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On the Modeling and Development of Verb-object Construction from the Oracle Bone Inscriptions to Jinwen Shangshu

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Abstract: With the object postposition as its basic word order preference, the verb-object construction in oracle bone inscriptions appears in two types: verb-object and object-verb. Different types of the object preposition in oracle bone inscriptions result from different reasons. The marked object preposition is attributed to the need of emphasis while the unmarked object preposition is attributed to a relatively low syntactic modeling level in primitive languages to some extent. The overwhelming majority of objects in oracle inscriptions is not the object argument (O_o), but the additive argument (O_a), which is the typical feature of the object at that time. Nevertheless, in Xizhou Chinese, this phenomenon reverses and the object argument has replaced the typical status of the additive argument in the object. It is noted that word order of the double-object construction in Xizhou Chinese and *Jinwen Shangshu* still has the trace of a relatively low syntactic modeling level.

Keywords: oracle bone inscriptions, Xizhou bronze inscriptions, *Jinwen Shangshu*, verb-object construction, modeling level, markedness level, unformedness

1. Introduction

The oracle bone inscriptions, which can be traced back to 3300 years ago, are the earliest unearthed documents in Chinese. In the process of modeling, the verb-object construction in oracle bone inscriptions, constrained by the conditions of language system at that time, presents some obvious features in word order, type and quantity of the object. From oracle bone inscriptions to inscriptions on bronzes in the Xizhou Dynasty and to *Jinwen Shangshu*

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(Qian, 2017)[1], the specific situation of the modeling changes to some degree. On how the modeling changes, even though there have been some previous researches, they are not profound. Aiming for some more in-depth and valuable conclusions, the present study elaborates on the features of the marked object preposition, the unmarked object preposition, the object component acted by the additive argument and the multi-object. The corpus for this paper is from *The Classified Compilation of Oracle bone inscriptions* (Yao & Xiao, 1989). All the examples of the verb-object construction in the corpus are classified by us, and the transcription of some individual fonts is in compliance with Xu (2006).

2. The three proofs of basic word-order preference of the verb-object construction

With the object postposition as its basic word order preference, the verb-object construction in oracle bone inscriptions appears in two types: verb-object and object-verb. The type of object-verb can be proved from the three perspectives: frequency, markedness and nesting.

2.1 Frequency

From the perspective of the number of objects, the verb-object construction in oracle bone inscriptions can be classified into three categories: single-object, double-object and three-object, the order of which is single-object ＞ double-object ＞ three-object in descending order of the frequency of occurrence. The single-object construction occurs most frequently, reaching 2849 examples, of which 2453 examples belong to the verb-object type and 396 examples belong to the object-verb type. As for the double-object construction, there are 210 examples, of which 206 examples belong to the VO_1O_2 type, 3 examples belong to the O_1O_2V type, and only one example belongs to the O_2VO_1 type. The three-object construction appears in only one type, namely $VO_1O_2O_3$, with 12 examples in all. It can be concluded that there are 2671 examples of the object postposition, 399 examples of the object preposition, and one example of two objects respectively put before and after the verb. The ratio of frequency of occurrence of the object postposition to that of the object preposition is 6.7:1.

2.2 Markedness

From the perspective of markedness, the verb-object construction can be divided into two types: markedness and unmarkedness. All the post-objects (include the post-single object, the post-double objects and the post-three objects) are unmarked, and only the pre-objects are marked.

[1] "*Jinwen Shangshu* consists of the earliest documents handed down in China, and it is the classic of political history compiled no less than 2600 or 2500 years ago. …Most documents in *Jinwen Shangshu* are credible ancient texts of Shang (商) and Zhou (周) dynasties." (Qian, 2017)

In the single-object construction, there are 396 examples of the object-verb construction, whose markers can be divided into three types: (a) the double-marker construction "*wéi* 惟 +O+*qí*其+V" (as shown in (1)); (b) the construction with an antecedent marker "*wéi*惟+OV | *wéi* 惠(= 惟)+OV | *yuē* 曰+OV" (as shown in (2)-(6)); (c) the construction with a succedent marker "O+*qí* 其+V | O+*wéi* 惟+V | O+*yú* 于+V | O+*yǔn* 允+V" (as shown in (7)-(13)). Comparisons are made as follows:

(i) Double-marker construction

(1) 惟 隝 鹿 其 擒
wéi *Rǔ* *lù* *qí* *qín*
OP PlN deer EM get
'to get the deer in Ru'

(ii) Antecedent single-marker construction

(2) 惟 侯 比
wéi *hóu* *bǐ*
OP chief unite
'to unite the chief'

(3) 惟 师 比
wéi *shī* *bǐ*
OP army unite
'to unite the army'

(4) 惠(=惟) 新 丰 用
wéi *xīn* *fēng* *yòng*
EM new drum use
'to use the new drum'

(5) 惠(=惟) 疾 以
wéi *Jí* *yǐ*
EM PeN carry
'to carry Ji'

(6) 曰 陟 至
yuē *Shǐ* *zhì*
OP PlN go to
'to go to Shi'

(iii) Succedent single-marker construction

(7) 岳 其 册
Yuè *qí* *cè*
mountain god EM SN
'to sacrifice the mountain god byce'

(8) 米 囧 其 蒸
mǐ *Jiǒng* *qí* *zhēng*
rice PlN EM SN
'to sacrifice byzheng with rice in Jiong'

(9) 父 旦 惟 卩
Fù *dàn* *wéi* *jié*
DN morning EM SN
'to sacrifice Fu byjie in the morning'

(10) 㠯 惟 咎
Gǔ *wéi* *jiù*
PeN EM bring evil upon
'to bring evils upon Gu'

(11) 父甲 木丁 于 福
Fùjiǎ *Mùdīng* *yú* *fú*
DN DN EM SN
'to sacrifice Fujia and Mudingby fu'

(12) 祖乙 于 寻 侑
Zǔyǐ *yú* *xún* *yòu*
DN EM SN SN
'to sacrifice Zuyi by xun and you'

(13) 祖乙 允 飨
Zǔyǐ *yǔn* *xiǎng*
DN exactly SN
'to sacrifice Zuyi by xiang exactly'

(iv) Unmarked construction

(14) 妇好 生 保
Fùhǎo *shēng* *bǎo*
PeN be in childbirth bless
'to bless Fuhao to be in childbirth'

(15) 兕 先 射
sì *xiān* *shè*
rhinoceros firstly shoot
'to shoot the rhinocerosfirstly'

(16) 四 鹿 获
sì *lù* *huò*
four deer get

'to get four deer'

(17) 兹 不 用
zī *bù* *yòng*
this not perform
'to perform this'

(18) 多 鬼 梦
duō *guǐ* *mèng*
many ghost dream about
'to dream about many ghosts'

(19) 父己 暨 父庚 彡
Fùjǐ *jì* *Fùgēng* *shān*
DN and DN SN
'to sacrifice Fuji and Fugeng by shan'

(20) 卜丙 母 妣甲 岁
Bǔbǐng *Mǔ* *Bǐjiǎ* *suì*
DN DN DN SN
'to sacrifice Bubing, Mu and Bijia by sui'

There are 216 examples of the antecedent single-markerconstruction,16 examples of the succedent single-marker construction, one example of the double-marker construction, 233 examples of the marked construction, and 163 examples of the unmarked construction. In descending frequency of occurrence, different types of the marker construction are arranged as follows: the antecedent single-marker construction ＞ the unmarked construction ＞ the succedent single-marker construction ＞ the double-marker construction. Among the pre-objects, the ratio of the marked ones to the unmarked ones is 1.43:1.

There are three examples of the double-object preposition construction, namely O_1O_2V, among which only one example is marked as in (21).

