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Men–Ser

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Giorgio Francesco Arcodia & Bianca Basciano

## Morphology, Premodern

→ Old Chinese Morphology

## Movement Structures

### 1. INTRODUCTION

Movement structure is a type of linguistic structure in which a syntactic unit occurs in a position that is distinct from its expected “base” or “logical” position. Modern linguistic theories, especially Generative-Transformational Grammar, argue that part of a speaker’s linguistic knowledge is that movement structures are derived from more basic structures, more specifically, from structures that are similar to attested non-movement structures in the speaker’s mental representation. For example, linguists argue that sentence (1a) is derived from (1b), based on the fact that the theme (or object) argument of the verb *see* typically follows it in attested sentences like (2).

1. a. John was seen by Mary.
- b. Was seen John by Mary.
2. Mary saw John.

(1a) is said to be a movement structure, where *John* is said to have undergone movement.

The major theoretical motivation for this movement analysis of movement structure is systematic simplicity: it avoids the conclusion that there are two or more types of positions for the theme argument of *see*, and the need to stipulate that active sentences and passive sentences have exactly the same type of verbs. Another motivation is that native speakers intuitively feel active and passive sentences are related to each other.

From this analysis come several analytical consequences. In association with the landing site of a movement process and the internal make-up of a moved element, linguists distinguish between A-movement (argument position), A'-movement (non-argument position), and head movement. The triggering conditions for movement have been identified as Case requirement of argument DPs, nominal subject requirement of a sentence, morphology, syntactic properties of information structure, clause type marking, quantificational scope marking, predication,

phonological weight, etc. In some cases, sentences apparently involving no movement are argued to involve covert movement. The constraints on movements are studied in theories of syntactic locality and syntactic islands.

Analytical questions for Chinese linguists also include how and why movement structures in Chinese differ from those in other languages. The generative framework argues that cross-linguistic syntactic variations can be reduced to parametric settings of Universal Grammar. According to this view, movement structures differ cross-linguistically according to different parametric settings of the languages, and, to some extent, according to different parameter settings of different lexical items.

Movement structures in Chinese will be understood under these theoretical contexts in this article. For each structure type, I present its basic properties and the motivations for a movement analysis, and then discuss theoretical and comparative aspects. Alternatively, non-movement analyses will also be presented when there is controversy.

## 2. PASSIVE CONSTRUCTIONS

A passive sentence in Chinese has two main features: (i) the theme or affectee argument of the lexical verb occupies the subject position; (ii) the agent argument immediately follows the morpheme  $\rightarrow$  *bèi* 被 and occurs between the subject and the verb. These properties are illustrated in (3a), which contrasts with the *active* counterpart in (3b):

3. a. 那本書被張三偷走了。  
 Nà-běn shū bèi Zhāng Sān  
 that-CLF book bei Zhāng Sān  
 tōuzǒu le.  
 steal ASP  
 'That book was stolen by Zhāng Sān.'
- b. 張三偷走了那本書。  
 Zhāng Sān tōuzǒu le nà-běn shū.  
 Zhāng Sān steal ASP that-CLF book  
 'Zhāng Sān stole that book.'

Arguments for a movement analysis of (3a) include: (i) the obligatory absence of an overt NP in the object position; (ii) its incompatibility with intransitive verbs such as *yóuyǒng* 游泳 'to swim'; and (iii) the requirement the subject is the theme/affectee argument.

Further investigations under the movement analysis suggest that Chinese passives are biclausal, with the movement triggered by the predication property of the verb *bèi*. The landing site in Chinese passives is not the subject position of the main predicate, but the edge of the clausal complement of the  $\rightarrow$  light verb. This analysis is schematized in (4):

4. nà-běn shū<sub>i</sub> bèi [<sub>IP</sub> OP<sub>i</sub> Zhāng Sān tōuzǒu t<sub>i</sub> le]  
 | \_ predication \_ |                      | \_ movement \_ |

In addition to the facts indicating movement, this analysis is based on Chinese passives' compatibility with subject-oriented adverbs (hence the predication analysis) and the possibility of an outer object being passivized (hence no accusative Case absorption) (see Feng 1997; Ting 1998; Huang 1999). It still needs to be refined, however, to accommodate the fact that the first property is shared by English passives (see Matsuoka 2013 and references cited there), and the fact that the NP after *bèi* has to be an agent (Her 2009).

