themselves in the sentences, must be attracted and moved together to the end of the sentences at the spec position of the Topic Phrase.

As it has been found that the syntactic operation of merge is localized in Brodmann Area 44 [8], displacement of the sentence final topics are also called internal merge of topics, therefore internal merge is also localized in BA 44. Topic movement to the end of the sentence is also triggered by both syntactic and semantic requirements. The moved topic takes a wide scope over the whole sentence in a prominent position at the end of the sentence. Thus the internal merge of the topic involves displacement at syntax semantics interface. It can be concluded that the movement of the sentence final topics in Shandong Dialect is localized in the concerted ring formed by the fiber tracts connecting the Broca's area and the Wernicke's area via the dorsal pathways and ventral pathways.

### Discussion

Recently, an inverted sentence structure is well spread in the internet by the audiences. Such inverted sentence structure is very popular in Shandong Dialect of Mandarin Chinese. It is so called because the subject of the sentence is usually retarded to the end of the sentence, usually spoken with a pause in between. The examples randomly selected on the internet search on Baidu can be given in below.

- (1) dou bu zheyang shuohua a, women!  
All not so speak Part. we  
"All of us don't speak in this way!"
- (2) na you zheyang shuohua de, shandongren?  
Where have so speak Part. Shandongese  
"Where do the Shandongese speak in this way?"
- (3) dou bu haohao shangke a, nimen!  
All not well attend-class Part. you  
"You all don't behave well in the class!"
- (4) gan sha ne, nimen!  
Do what Part. you  
"What are you doing?"
- (5) liu ge yan ba, gemen!  
Leave Cl. words Part. brother  
"Brother, please leave a message!"
- (6) ni hen you gexing a, zhewei pengyou!  
You very have individuality Part. this friend  
"You have individuality, this friend!"
- (7) za zheme neng ne, zhe haizi!  
Why so able Part. this baby  
"What a capable baby!"
- (8) lihaili, wode ge!  
Awesome Part. my brother  
"You are awesome!"
- (9) zenme zhi a, didi?  
How do Part. younger brother  
"What to do, younger brother?"
- (10) bie zai na daogushi, nimen ha!  
Don't in there make trouble you Part.  
"Don't make trouble there, you!"

If the above sentences may be called inverted sentences as the subjects are postponed at the end of the sentence, in the following sentences the subjects of the sentences remain in situ while the objects of the sentences or the adjuncts of the sentences can also be postponed to the end of the sentences.

- (11) shei xihan jian a, nimen! (object)  
Who like see Part. you  
"Who likes to see you!"
- (12) wo mei gandao yali a, zhezhongshi! (object)  
I not feel pressure Part. this thing  
"I haven't felt the pressure of this!"
- (13) qianwan bie he ta jiaowang, zhezhognren! (object)  
Be sure not with he contact such a man  
"Be sure not to contact with him, such a man!"
- (14) bie chi le, zhezhongcai! (object)  
Not eat Part. such a vegetable  
"Don't eat such a vegetable anymore!"
- (15) shei qu a, na difang! (object)  
Who go Part. that place  
"Who goes to such a place!"
- (16) taiyang hao a, jintian! (adjunct)  
Sun nice Part. today  
"The sun is nice today!"
- (17) wo gai bu liao, xianzai. (adjunct)

- I change not Part. now  
 “I can’t change it now!”  
 (18) shuo de jingran shi zhege a, yuanlai! (adjunct)  
 Speak of unexpectedly is this Part. originally  
 “What you speak of is this, so that it is!”  
 (19) wo yizhi dou zheme zuo, zheme duonian! (adjunct)  
 I always all so do these years  
 “I have always do it for so many years!”  
 (20) nimen dou qu le, shangge libai! (adjunct)  
 You all go Part. last week  
 “You all went there, last week!”

From the examples in (11-20), as the postponed elements are not subjects of the sentences, it can be deduced that such sentence patterns are not what so called inverted sentences. As examples in (1-10) are exactly the same sentence patterns in the dialect we are discussing, it might be induced that the sentences in (1-10) are not inverted sentences either. What kind of sentence patterns are they? Before we can answer this question, let’s turn to the following examples for more details.

The postponed elements can also be a VP as shown in (21-22), a sentence IP as in (23-26), as well as a conditional as in (27).

- (21) dongsi wo le, chuqu yitang.  
 Freeze me Part. go out once  
 “It freezes me as I go out for once.”  
 (22) dui ni hen you bangzhu a, jiangzhen.  
 For you very have help Part. speak truth  
 “To speak the truth it is of great help to you!”  
 (23) zhejian shi bu hao ban, wo juede.  
 This matter not well do I think  
 “I think this is not easy to deal with.”  
 (24) chuncui xiashuo ma, zhe bu shi.  
 Purely nonsense talk Part. this not is.  
 “Isn’t it purely nonsense talk?”  
 (25) zhezhong nvren, shei yao a?  
 Such woman who want Part.  
 “Who wants such a woman?”  
 (26) juejiao le, ni bie zheyang.  
 Break up Part. you not so  
 “You shouldn’t break up with him!”  
 (27) qishi zhegeren bucuo a, ruguo ni duo liaojie yixia ta.  
 Actually this man nice Part. if you more understand once him  
 “If you know him better, this man is actually very nice.”

As it is observed, in the above sentences all the postponed elements share “aboutness” relations with the main clause. That is to say, the postponed subjects, objects, adjuncts, VPs, IPs, or a conditional clause all carry [+about] feature with themselves. Such a feature is a typical feature of topics. Meanwhile, the postponed subjects, objects, adjuncts, VPs, IPs, or a conditional clause all carry [+definite] feature with themselves, which is also a typical topic feature. If this observation is on the right track, it is more justified that the above examples should be taken as topic sentences instead of inverted sentences.