(21) 曰 妇鼠 母 祝
yuē *Fùshǔ* *Mǔ* *zhù*
OP PeN DN SN
'to sacrifice Mu by zhu because of Fushu'

The three-object construction appears in the only form of the unmarked object postposition. Some examples are as follows:

(V, O_1, O_2, (attribute, head)$_{O3}$)

(22) 告 蝗 上甲 二 牛
gào *huáng* *shàngjiǎ* *èr* *niú*
SN grasshopper DN two cow
'to sacrifice Shangjia by gao with two cows because of the grasshoppers'

(V, (attribute, head)$_{O1}$, O$_2$, O$_3$)

(23) 御 三 宰 周 妣庚

yù *sān* *yáng* *Zhōu* *Bǐgēng*

SN three captivesheep NN DN

'to sacrifice Bigeng by yu with three captive sheep because of zhou'

2.3 Nesting

A declarative construction nested by another declarative construction is a shallow nesting, where as a declarative construction nested by a referential construction is a deep nesting. In oracle bone inscriptions, the verb-object construction can be nested either shallowly by the subject-predicate, adverbial-head and tied-predicate construction, or deeply by the attribute-head construction. In the inner of the single object in the verb-object construction, 25 examples are recursively or shallowly nested, and 14 examples are deeply nested. See the following examples. (The sign "( )" means the ordered sets):

(i) Shallow nesting

[nested by the verb-object construction (namely the verb-object recursive construction)]

(V, ((V, O$_{dative}$)$_V$, O $_{result}$) $_{O:content}$)

(24) 令 作 我 囚

lìng *zuò* *wǒ* *zāi*

give the command make me disaster

'to give the command to make the disaster and give this disaster to me'

[nested by the subject-predicate construction]

((V, V)$_V$, (S, (V, O$_{purpose}$)$_P$) $_O$)

(25) 彡 御 石甲 至 般庚

shān *yù* *Shíjiǎ* *zhì* *Pán'gēng*

SN SN DN to DN

'to sacrifice these deities from Shijia to Pangeng by shan and yu'

[nested by the adverbial-head construction]

(V, (adverbial, (V, O$_{associated\ role}$)$_{head}$)$_O$)

(26) 告 其 比 望乘

gào *qí* *bǐ* *Wàngchéng*

SN EM unite PeN

'to sacrifice by gao because of uniting Wangcheng'

[nested by the head-complement construction]

(V, ((V, O$_{patient}$) $_V$, complement) $_{O:\ content}$)

(27) 呼 见 启 于 朕

hū *jiàn* *Qǐ* *yú* *Zhèn*

give the command meet PeN in PlN

'to give the command to meet Qi in Zhen'

[nested by the tied-predicate construction]

(V, ((V, O associated role) V, (V, O associated role) V) O: content)

(28) 作 比 望乘 伐 下危

zuò bǐ Wàngchéng fá Xiàwēi

do unite PeN attack NN

'to do the thing of uniting Wangcheng to attack Xiawei'

(ii) Deep nesting

[nested by the attribute-head construction]

(V, ((V, O belonging) attribute, head) O)

(29) 逐 在 万 鹿

zhú zài Wàn lù

chase in PlN deer

'to chase the deer in Wan'

(((V, O associated role) attribute, head) O, V)

(30) 惟 在 兹 小臣 令

wéi zài zī xiǎochén lìng

OP in this place PoN give the command

'to give the command to the xiaochen in this place'

Even the subject argument acting as a post-object can also be nested deeply, although there are so few examples, as in:

((V, V) V, (attribute, (V, O concerned role) head) O)

(31) 祝 以 之 疾 齿

zhù yǐ zhī jí chǐ

SN SN this beill teeth

'to sacrifice by zhu and yi because of this thing of teeth's being ill'

The object-verb construction cannot be nested deeply at all, and even only one example shallowly nested is found, which is the recursive construction of an unmarked object-verb construction (see section 4.1). This shows that, carrying the pragmatic information at sentence level (emphases, highlighting, moods or the temporary meanings of variable constructions in a specific context), the marked object-verb construction usually cannot be deeply nested if there are no auxiliary conditions.[] The verb-object construction is a pure

[] Compare with modern Chinese: *Yī wèi mǎi le shū de tóngxué duì wǒ shuō* (一 位 买 了 书 的 同学 对 我 说, a Q buy PeP book AP student to me say, 'a student who has bought the book says to me') → **yī wèi shū mǎi le de tóngxué duì wǒ shuō* (*一 位 书 买 了 的 同学 对 我 说, a Q book buy PeP AP student to me say, 'a student whose book has been bought says to me').

syntactic construction, the marked verb-object construction is a pragmatic-syntactic construction, and the unmarked verb-object construction is the representation of syntactic unformedness.

The oracle bone inscriptions have established the foundation for the basic word-order preference of the verb-object construction in Chinese. From inscriptions on bronzes in Xizhou and *Jinwen Shangshu* to modern Chinese, the preference has been followed all the time (Zhang, 2004:235; Qian, 2017). Different types of the object preposition in oracle bone inscriptions result from different causes. The marked object preposition is due to the need of emphasis, while the unmarked object preposition is attributed to a relatively low level of syntactic modeling in primitive languages to some extent. The causes will be discussed respectively in the following sections.

3. The causes of the marked object preposition and the propagation of relevant rule system

The marked object preposition in the oracle bone inscriptions mainly results from pragmatic emphases. There are two causes:

A. The marked object preposition and the unmarked object preposition coexist. Among the 396 examples of the object-verb single-object construction, 143 examples are proved by some direct evidence to show the markedness relation and the complexity relation from the unmarked object preposition to the marked object preposition (Compare the following examples). The lingual force of the marked preposition is obviously stronger than that of the unmarked preposition, otherwise the markedness is unnecessary.

(32) a.祖乙　　祝
Zǔyǐ　　*zhù*
DN　　SN
'to sacrifice Zuyi by zhu'

b.惟　　祖丁　　祝
wéi　　*Zǔdīng*　　*zhù*
OP　　DN　　SN
'to sacrifice Zuding by zhu'

(33) a.衣　　比
Yī　　*bǐ*
PeN　　unite
'to unite Yi'

b.惟　　侯　　比
wéi　　*hóu*　　*bǐ*
OP　　chief　　unite

'to unite the chief'

B. It is after experiencing the adaptation of many links that the object preposition associated with *qí* (其) has come into being, with the anaphora of *qí* (其) for the aim of emphasis as the first impetus (Ma, 2014a). It will be discussed in detail as follows:

3.1 The pronoun nature of *qí*其 and the object preposition with *qí*其 as a marker

With the pronoun nature of *qí* (其) as the condition and the basis and its anaphora to an object as a means, the object preposition with *qí* (其) as a marker has come into being, aiming for the effectiveness of emphasis.

Although *qí* (其) is very common in oracle bone inscriptions, many scholars studying oracle bone inscriptions usually deny the pronoun identity of *qí* (其) (Li, 2004:268-270; Yang, 2003:238), or sit on the fence between acknowledging and denying. Allegedly, the reason is that these scholars think the usages of the third person pronouns, which are parallel to and symmetric to the first person pronouns and the second person pronouns, are "not to be seen" or "seldom to be seen", and even if the usages of possessive pronouns exist, there is only one example as *yú liáo yú qí pèi* (余 燎 于 其 配, I SN PT its the god collocated with another god to be sacrificed together, 'I sacrifice the god collocated with it by liao'). Zhang (2001) oppugned this: "in Xizhou bronze inscriptions, it is true that the pronoun *qí* (其) isn't seen. Could it be said that the pronoun *qí* (其) only appears once in oracle bone inscriptions, disappears in Xizhou, and reappears in Chunqiu (the Spring and Autumn Period) and Zhanguo (the Warring States Period)? Itis irrational from the perspective of the history of Chinese development."

We think that the addressing and referential functions of *qí* (其), which continue to exist in Chinese after the period of oracle bone inscriptions, have already appeared in oracle bone inscriptions.

The direct evidence accounting for *qí*其's addressing function and anaphora to the object is that the object preposition construction with double markers in oracle bone inscriptions "*wéi*惟+O+*qí*其+V" has two types of constructions "*wéi*唯+O+ *shì*是+V | *wéi*唯/惟+O+ *zhī*之 +V", which have the same meaning and structure in modern Chinese. There are seven examples of the construction "*wéi*唯+O+ *shì*是+V" (Zhang, 2006:248), among which, only one example comes from Xizhou bronze inscriptions (Pan, 2005:216) and four examples from *Jinwen Shangshu*. In *Jinwen Shangshu*, there are ten examples of the construction "*wéi* 唯/惟+O+ *zhī*之+V".(Wang, 1994; Qian, 2017)

(34)	唯	朕	禾	是	赏	(西周金文)
	wéi	*zhèn*	*hé*	*shì*	*shǎng*	(*Xizhou bronze inscriptions*)
	OP	my	standing grain	AN	repay	
	'to repay my standing grain'					
(35)	维	德		是	用	(逸周书)

wéi *dé* *shì* *yòng* (*Yizhoushu*)
OP people having the morality AN use
'to use the people having the morality'

(36) 惟 永 终 是 图 (尚书·金縢)
wéi *yǒng* *zhōng* *shì* *tú* (*Shangshu·Jinteng*)
OP a long time a long time AN make plan
'to make plans for a long time'

(37) 惟 刑 之 恤 哉 (尚书·虞书·尧典)
wéi *xíng* *zhī* *xù* *zāi* (*Shangshu·Yushu·Yaodian*)
OP punishment AN treat with caution INTERJ
'to treat the punishments with caution'

(38) 牝 鸡 之 晨, 惟 家 之 索 (尚书·周书·牧誓)
pìn *jī* *zhī* *chén* *wéi* *jiā* *zhī* *suǒ* (*Shangshu·Zhoushu·Mushi*)
female chicken FS crow OP family AN be finished
'If the hens crow, the family must be finished.'

In the above constructions, it is obvious that the pronouns *shì* (是, 'this, it'), *zhī* (之, 'this, it') is anaphoric to the pre-object. According to the parallel principle (Zhu, 1986), it can be analogized that *qí* (其) obviously has the pronoun nature. As such, the function of *qí* (其) in the single-marker construction "O+*qí*$_{其}$+V" is obviously also anaphoric to the pre-object. Compare the following groups of the single-marker object-preposition constructions "O+*qí*$_{其}$+V" and "*wéi*$_{惟}$+O+V" with similar semantic structures.

(39) a.父丁 其 岁
Fùdīng *qí* *suì*
DN AN SN
'to sacrifice Fuding by sui'

b.惟 父戊 岁
wéi *Fùwù* *suì*
OP DN SN
'to sacrifice Fuwu by sui'

(40) a.母癸 其 日
Mǔguǐ *qí* *rì*
DN AN SN
'to sacrifice Mugui by ri'

b.惟 上甲 日
wéi *Shàngjiǎ* *rì*
OP DN SN
'to sacrifice Shangjia by ri'

(41) a. 岳 其 册 御
Yuè *qí* *cè* *yù*
mountain deity AN SN SN
'to sacrifice mountain deity by ce and yu'

b. 惟 祖丁 册
wéi *Zǔdīng* *cè*
OP DN SN
'to sacrifice Zuding by ce'

(42) a. 米 囧 其 烝
mǐ *Jiǒng* *qí* *zhēng*
rice PlN AN SN
'to sacrifice by zheng with the rice in Jiong'

b. 惟 白 穧 烝
wéi *bái* *jì* *zhēng*
OP white grain name SN
'to sacrifice by zheng with white ji'

(43) a. 伯 次 其 侑 祝
bó *Ci* *qí* *yòu* *zhù*
chief PeN AN SN SN
'to sacrifice by you and zhu because of the chief Ci'

b. 惟 戚 奏
wéi *Qī* *zòu*
OP PeN SN
'to sacrifice byzou because of Qi'

"O+*shì*是+V | O+ *zhī*之+V | O+ *sī*斯+V" in Xizhou bronze inscriptions (or other Xizhou documents) and *Shangshu* and "O+*qí*其+V" in oracle bone inscriptions have the same structure, with pronouns *shì* (是, 'this, it'), *zhī* (之,'this, it'), *sī* (斯, 'this, it') being anaphoric to the pre-object. The construction "*wéi*惟+OV" during the same period and the construction in oracle bone inscriptions also can be traced back to the same origin. Compare:

(i) The first group

(44) 傲 虐 是 作 (尚书·虞夏书)
ào *nüè* *shì* *zuò* (*Shangshu·Yuxiashu*)
arrogant thing tyrannical thing AN do
'to do the and tyrannical things'

(45) 王 播告 之 修 (尚书·商书)
wáng *bōgào* *zhī* *xiū* (*Shangshu·Shangshu*)

king proclaim AN do
'to do the things that the king proclaimed'[]

(46) 王 其 德 之 用 (尚书·召诰)
wáng *qí* *dé* *zhī* *yòng* (*Shangshu·Zhaogao*)
king should people having morality AN use
'The king should use the people having the morality'

(47) 弓 矢 斯 张 (诗经·大雅)
gōng *shǐ* *sī* *zhāng* (*Shijing·Daya*)
bow arrow AN display
'to display the bows and arrows'

(ii) The second group

(48) 唯 丁公 报 (西周金文)
wéi *Dīnggōng* *bào* (*XizhouBronze inscriptions*)
OP PeN tell
'to tell Dinggong'

(49) 惟 土 物 爱 (尚书·酒诰)
wéi *tǔ* *wù* *ài* (*Shangshu·Jiugao*)
OP earth thing love
'to love the earth and things'

(50) 惟 卜 用 (尚书·大诰)
wéi *bǔ* *yòng* (*Shangshu·Dagao*)
OP divination perform
'to perform the divination'

In the object preposition construction in oracle bone inscriptions, Xizhou bronze inscriptions and *Jinwen Shangshu*, two kinds of markers are used: first, the modal markers *wéi* (惟), *wéi* (惠(=惟)), *yuē* (曰), *yú* (于), *yǔn* (允) which are auxiliaries; second, the referential markers *qí* (其,'this, it'), *shì* (是, 'this, it'), *zhī* (之, 'this, it'), *sī* (斯, 'this, it') which are pronouns.

To be honest, on the one hand, the third person does not have the same status as the first and second person: (a) the first and second person are the participants of speech acts, while the third person is not. (b) The first and second person are more suitable for referential pronouns in specific situations, whereas the third person is suitable for referential pronouns in context; On the other hand, some construction relations in some primitive languages whose modeling or formation-nature level is relatively low, which seem simple in modern languages, have to take the trouble to resort to referential pronouns for lexical cohesion.

[] Zhou (1984:92) says: "It means to perform the things that the dead king told to do."

For instance, in Nootka, a representative of polysynthetic language (the language used by Nootkas of northwest Pacific coast in North America), the first and second person have morphological markers, and the third person is in the non-morphological default construction. Even so, appearing in high frequency in Nootka, the empty pronoun expressing reference *u-* ('it') refers to or forms an anaphora to the independent object, playing a role of adherence in the verb-object construction. For instance, the empty pronoun *ʔu-* ('it') in (51) refers to *tʻa:tnʻa* ('a child or children') (Ma, Fang, & Han, *et al.* 2017:416-417, 432):

(51) *ʔu-naˑkˑ-ʔaˑlˑ* *tʻa:tnʻa* *(ʔunaakʔal* *tʻaatnʻa.)*
it-have-plural child
'They have a child or children.'

In oracle bone inscriptions "O+*qí*$_{其}$+V", the anaphora of *qí* (其) has both functions of construction adherence and effects of emphases or highlighting. Being anaphoric to its pre-object, the pronoun *qí* (其) marks the verb-object relation, which accords with the common principle of the primitive language (the reasons have been mentioned above). At the same time, the anaphora of *qí* (其) to the pre-object also meets the requirements of emphasizing the meaning, which accords with the iconicity principle (that is to say, the semantic repetition is a copy of increased prominence) and the principle of linguistic compensation for variant principle of redundancy(that is, to offset the negative aspect of variant principle of redundancy with effect of positive emphasizing for obtaining the acceptability again) (Ma, 2012:149-210). The demonstrative function of *qí* (其) will be discussed in the following paragraphs. The mood information adheres to a sentence or its central predicate. Therefore, *qí* (其) in "V+*qí*$_{其}$+O_{noun}" in the common word order can only be are ferential marker denoting the referential information (the first group), instead of a modal marker denoting the mood information. Similarly, *qí* (其) in "V+*qí*$_{其}$+O_{verb}" is also only the extension of referential usage. By comparing the following two groups of examples in oracle bone inscriptions, we can observe that by the use of the analogy, the statement term in the second group replaces the referential term in corresponding place of constructions having the same pattern, which makes the constructions complicated. It can also be understood from another perspective. Since a sentence with a non-tiled construction usually has only one central predicate, when its object components are acted by other statement terms, constrained by a relatively low complicating level, the nominalization in oracle bone inscriptions is achieved first via *qí* (其) (as shown in the second group).

(iii) The first group

(52) 无 其 灾
wú *qí* *zāi*
haven't DP disaster

'to have no that disaster'

(53) 无 其 雨
wú *qí* *yǔ*
haven't DP rain
'to have no that rain'

(54) 丁 其 牢
dīng *qí* *láo*
SN DP captive cow
'to sacrifice by ding with these captive cows'

(iv) The second group

(55) 奏 玉 其 伐
zòu *yù* *qí* *fá*
SN jade DP attack
'to sacrifice by zou with jades because of that attacking'

(56) 告 其 比 望乘 征 下危
gào *qí* *bǐ* *Wàngchéng* *zhēng* *Xiàwēi*
SN DP unite PeN attack NN
'to sacrifice by gao because of that uniting Wangcheng to attack Xiawei'

With the same judgment standard, Zhang (2006:167, 292) re-examines the functions of *qí* (其) based on the corpus of Chinese documents in Xizhou he has expanded, and finds that in Xizhou Chinese there are at least 370 examples of the typical usages of the third person pronoun *qí* (其) as an attributive or a subject, including 326 examples of *qí* (其) as an attributive and 49 examples of *qí* (其) as a subject; there are at least 67 examples of *qí* (其) as a demonstrative pronoun, which overthrows his early statement that in Xizhou bronze inscriptions the pronoun *qí* (其) does not exist. His detailed items of counted examples about the pronoun *qí* (其) in Xizhou Chinese show that the typical usages of *qí* (其) as the third person pronoun and demonstrative pronoun in other documents in the Xizhou Dyasty appear in bronze inscriptions and *Shangshu*, but disappear in oracle bone inscriptions of Xizhou; Again, they seldom appear in bronze inscriptions and *Shangshu*, while they often appear in *Shijing*. From this it can be concluded that the low frequency of the typical usage of *qí* (其) as a pronoun in oracle bone inscriptions is closely related to the writing style of oracle bone inscriptions themselves and to the record medium. Actually, the anaphoric usage of *qí* (其) in Xizhou bronze inscriptions seldom appears, which results from extraordinarily rare object prepositions (Pan, 2005:217).It is generally acknowledged that, in the construction such as "*wéi*唯+O+ *shì*是+V | *wéi*唯/惟+O+ *zhī*之+V" and "O+ *zhī*之+V" in Xizhou bronze inscriptions and *Jinwen Shangshu*, *shì* (是, 'this, it') and *zhī* (之, 'this, it') have the pronoun nature and the usage of the object preposition markers is based

on the anaphoric relation (Guan, 1981:74; Wang, 1994; Qian, 2017; Pan, 2005:216; Zhang, 2006:248). However, scholars studying oracle bone inscriptions fail to identify the constructions with the same pattern such as "*wéi* 惟+O+*qí* 其+V" and "O+*qí* 其+V" that appear earlier in this field as well as the pronoun nature and the anaphoric usage of *qí* (其). Moreover, ignoring the obvious demonstrative function of *qí* (其) in "V+*qí*其+O_{noun}" and the derivational usage of *qí* (其) in "V+*qí*其+O_{verb}", they focus only on the modal meaning of *qí* (其) which appears in high frequency, or on whether *qí* (其) has the typical third person usage parallel and symmetric to the first and second person.