The sentence final topics in the above examples generally are moved from their original position to the end of the sentences for the sake of feature checking. According to the Wh-feature Attraction Principle [D. S. Ma], the moved constituents are attracted to the specifier position of the Topic Phrase for the purpose of the feature checking. As Chinese is a topic prominent language [11], let’s suppose that the head topic carries strong topic features of [+ABOUT] and [+DEFINITE]. These strong head features require its specifier to be filled by a constituent or a phrase with [+ABOUT] and [+DEFINITE] features. Thus these constituents or phrases with [+ABOUT] and [+DEFINITE] features are attracted by the strong head features of the head topic to move to the specifier position of the Topic Phrase. As a result, the sentence can be interpreted as a topic sentence.

As Chinese is a head C final language [D. S. Ma], the head topic in the CP layer can be moved to and put at the end of the sentence. Topic movement in Chinese, as a type of wh-movement [D. S. Ma], is realized by the internal merge of the topic with the rest of the sentence as shown in the following examples. Take each type of topics as one example, rewritten as in below for convenience. The merging operation of each type of the topic sentences is illustrated as below.

- (28) a. dou bu zheyang shuohua a, women!  
 b. {women dou bu zheyang shuohua a } + { women } → { women dou bu zheyang shuohua a, women }  
 c. { ~~women~~ dou bu zheyang shuohua a, women }  
 (29) a. shei xihan jian a , nimen!  
 b. { shei xihan jian nimen a } + { nimen } → { shei xihan jian nimen a, nimen }  
 c. { shei xihan jian ~~nimen~~ a, nimen }  
 (30) a. taiyang hao a, jintian!  
 b. { jintian taiyang hao a } + { jintian } → { jintian taiyang hao a, jintian }  
 c. { ~~jintian~~ taiyang hao a, jintian }  
 (31) a. dongsi wo le, chuqu yitang.  
 b. { chuqu yitang dongsi wo le } + { chuqu yitang } → { chuqu yitang dongsi wo le, chuqu yitang }

- c. {~~chuqu yitang~~ dongsi wo le, chuqu yitang}
- (32) a. zhejiang shi bu hao ban, wo jue de.  
 b. {wo jue de zhejiang shi bu hao ban}+{wo jue de}→{wo jue de zhejiang shi bu hao ban, wo jue de}  
 c. {~~wo jue de~~ zhejiang shi bu hao ban, wo jue de}
- (33) a. qishi zhegeren bucuo a, ruguo ni duo liaojie yixia ta.  
 b. { ruguo ni duo liaojie yixia ta qishi zhegeren bucuo a}+{ ruguo ni duo liaojie yixia ta}→{ ruguo ni duo liaojie yixia ta qishi zhegeren bucuo a, ruguo ni duo liaojie yixia ta}  
 c. { ~~ruguo ni duo liaojie yixia ta~~ qishi zhegeren bucuo a, ruguo ni duo liaojie yixia ta}

Take the internal merge process of (28) for example. The two constituents {women dou bu zheyang shuohua a } and { women} are internally merged into { women dou bu zheyang shuohua a, women} in which the first constituent {women dou bu zheyang shuohua a } as a constituent of the Topic Phrase becomes a part of the second constituent { women}. According to the copy theory [N. Chomsky], the two copies both play a role in syntax but only one copy is pronounced. As it is shown in (c), the first copy of the topic is silent, while the second copy of the topic is pronounced. The silent copy of the topic is indicated by a crossing line in the center. Examples (29-33) share the same story in internal merge operation of the topics.

### Results

In 1864, the French surgeon Paul Broca proposed that the position of the language is located in the front of the left hemisphere of the brain called the Broca's area (or the center of language speaking). In 1874, the German neurologist Carl Wernicke found another variety of aphasia with lesions in the more posterior portions of the left hemisphere in the brain, now known as Wernicke's area. These findings show that language is laterally or asymmetrically located in the left hemisphere of the human brain (D. S. Ma).

As merge is the basic property of language, it is also localized in the left hemisphere of the brain. In fact, merge is biologically proven to be located in the part of the Broca's area called Brodmann Area 44 [8]. Movement of topics to the end of the sentence in Shandong Dialect is a type of merge called internal merge. Internal merge, logically, should also be located in BA 44. Another view is that the fiber bundles linking the Broca's area and Wernicke's area by dorsal and ventral pathways form a complete "ring" responsible for the merge operation by carrying the information from the lexicon to the BA 44 and 45 on the dorsal side (R. C. Berwick & N. Chomsky). Merge is a biological object based on the brain [10].

### Conclusion

The inverted parts of the so called inverted sentences in Shandong Dialect are actually sentence final topics, which carry the topic features of [+ABOUT] and [+DEFINITE]. These elements are attracted to the specifier position of the Topic Phrase to check the strong [+ABOUT] and [+DEFINITE] features of the topic in Shandong Dialect, located at the end of the sentence as Chinese is a C final language. The internal merge operation of the topics in Shandong Dialect is laterally located in BA 44 (E. Zaccarella & A. D. Friederici). A complete "ring" formed by the fiber tracts linking the Broca's area and Wernicke's area by dorsal and ventral pathways carries the information from the lexicon to the BA 44 and 45 on the dorsal side for the operation of merge computation [12]. Merge is a brain based biological object [10]. Merge is a biologically based universal operation in syntax, in general, generated by neuronal oscillations [D. S. Ma].

### Конфликт интересов

Не указан.

### Conflict of Interest

None declared.

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