Li (2004:270) argues that "the third person pronouns have not been found out yet" in oracle bone inscriptions, but he holds that "the reason may lie in the limitation of oracle-inscription context, or our turning a blind eye to them. From the perspective of the development of the first and second person pronouns and person pronouns regarded as a system, we can speculate that the third person pronouns should have appeared in Shang Dynasty". Unfortunately, this idea is a mere speculation without evidence.

3.2 The reanalysis and analogizing of the "O+*qí*其+V" construction

The boundness nature of *qí* (其) leads to its close relation with the succedent predicate construction, which in turn breaks the anaphoric relation between *qí* (其) and O, resulting in the reanalysis of the "O+*qí* 其+V" construction ("[O+*qí* 其]+V → O+[*qí* 其+V]"). The formal proof is that a negative word can be used only before *qí* (其), which thus enters the domain of the negative word, forming the "O+*bù*不+[*qí*其+V]" construction. For example:

(57) 𠂤　　豕　　不　　其　　擒
Ér　　*shǐ*　　*bù*　　*qí*　　*qín*
PlN　　pig　　not　　AN　　get
'not to get the pigs in Er'

(58) 蝗　　不　　其　　御
huáng　　*bù*　　*qí*　　*yù*
grasshopper　　not　　AN　　SN
'not to sacrifice by yubecause of grasshoppers'

Because VO is the prominent word order in oracle bone inscriptions, *qí* (其) in "O+*qí*其+V" is anaphoric to O, and also refers back to the trace left in the original position after O moves forward. For example, *qí* (其) in (57) "*Ér*𠂤 *shǐ*豕 *bù*不 *qí*其 *qín*擒 $_t$" is anaphoric to *Ér shǐ* (PlN pig, 'the pigs in Er'), and also refers back to $_t$. However, in the "O+*bù*不+*qí*其+V" construction, which comes from the reanalysis of "O+*qí*其+V", the referring-back relation of *qí* (其) becomes the only move-refer relation, namely the function-distribute pattern (i.e. "negative word + pronoun + transitive verb + $_t$"), based on which by the use of analogy, a new and important grammatical principle comes into being in oracle bone inscriptions: Pronoun objects need to be preposed in negative sentences. In oracle bone inscriptions, the

object postposition is usual, but in negative sentences, pronoun objects form a special construction since pronouns as objects such as *wǒ* (我, 'I, me'), *yú* (余, 'I, me'), *ěr* (尔, 'you') are usually preposed and seldom postposed (Zhang, 2001:148). Here are some examples of pronoun preposition (59a) and pronoun postposition(59b). Compare:

(59) a. 贞: 祖辛 不 我 害? 贞: 祖辛 害 我?
zhēn *Zǔxīn* ***bù*** ***wǒ*** ***hài*** *zhēn* *Zǔxīn* *hài* *wǒ*
ask DN not me take disaster to ask DN take disaster to me
'ask: Doesn't Zuxin take disasters to me? ask: Does Zuxin take disasters to me?'

b. 我 家 旧 老 臣 亡(=无) 害 我
wǒ *jiā* *jiù* *lǎo* *chén* ***wú*** ***hài*** ***wǒ***
my family old old minister not take disaster to me
'My old minister doesn't take disasters to me.'

The construction, in which the pronoun is used after a negative word, is kept in Xizhou Chinese and *Shangshu*, and has its modeling level enhanced through the process of evolution, which shows in: (a) an expanded scope of the use of pronouns; (b) stricter principles. "In oracle bone inscriptions, the interrogative pronoun has not been found" (Shi, 1986:121). The sentence pattern with the interrogative pronoun as a pre-object has not been found in Xizhou bronze inscriptions (Guan, 1981:75). In *Jinwen Shangshu*, there are 11examples of the interrogative pronoun acting as an object, in which interrogative pronouns are all located before verb predicates without exceptions. Most examples appear in Zhoushu, and the earliest examples appear in *Gaoyaomo* of *Yuxiashu*, which may be the source of such sentence patterns in written languages (Wang, 1994; Qian, 2017).

3.3 The attainment of the modal meaning of ***qí***其

After *qí* (其) fully realizes the value of referential meaning followed by the formation of the three phenomena of the object preposition (i.e. the anaphora of pre-objects as a means of emphasis, reanalysis of constructions and the preposition of pronoun objects in negative sentences), the "O+*qí* 其+V" construction experiences a second reanalysis. Ignoring the movement-anaphoric relation, *qí* (其) develops the direct syntactic-semantic relation with verbs, semantically moving towards the modal meanings of verbs which are more empty or subjective. However, the modal meanings are just partly equivalent to those of *wéi* (惟), *wéi* (惠=(惟)), *yú* (于), *yǔn* (允), since the types of derived modal meaning and their deriving traces are regulated by the fundamental pronoun nature of *qí* (其).

Ignorance of the pronoun nature of *qí* (其) leads to the difficulty in finding out the source of the corresponding modal meaning of *qí* (其). It is a common phenomenon in languages that modal markers develop from referential markers, rather than the other way around. Typical referential markers usually refer to concrete things, and they will naturally obtain modal meanings when vaguely referring to abstract modalities, such as "*Tā zhème shuō le*

(她 这么 说 了, she like this say PeP, 'She has said like this')→*Tā zhème rèqíng* (她 这么 热情, she like this enthusiastic, 'she's so enthusiastic')", so is the English word *so* as in "*think so* referential mark→ *so* modal mark *beautiful*". It is also true with Japanese as in "そんなこと(like that/ thing, 'the thing like that')~そんなにすくない (so/ little, 'so little')".The reversal hypothesis of its development, namely, the hypothesis that modal markers develop into referential markers, is short of evidence.

In oracle bone inscriptions, the modal meaning of *qí* (其) is the "imperative" mood or the meaning of future tense "will", and it also indicates "inference" and "rhetorical question" in the pre-Qin Dynasty (Zhang, 2001). If they are considered together with the meaning of the pronoun, the similar and relevant semantic-deriving relation can also be found in other languages. Compare the poly-semantic relations:

Indo-European language family: [German] *es* (1. he, she and it; 2. (used in contexts) this and that; 3. expressing the feelings or surrounding environments; 4. acting as a formal subject to make moods enhanced or vivid). [French] *ce* (1. this/that; 2. used in interrogative sentences; 3. expressing the emphasis in the front of a sentence, the back of nouns or as a formal subject); *tel* (1. such and this kind of; 2. expressing purposes). Austronesian language family: [Woleaian] (located in Caroline Islands of the eastern Pacific Ocean) *pwa* (1. that and it; 2. for); *be* (1. that and it; 2. wanting to do something, will do something, must do something and may do something. Compare with *me* (this, here and this thing), which has the inner alternate relation with it) (Sohn & Tawerilmang, 1976).

In the relation of morphological extension, the morphology shows the complexity from words with the meaning of referential pronoun to words with the meaning of "imperative/will", and vice versa. No exceptions are found. This formally shows it is based on the pronoun meaning that the "imperative" meaning or the "will" meaning has come into being. Compare:

Indo-European language family: [German] *der*，*die*，*das* (1. this; 2. he, she, it and they; 3. relative pronoun, 4. used in nominalization of any word classes)→ dereinst (future and afterwards). [French] *il* (he/it (act as the subjects))→ illusion (fantasy, dream and delusion). Altaic language family: [Japanese] あれ(1. that, there and that time; 2. that people and that thing)→ あれかし (hope and yearn). Austronesian language family: [Mokilese (one of Micronesian languages)] *mehkij/mehkos* (something) → mehkihla (admire) (Harrison & Albert, 1977).

Taking the anaphora of *qí* (其) as the starting point, the statement above illustrates the source of the emphasizing meaning of the "O+*qí*其+V" construction, the word order of "*bù* 不 +*qí* 其 " in "O+*bù* 不 +*qí* 其 +V", the personal pronoun object preposition in negative sentences, and the modal meaning of *qí* (其) before predicates. These syntactic or semantic achievements formed in different links are all overlaid in the same synchronic plane.

4. The cause of the unmarked object preposition: the low modeling level

When object arguments (including patients, copulative roles and dative roles, which all belong to head arguments) or additive arguments (namely non-head arguments) in semantics (Ma, 2006:248) are unmarkedly preposed, should they be regarded as objects or thematic subjects? There are different views, especially when they are located before negative words, for example:

(60) 祖乙 祝
Zǔyǐ *zhù*
DN SN
'to sacrifice Zuyi by zhu'

(61) 兹 不 用
zī *bù* *yòng*
this action not perform
'not to perform this action'

From the historical perspective, on the grounds of the following reasons, object arguments or additive arguments might carry the nature of pre-objects, which to some extent reflects the unformedness nature of constructions in primitive languages and their relatively low level of syntactic modeling.

4.1 The nested function

An unmarked object-verb construction can be nested shallowly by another verb-object construction in are cursive manner, as in the following examples:

$((V, (O_{target}, (V, V, V)\ v)_{O:content}))$

(62) 为 祖丁 协 衣 划
wéi *Zǔdīng* *xié* *yī* *gē*
perform DN SN SN SN
'to sacrifice Zuding by xie, yi and ge'

For a thematic subject carrying pragmatic information at the sentence level, it's usually very difficult to be shallowly nested by verbs except for psychological and speech verbs, to say nothing of being deeply nested, because there is a contradiction in that the nesting will filtrate its pragmatic information at the sentence level, which are not allowed in the thematic subject. The reorganization function of untypical word orders (including the function of inner extension and entering the bigger construction) is generally lower than that of typical word orders. This is also the reason why an object-verb construction cannot be deeply nested as a verb-object construction.

4.2 The general background of the modeling level of word order

The low modeling level of word order is the general background of syntactic features in

oracle bone inscriptions.

A. In a single-object construction, the unmarked object prepositionis an unusual kind of word order, but it is not a scarce exception at all. Compare ("{}" expresses the unordered sets, the same below):

(i) O_o

{V, O$_{patient}$}

(63) 狩　　麋

shòu　　*mí*

hunt　　deer

'to hunt the deer'

(64) 雨　　遘

yǔ　　*gòu*

rain　　encounter

'to encounter the rain'

{V，O$_{content}$}

(65) 呼　　祝

hū　　*zhù*

give the command　　SN

'to give the command to sacrifice byzhu'

(66) 宁　　呼

níng　　*hū*

SN　　give the command

'to give the command to sacrifice by ning'

{V, O$_{causee}$}

(67) 祟　　我

suì　　*wǒ*

take disaster to　　me

'to take disasters to me'

(68)我　　祟

wǒ　　*suì*

take disaster to　　me

'to take disasters to me'

(ii) O_a

{V, O$_{target}$}

(69) 福　　大乙

fú　　*Dàyǐ*

SN　　DN

'to sacrifice Dayiby fu'

(70) 妣壬　　卯

Bǐrén　　*mǎo*

DN　　SN

'to sacrificeBirenby mao'

{V, O $_{associated\ role}$ ***}***

(71) 克　　以

kè　　*yǐ*

can　　carry

'can carry'

(72) 缶　　比

Fǒu　　*bǐ*

PeN　　unite

'to unite Fou'

{V, O $_{place}$ ***}***

(73) 屎　　有　　田

shǐ　　*yǒu*　　*tián*

fertilize　　prefix　　farmland

'to fertilize the farmland'

(74) 惟　　门　　田

wéi　　*Mén*　　*tián*

OP　　PlN　　hunt

'to hunt in Men'

{V, O $_{destination}$ ***}***

(75) 入　　羌

rù　　*Qiāng*

enter　　NN

'to enter Qiang'

(76) 羌　　入

Qiāng　　*rù*

NN　　enter

'to enterQiang'

{V, O $_{tool}$ ***}***

(77) 祝　　牛

zhù　　*niú*

SN　　cow

'to sacrifice by zhu with cows'

(78) 羊 祝
yáng *zhù*
goat SN
'to sacrifice by zhu with goats'

{V, O$_{purpose/cause}$}

(79) 御 妇好
yù *Fùhǎo*
SN PeN
'to sacrifice by yu because of Fuhao'

(80) 宣方 燎
Xuānfāng *liáo*
NN SN
'to sacrifice by liao because of Xuanfang'[1]

In a double-object construction ((81)-(91)) or a three-object construction((92)-(93)), the word order of several objects is relatively free. Compare the following examples.

(V, {O$_{target}$, O$_{tool}$})

(81) 祝 大乙 牛
zhù *Dàyǐ* *niú*
SN DN cow
'to sacrifice Dayi by zhu with cows'

(82) 止 豕 妣
zhǐ *shǐ* *Bǐ*
SN pig DN
'To sacrifice Biby zhi with pigs'

(V, {O$_{purpose/cause}$, O$_{place}$})

(83) 示 兔 鄙
shì *Tù* *bǐ*
SN PeN border
'to sacrifice by shi because of Tu in border'

(84) 御 家 艰
yù *jiā* *jiān*
SN ancestral temple disaster

[1] Only the object component acted by a subject argument (O_s) has a verb-object construction and doesn't have an object-verb construction. For example: **(V, O$_{agent}$)** *lái yǔ* (来 雨, appear rain, 'the rain appears'); **(O$_{patient}$, V)** *Zhèn yǐ*, (朕 以, PeN carry, 'carry Zhen'); **(V, O$_{concerned\ role}$)** *nè chǐ* (疒 齿, be ill tooth, 'the tooth are ill'). The subject argument before a verb only acts as a subject component, which shows that the subject argument and the object argument are asymmetrical when the syntax forms.

'to sacrifice by yu because of disaster in ancestral temple'

(V, {O_{target}, O_{place}})

(85) 祝 父丁 必
zhù *Fùdīng* *bì*
SN DN ancestral temple
'to sacrifice Fuding by zhu in ancestral temple'

(86) 奏 山 日 南
zòu *shān* *rì* *nán*
SN hill sun god south god
'to sacrifice sun god and south god by zou in hill'

(V, {$O_{purpose/cause}$, O_{target}})

(87) 御 雀 父乙
yù *Què* *Fùyǐ*
SN PeN DN
'to sacrifice Fuyi by yu because of Que'

(88) 曰 妇鼠 母 祝
yuē *Fùshǔ* *Mǔ* *zhù*
OP PeN DN SN
'to sacrifice Mu by zhu because of Fushu'

(V, {$O_{purpose/cause}$, O_{tool}})

(89) 御 子央 豕
yù *Zǐyāng* *shǐ*
SN PeN pig
'to sacrifice by yu with pigs because of Ziyang'

(90) 奏 玉 其 伐
zòu *yù* *qí* *fá*
SN jade EM attack
'to sacrifice by zou with jades because of attack'

(91) 人 牛 彡
rén *niú* *shān*
people cow SN
'to sacrifice by shan with cows because of some people'

(V, {$O_{purpose/cause}$, O_{target}, O_{tool}})

(92) 寧 风 北巫 犬
níng *fēng* *Běiwū* *quǎn*
SN wind blowing DN dog
'to sacrifice Beiwu by ning with dogs because of wind blowing'

(93) 卯 犬 子 庚

mǎo *quǎn* *zǐ* *Gēng*

SN dog child DN

'to sacrifice Geng by mao with dogs because of children'

In the uncommon word order of the double-object construction, the two objects can respectively be located before and after the verb, or both are located before the verbs. However, there are only a few examples of this kind. For example:

($O_{purpose/cause}$, O_{target}, V)

(94) 曰 妇鼠 母 祝

yuē *Fùshǔ* *Mǔ* *zhù*

OP PeN DN SN

'to sacrifice Mu by zhu because of Fushu'

($O_{associated\ role}$, $V_{including\ patient}$, O_{dative})

(95) 我 穡 旅

wǒ *sè* *lǚ*

me provide the foodstuffs army

'to provide the foodstuffs to the army for me'

($O_{purpose/cause}$, V, $O_{content}$)

(96) 惟 吾方 呼 御

wéi *Gōngfāng* *hū* *yù*

OP NN give the command SN

'to give the command to sacrifice by yu because of Gongfang'

B. The modeling level of the attribute-head construction in an object can indirectly prove the unformedness nature of the lingual structures in oracle bone inscriptions.

Table 1. The statistical table of the verb-object construction in oracle bone inscriptions whose object is the attribute-head or head-attribute construction

construction	O = attribute-head construction			O = head-attribute construction			Total	
	typical number	quantity of examples	ratio %	typical number	quantity of examples	ratio %	quantity of examples	ratio %
V-O	A_1 type	382	88.22	B_1 type	51	11.78	433	88.19
O-V	A_2 type	57	98.28	B_2 type	1	1.72	58	11.81
total		439	89.41		52	10.59	491	100%

The attribute-head construction and the head-attribute construction both appear in the extended-once construction of the object, but the former is used far more frequently than the latter. The percentage of the head-attribute construction acting as an object in the verb-object construction has been not so high, and that of the head-attribute construction acting as an object in the object-verb construction is even lower, with only 1.72% (see

Table 1).

The interdependent distance is in proportion to the complexity of the sentence. The longer the interdependent distance between components in a sentence is, the higher the cost of construction integration and storage will be. Therefore, it needs more energy to handle, and the syntactic complexity also increases accordingly. The example *John read the book quickly* will be provided to show how to calculate the average interdependent distance. First, mark every word according to word order， namely: John-1 read-2 the-3 book-4 quickly-5. The interdependent distance is the absolute value of sequential minus. In this sentence, each interdependent distance respectively is: (a) 1 (read-2, John-1); (b) 1 (book-4, the-3); (c) 2 (read-2, book-4); (d) 3 (read-2, quickly-5). The average interdependent distance of a sentence equals the sum of all the interdependent distance in the sentence divided by the number of interdependent relations in the sentence. The interdependent distance of the above sentence is 7/4=1.75. Compare the average interdependent distance of the following 4 examples. The number of words in each example is the same when the markers in brackets ( ) are temporarily uncounted.

(97) a. [A_1 type] 获 八 豕
huò ***bā*** ***shǐ***
get eight pig
'to get the eight pigs'

b. [B_1 type] 获 狐 九
huò ***hú*** ***jiǔ***
get fox nine
'to get the nine foxes'

(98) a. [A_2 type] (惟) 犬 师 比
wéi ***Quǎn*** ***shī*** *bǐ*
EM NN army unite
'to unite the army of Quan'

b.[B_2 type] 米 囧 (其) 蒸
mǐ ***Jiǒng*** *qí* *zhēng*
rice PlN EM SN
'to sacrifice by zheng with rice in Jiong'

On the one hand, under the premise of the same number of words, the average interdependent distance of B_1 type is shorter than that of A_1 type, for instance, the average interdependent distance of example (97a) is 1.5, and the average interdependent distance of example (97b) is 1. This shows that when acting as an object, the attribute-head construction breaks the usual preferred attribute-headword order, and one of the motive forces of turning to head-attribute word order is the need to reduce sentence complexity.

On the other hand, the average interdependent distance of B_2 type is longer than that of A_2 type, for instance, the average interdependent distance of example (98a) is 1, and the average interdependent distance of example (98b) is 1.5. This shows that B_2 type not only breaks the usual word order of the attribute-head construction but also increases the interdependent distance and syntactic complexity, which doubles the cost. Hence, the occurrence frequency of B_2 type is extremely low, and perhaps it can appear only in emphatic expressions of the marked preposition (such as example (98b)).

To temporarily get some benefits such as economy other than expressing effects, oracle bone inscription scan easily gets rid of the constraints of the syntactic pattern (such as example (97b)), showing the relatively low modeling level and unformedness nature of the construction. The improvement of modeling level in Chinese after the time of oracle bone inscriptions further verifies the judgement of unformedness nature of the syntactic construction in oracle bone inscriptions. In oracle bone inscriptions, the pronoun object in a negative sentence are often preposed (see section 3.2), and this phenomenon still exists in Xizhou Chinese and *Shangshu* (Zhang, 2004:326-327; Qian, 2004:426). In *Shangshu*, *wéi* (惟) is also used to prepose objects, and it is a scarce exception that the nominal object is preposed without *wéi* (惟). Based on many scholars' findings, Wang (1994) holds that this preposed nominal object and the preposed pronoun object in a negative sentence such as "*wéi*惟+O+ *shì*是+V｜*wéi*惟+O+ *zhī*之+V" had disappeared in spoken languages in Han Dynasty. These show the improvement of the level of construction modeling.

Table 2. The statistical table of extending scale of objects in oracle bone inscriptions

syntactic-semantical constructions	non-extended constructions of objects		extended constructions of objects									total
	quantity of examples	ratio %	extending times							quantity of examples	ratio %	
			once	twice	thrice	four	five	six	nine			
V, O_o	541	64.79	227	41	15	9	0	1	1	294	35.21	835
V, O_a	1077	68.64	365	74	35	14	3	1	0	492	31.36	1569
V, O_s	47	95.92	2	0	0	0	0	0	0	2	4.08	49
O_o, V	89	53.94	64	10	2	0	0	0	0	76	46.06	165
O_a, V	196	84.85	29	4	2	0	0	0	0	35	15.15	231
total	1950	68.45	687	129	54	23	3	2	1	889	31.55	2849

C. The extending situation of objects in oracle bone inscriptions also reflects that the level of syntactic deep organization is not high, which is in relation to the low level of syntactic modeling. In the single-object construction in the oracle bone inscriptions, the non-extended construction of the object is in the majority. The frequency of the extended construction and the extending times are in negative correlation, that is, the more the extending times is, the less the frequency will be. Compare the statistics in Table 2.

5. The typical status of O as and poly-objects

In general, in mature languages (such as modern Chinese), when a semantic construction becomes a syntactic construction, the typical mapping relation is that the must-have argument (or the compulsive argument, including the subject argument and the object argument) becomes the central syntactic component. Specifically, the subject argument (including agent and concerned role, etc.) becomes the subject component, and the object argument (including the patient, copulative role, result, content, concerned role, dative and causative, etc.) becomes the object component. Moreover, the optional argument [namely the additive argument, including place, time, direction, ablative, allative (expressing the directions of motorial space, that is, moving to certain places), orientation (expressing the facing directions of existence space), tool, comitative, associated role, cause and purpose, etc.] becomes the syntactic additive component (namely the adverbial or the complement). This mapping relation accords with the similarity principle. (Ma, 1993; Ma, 2014b; Ma, Fang, Han, *et al.*, 2017:44, 163, 462)

However, the oracle bone inscriptions show obviously different situations because of some factors such as the lack of function words caused by low grammaticalization level. The object component acted by an object argument, a subject argument or an additive argument are respectively called O_o, O_s, and O_a. The overwhelming majority of objects in oracle inscriptions is not O_o, but O_a, namely the object acted by the optional argument[], which is the typical feature of the object at that time. The verb-object construction in modern Chinese mainly expresses the relation of "action-object", and all the O_as are seen only in the construction with relatively low level of analogical functions (such as *chī shítáng* (吃 食堂, eat canteen, 'eat in the canteen')| *chī dà wǎn* (吃 大 碗, eat big bowl, 'eat with the big bowl')). In the verb-object construction among single-object constructions in the oracle bone inscriptions, the examples of O_a (1569 examples) account for the highest percentage, followed by examples of O_o (835 examples), with the fewest examples of O_s (49 examples).In the object-verb construction among single-object constructions in the oracle bone inscriptions, the examples of O_a (231 examples)account for the highest percentage; the examples of O_o (165 examples)are less; there is no example of O_s. The data show that the occurrence frequency of the semantic role of objects is listed from high to low as: $O_a > O_o > O_s$. The O_o is perhaps the prototype of the object in the oracle bone inscriptions, but in terms of the quantity scale, undoubtedly the O_a is typical of the object in the oracle bone inscriptions. See the examples in section 4.2.

[] The object that the sacrificial verb carries has the patient, cause, tool, target and place, etc. (Zheng, 2007:51). The latter four terms are all the O_as.

In a sense, the increasing complexity of sentences in oracle bone inscriptions means that objects increase. The poly-object construction includes the double-object construction and the three-object construction. Moreover, there is the non-transfer double-object construction which the O_as join in (as shown in the second group) and the three-object phenomena as well as the double-object construction expressing transfer (as shown in the first group).

(i) The first group

[V, O_o, O_o]

(V, O_{dative}, $O_{patient}$)

(99) 易 龙 兵

yì *Lóng* *bīng*

give NN weapon

'to give Long the weapons'

(V, O_{dative}, O_{result})

(100) 作 山 灾

zuò *Shān* *zāi*

make PeN disaster

'to make the disaster and give this disaster to Shan'

($V_{including\ the\ patient}$, $O_{associated\ role}$, O_{dative})

(101) 穡 我 旅

sè *wǒ* *lǚ*

provide the foodstuffs me army

'to provide the foodstuffs to the army for me'

(ii) The second group

[V, O_o, O_a]

(V, O_{result}, O_{place})

(102) 作 邑 𠂤

zuò *yì* *Cái*

build city PlN

'to build the city in Cai'

[V, O_a, O_a]

(V, O_{tool},O_{place})

(103) 卯 宰 𢦏

mǎo *yáng* *Wǒ*

SN captive goats PlN

'to sacrifice by mao with captive goats in Wo'

[O_a, V, O_o]

($O_{associated\ role}$, $V_{including\ the\ patient}$, O_{dative})

(104) 我 穡 旅

wǒ *sè* *lǚ*

me provide the foodstuffs army

'to provide the foodstuffs to the army for me'

In all the 203 examples of the double-object construction (V, O, O), there are 192 examples of (V, O_a, O_a), 10 examples of (V, O_o, O_o), and only one example of(V, O_o, O_a).In the first two cases, there are 62 examples in which the additives are purposes, 3 examples of (O, O, V)which are all (O_a, O_a, V) and 1 example of (O, V,O) which is (O_a, V,O_o). The only kind of word-order type of the three-object construction is (V, O, O, O), which is (V, O_a, O_a, O_a), and among them there are 10 examples of (V, $O_{purpose}$, O_{target}, O_{tool}) as well as 2 examples of (V, O_{tool}, $O_{purpose}$, O_{target}). The data confirm the conclusion that the O_a is the typical object in oracle bone inscriptions once again.

In the double-object construction, there are three examples of the object preposition construction, that is, the (O, O, V) construction, two examples of the unmarked ones, and one example of the construction in which the verb is put between two objects, that is, the(O, V, O) construction, which is an unmarked construction.

At present, on the one hand, it is agreed that in oracle bone inscriptions there are poly-object constructions which additive arguments join in (Chen, 1991; Zheng, 2007:69-92; Zhang, 2001:199-210; Qi, 2015:125-212), on the other hand, it is held that the three objects in oracle bone inscriptions can only be "causal objects", "target objects" (deity names)and "tool objects" (names of sacrificial offerings)" that "sacrificial verbs" carry (Zheng, 2007:82; Qi, 2015:206).The typical status of the O_a in the language in the Shang Dynasty has not been deeply recognized from the perspective of lingual system, to say nothing of the reasons why the typical status has been established. We argue that the reasons why the frequency of the O_a in oracle bone inscriptions is so high are as follows:

First, the meaning of some verbs in oracle bone inscriptions has not obtained the transitive nature because of failing to fully absorb the relative meaning of the predicate-argument construction, which leads to the non-core status of the high-frequency target argument. The verbs carrying this kind of arguments are usually confined to sacrifice verbs, for which the subject argument can be carried in the sentence, while other arguments are not necessities (including the target argument), as illustrated by the following examples:

(105) 呼 前

hū *qián*

give the command SN

'to give the command to sacrifice by qian'

(106) 用　　伐
yòng　　*fá*
put into effect　　SN
'to put into effect sacrificing by fa'

(107) 为　　祀
wéi　　*sì*
put into effect　　SN
'to put into effect sacrificing by si'

(108) 梦　　福
mèng　　*fú*
dream about　　SN
'to dream about sacrificing by fu'

The target argument, as an adverbial, sometimes can be introduced by the preposition *yú* (于), for instance:

(109) 吾方　　于　　河　　匄
Gōngfāng　　*yú*　　*hé*　　*gài*
NN　　PT　　river god　　SN
'to sacrifice the river god by gai because of Gongfang'

In primitive languages, the attainment of the verbal transitive nature is not inherent, but involves two steps: First, the pause between the verb and the noun is cancelled to form the verb-object construction, which still has some few traces in oracle bone inscriptions. Compare (110a) and (110b). (110b) is a grammatical reconstruction caused by the cancelling of the pause, which is the crux to revealing the formation of the verb-object construction. Second, the verb that fully absorbs the construction relation of the predicate-argument gets the dominating meaning.

(110) a.卯,　　惟　　羊?
mǎo　　*wéi*　　*yáng*
SNEM　　goat
'to sacrifice by mao, and are the sacrificial offering goats'

b. 卯　　羊?
mǎo　　*yáng*
SN　　goat
'Are the goats used to sacrifice by mao?'

The second reason accounting for the high frequency of O_a is that the marking level in oracle bone inscriptions is low. The oracle bone inscriptions lack a complete system of markers of the argument (prepositions). Most scholars hold that only 4 words (i.e. *yú* (于), *zì* (自), *zài* (在), *cóng* (从)) are markers of the argument (Qi, 2015:215), and even some

scholars argue only 2 words (i.e. *yú* (于) and *zì* (自)) are prepositions and the functions and distributions of *yú* (于) are: the target-argument marker (68%) ＞ the place-argument marker (18%) ＞ the time-argument marker (9%) ＞ the verb (5%)(Yang, 2003:278-337).[] *zì* (自) expresses the source (Zhang, 2001:82), and is an ablative marker. Because of the shortage of the marking methods, in most cases, the additive argument has to be expressed by the syntactic core component instead of by the syntactic additive component (such as the adverbial and the complement). Moreover, the object other than the subject is preferentially selected because of the non-symmetric relation of the subject and the object.

After being added the marker, the additive argument becomes the additive syntactic component (such as the complement or the adverbial). Even though some additive arguments have had the marking conditions, the marker is not usually compulsory. In some cases, however, whether there are markers or not perhaps has a certain relationship with the differentiation of meanings or the constraints of verbal meanings. Compare:

(i) Target argument

(111) 祝 父
zhù *Fù*
SN DN
'to sacrifice Fu by zhu'

(112) 王 勿 祝 于 四 父
wáng *wù* *zhù* ***yú*** *sì* *Fù*
king not SN PT four DN
'The King won't sacrifice four Fu by zhu'

(113) 御 父乙
yù *Fùyǐ*
SN DN
'to sacrifice Fuyi by yu'

(114) 御 于 父辛
yù ***yú*** *Fùxīn*
SN PT DN
'to sacrifice Fuxin by yu'

(ii) The place argument

[] The divergence is mainly attributed to the judgements for degrees of grammaticalization. The judgements for degrees of grammaticalization about prepositions must be put in the complex construction, which appears simultaneously with a predicate and does not express the relation of predicate-predicate. However, it is not easy to exclude the relation of predicate-predicate, because even the possible prepositions still have a certain verbal nature due to their incomplete grammaticalization.

(115) 来 启
lái *Qǐ*
go to PlN
'to go to Qi'

(116) 方 其 来 于 沚
fāng *qí* *lái* ***yú*** *Zhǐ*
army in some country EM go to PP PlN
'The army in some country goes to Zhi exactly'

(117) 往 沚
wǎng *Zhǐ*
go to PlN
'to go to Zhi'

(118) 呼 师般 往 于 微
hū *Shībān* *wǎng* ***yú*** *Wēi*
give the command PeN go to PP PlN
'to give the command that Shiban goes to Wei'

(iii) The ablative

(119) 出 京
chū *Jīng*
leave PlN
'to leave Jing'

(120) 王 步 自 商
wáng *bù* ***zì*** *Shāng*
king walk from country name
'The king walks from Shang'

(iv) The comitative

(121) 比 侯
bǐ *hóu*
unite chief
'to unite the chief'

(122) 缶 比
Fǒu *bǐ*
PeN unite
'to unite Fou'

(123) 弜(=勿) 先 酒 暨 祖乙
wù *xiān* *jiǔ* *jì* *Zǔyǐ*
not to need firstly SN and DN

'Not to need to sacrifice some god and Zuyi by jiu firstly'

The oracle bone inscriptions also lack a complete system of logical markers (conjunctions). Most conjunctions express the coordinating relation, some few conjunctions express the progressive relation or the hypothetical relation (Jiang, 1982; Zhao, 1986; Zhang, 2001:88), and no conjunctions express causes/purpose relations. Because there are no corresponding markers to rely on, logical relations of reasons/purposes have to be put in the syntactic relations and are expressed by the object in core components. For example:

(V, (V, (V, O$_{\text{concerned role}\vee\text{associated role}}$)O$_{\text{: purpose/cause}}$)O)

(124) 克 兴 有 疾
kè *xìng* *yǒu* *jí*
can SN be ill
'can sacrifice by xing because of being ill'

The third reason why O_a appears so frequently is that the scope of the use of the nominal adverbial in oracle bone inscriptions is small, and a single noun cannot act as the complement. In oracle bone inscriptions, nouns acting as adverbials in a fixed position are mainly confined to time nouns, which become objects if postposed, and these nouns cannot act as complements (Zhang, 2001:162-163, 171,177).

(125) 今 日 雨 (*Collection 12870*)
jīn *rì* *yǔ*
now day rain
'today it's raining'

(126) 雨 今 日 (*Collection 20983*)
yǔ *jīn* *rì*
rain now day
'today it's raining'

Li (2004:190) holds that the nouns after verbs will be regarded as complements if they can be added with case markers. For example, *xī* (西, 'west') in (127) can be interpreted as omitting the preposition *yú* (于), so it becomes a complement.

(127) 惠王 自 往 西
Huìwáng *zì* *wáng* *xī*
PeN himself go to west
'Huiwang himself goes to the west'

This view point is wrong. Whether there are the possibility or condition to carry markers and whether the markers are carried or not are two different matters.

The O_a still exists in Xizhou Chinese as shown in (128)-(131) (Zhang, 2004:232-234, 130-175).

(128) [place object] 王 女(=如) 上侯
wáng *rú* *Shanghou*
king go to PlN
'The king goes to Shanghou.'

(129) [target object] 利 涉 大 川
lì *shè* *dà* *chuān*
be advantageous to wade big river
'It's advantageous to wade the big rivers'

(130) [tool object] 伯氏 吹 埙
Bóshì *chuī* *xūn*
PeN blow an ancient egg-shaped, holed wind instrument
'Boshi blows the xun.'

(131) [purpose object] 坎坎 鼓 我, 蹲蹲 舞 我
kǎnkǎn *gǔ* *wǒ* *cúncún* *wǔ* *wǒ*
sound of drumbeat beat the drums me dancing looks dance me
'to beat the drums kankan for me, to dance cuncun for me'

The non-compulsive nature of markers of the additive argument and the relevant phenomenon of the non-transfer poly-object still exist in Xizhou Chinese. However, some of the phenomena can be considered as the results of preposition omission, since the system of prepositions has been complete. According to Pan (2005:115), in Xizhou Chinese there are also double objects caused by omitting prepositions, such as (132)-(135) in Xizhou bronze inscriptions.

(132) 我 既 赎 汝 五 夫 效父
wǒ *jì* *shú* *rǔ* *wǔ* *fū* *Xiàofù*
I already redeem you five people PeN
'I have already redeemed you five people with Xiaofu.'

(133) 我 既 赎 汝 五 夫 以 效父
wǒ *jì* *shú* *rǔ* *wǔ* *fū* ***yǐ*** *Xiàofù*
I already redeem you five people with PeN
'I have already redeemed you five people with Xiaofu.'

(134) 扰 乃 小 大 事
rǎo *nǎi* *xiǎo* *dà* *shì*
bother you small big thing
'to bother you with small and big things'

(135) 扰 乃 以 小 大 事
rǎo *nǎi* ***yǐ*** *xiǎo* *dà* *shì*

bother you with small big thing

'to bother you with small and big things'

However, nominal adverbials have enlarged their usages, and they are also used indirection and manner（mainly comparison） relations besides time relations (Guan, 1981:92-104; Zhang, 2004:250-251). The system of argument markers (prepositions) and the system of logical markers (conjunctions) nearly have been complete (Zhang, 2004:232-234, 130-175). Guan holds that the object includes only the O_o and the O_p, and there are 1986 examples of the O_o. He classifies all the O_as as the complement, and has found out that examples of this kind are very rare in Xizhou bronze inscriptions, which are only 10 examples (Guan, 1981:88, 154, 158). Therefore, in Xizhou Chinese the object has substituted the typical status of the additive in objects.

The word choice and the number of prepositions introducing arguments of times, places, targets, tools, methods, conditions, evidences and causes and purpose conjunctions expressing the logical or other relations (Qian, 2004:178, 231, 265, 404-423) in *Jinwen Shangshu* are all roughly the same as those in Xizhou bronze inscriptions, which shows that the relevant system of markers nearly has been complete and roughly stable. The double-object sentences in modern-scrip *Shangshu* that Qian (2004:178, 231, 265, 404-423) has investigated are all transfer sentences, from which one can see that the typical status of the additive in objects has declined. The declination of the O_a has necessary relation with the complete system of markers of the additive argument (i.e. adequate intervention of the means of function-words), the expanded scope of the use of nominal adverbials, and the attainment of verbal transitive meanings.

However, word order of the double-object construction in Xizhou bronze inscriptions and *Jinwen Shangshu* still has some traces of relatively low modeling level. According to the statistics for 312 bronze wares of Shen (1936), there are 119 examples of (V, $O_{indirect}$, O_{direct}), 7 of ($O_{indirect}$, V, O_{direct}), and one of (O_{direct}, V, $O_{indirect}$) in transfer double-object constructions in Xizhou bronze inscriptions. In general it shows verb-before-object and indirect object-before-object word-order preference, but there are also the exceptional situation where objects are respectively put before and after the verb, which is derived from the unusual word order of the double-object construction in oracle bone inscriptions (see section 4.2). Similarly, the basic construction of the double-object construction in *Jinwen Shangshu* is (V, $O_{indirect}$, O_{direct}), of which there are 25 examples, but occasionally objects are respectively put before and after the verb as in the following examples (Qian, 2004:408, 417):

(136) 中 邦 锡(=赐) 土 姓 (虞夏书)

zhōng *bāng* *cì* *tǔ* *xìng* (*Yuxiashu*)

central country give earth surname

'The central country gives the earth and surnames'

(137) 禹 锡(=赐) 玄 圭 (虞夏书)

yǔ *cì* *xuán* *guī* (*Yuxiashu*)

Yu give black an elongated pointed tablet of jade

'Yu gives the black gui'

According to the conclusion drawn by the two scholars Shen (1936) and Qian (2004, 2017), all the arguments of the transfer double-object construction in Xizhou bronze inscriptions and *Jinwen Shangshu* can become adverbials or complements by using the marker condition (prepositions *yǐ* (以) and *yú* (于)) and are transformed from the double-object construction into the single-object construction.

6. Conclusion

The verb-object construction in oracle bone inscriptions appears in two types: verb-object and object-verb. From the three perspectives of frequency, markedness and nesting, the object postposition is its basic word-order preference. Different forms of the object preposition in oracle bone inscriptions result from different reasons. The marked preposition is mainly attributed to the need of emphasis. Firstly, the strength of lingual force of the marked object preposition is obviously higher than that of the unmarked preposition. Secondly, it is after experiencing the adaptation of many links that the object preposition associated with *qí* (其) has come into being, with the anaphora of *qí* (其) for the aim of emphasis as the first impetus. The addressing and demonstrative functions of *qí* (其), which continues to exist in until modern Chinese, have appeared in oracle bone inscriptions; the modal meaning of *qí* (其) in oracle bone inscriptions is "imperative" or "will", and the modal meaning of *qí* (其) in the pre-Qin Dynasty also includes "speculate" and "rhetorical question", which are all derived from the meaning of *qí* (其) as a pronoun. In addition, the adherence nature of *qí* (其) also creates its tight relationship with the succedent predicate construction, leading to the breakage of its anaphoric relation to O, hence there analysis appears in the construction "O+*qí* 其 +V", namely "[O+*qí* 其]+V"→"[O]+*qí* 其 +V". By analogy, the reanalysis directly leads to the new and important grammatical principle: in negative sentences pronoun objects need to be preposed. In oracle bone inscriptions, the object postposition is common, but in negative sentences, pronouns such as *wǒ* (我, 'I, me'), *yú* (余, 'I, me'), *ěr* (尔, 'you') are usually preposed and scarcely postposed. Continuing to exist in Xizhou Chinese and *Shangshu*, the pronoun-after-negative word construction has its modeling level enhanced through its evolution, which shows mainly in the two aspects: 1. an expanded scope of the use of pronouns; 2. stricter principles. To some extent, the unmarked object preposition is attributed to the relatively low syntactic modeling level in primitive languages, which is embodied in the two aspects: shallow

nesting ability and the background feature of low word-order modeling level.

The overwhelming majority of objects in oracle inscriptions is not the object argument (O_o), but the additive argument (O_a), namely the object acted by the optional argument, which is the typical feature of the object at that time. There are three reasons why the frequency of the O_a in oracle bone inscriptions is so high. First, the meaning of some verbs in oracle bone inscriptions has not obtained the transitive nature because of failing to fully absorb the relative meaning of the predicate-argument construction, which leads to the non-core status of the high-frequency target argument. Second, the marking level of oracle bone inscriptions is low. Third, the scope of the use of the nominal adverbial in oracle bone inscriptions is narrow, and a single noun cannot act as a complement. In Xizhou Chinese, the additive object still exists, so do the non-compulsive nature of markers of the additive argument and the relevant phenomena of the non-transfer poly-object. However, nominal adverbials have expanded their usages, besides, the system of argument markers (prepositions) and the system of logical markers (conjunctions) nearly have been complete. It can be said that in Xizhou Chinese, the object argument has replaced the typical status of the additive argument in objects. Nevertheless, word order of the double-object construction in Xizhou Chinese and *Jinwen Shangshu* still has the trace of a relatively low syntactic modeling level.

Symbols and abbreviations

AN	Anaphora	O_s	Object components acted by subject arguments
AP	Attributive Particle		
DN	Deity Name	PeN	People Name
DP	Demonstrative Pronoun	PeP	Perfective Aspectual Particle
EM	Emphasis	PlN	Place Name
FS	Filled Syllable	PoN	Position Name
INTERJ	Interjection	PP	Preposition Introducing the Place
NN	National Name	PT	Preposition Introducing the Target
O_a	Object components acted by additive arguments	Q	Quantifier
O_o	Object components acted by object arguments	SN	Sacrifice Name
OP	marker of Object Preposition		

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