This analysis conforms to the general observation that Chinese is more analytic than English. The light verb *bèi* has properties of a lexical verb, hence no accusative Case absorption and more restricted specification of the subject's theta-role. English passives feature the inflectional affix *-en* and have the opposite properties.

## 3. THE Bǎ 把-CONSTRUCTION

The  $\rightarrow$  *bǎ* 把-construction has one major distinctive feature: the theme or the affectee argument of the lexical verb immediately follows the morpheme *bǎ* and occurs between the subject and the verb. This is illustrated in (5), which can be contrasted with regular sentences without *bǎ* in (3b).

## 5. 張三把那本書偷走了。

Zhāng Sān bǎ nà-běn shū  
 Zhāng Sān OBJM that-CLF book  
 tōuzǒu le.  
 steal ASP  
 ‘Zhāng Sān stole that book.’

Motivations for a movement analysis include: (i) no overt NP can fill the ‘gap’ position; (ii) no intransitive verbs can occur in this construction; (iii) the requirement that the post-*bǎ* NP is the theme/affectee argument.

Further studies under the movement analysis suggest that (5) is mono-clausal, and *bǎ* serves as preverbal accusative Case marking and a subtype of active voice marking, and these two properties trigger movement. The landing site of moved NP is an IP-internal position. This analysis is shown in (6).

6. [<sub>IP</sub> Zhāng Sān bǎ  
 |<sub>Case & voice marking</sub> |  
 nà-běn shū<sub>i</sub> tōuzǒu t<sub>i</sub> le |  
 |<sub>movement</sub> |

In addition to the facts suggesting movement, motivations of this analysis comes from: (i) the subject NP must be the agent or causer of the event (so the sentence is mono-clausal); (ii) the post-*bǎ* NP must be directly affected by the event (Zhāng 2001) (so *bǎ* marks a subtype of active voice); (iii) the morpheme *bǎ* is obligatory in certain resultative and locative alternation constructions (so *bǎ* is an accusative Case marker). This analysis, however, competes with an alternative analysis where *bǎ* is treated as a light verb that assigns a theta role to the post-*bǎ* NP and forms a complex predicate with the lexical verb. Such an analysis argues that the post-*bǎ* NP is its base position. Further study of complex predicates and voice is required to determine which analysis is superior. See Li (2006) and Kuo (2010) for NP movement analyses, and Lin (2001) and Her (2009) for non-movement analyses.

The same debate carries over to consequences for comparative syntax. According to analysis (6), Chinese has a Case-related structure that is absent in English, and there is little else to say. According to the alternative complex predicate

analysis, languages like English are more synthetic because two predicates are realized as one word, whereas Chinese is more analytic since two predicates are realized as two separate words.

There are other types of A-movement that will not be discussed here. One is the subject-to-subject raising construction, which is typically regarded as an instance of Case-related movement. The reader can refer to Lin (2011) for a recent discussion. Another is locative inversion, which displays properties of A-movement. See H.-H. Wu (2008) for a recent discussion.

#### 4. VERB MOVEMENT, NOUN INCORPORATION, AND RELATED CONSTRUCTIONS

There are several types of sentences in Chinese with anomalous semantics of the direct object or anomalous syntax of the theme argument, yet they are generally not analyzed as cases of A- and A'-movements. These types of sentences can be roughly categorized as the following (see Huang 1994, 2008; Féng 2000; Lin 2001; Shěn 2007; Tang 2009; Li 2011, and references cited there):

7. a. Role-playing constructions;
- b. Double agent constructions;
- c. Event quantification;
- d. Affective/double object constructions;
- e. Causative constructions; and
- f. Non-canonical objects.

Each of the categories is illustrated in (8):

8. a. 他的老師當得好。  
 Tā de lǎoshī dāng de hǎo.  
 3SG SUB teacher serve.as ADV well  
 ‘He serves well as a teacher.’
- b. 他念他的書，我睡我的覺。  
 Tā niàn tā de shū, wǒ shuì  
 3SG read 3SG SUB book 1SG sleep  
 wǒ de jiào.  
 my SUB sleep  
 ‘He read his book, and I slept my sleep.’
- c. 他看了三天(的)書。  
 Tā kàn-le sān tiān (de) shū.  
 3SG read-ASP three day SUB book  
 ‘He read (books) for three days.’

- d. 請你別開李四(的)玩笑。  
 Qǐng nǐ bié kāi Lǐ Sì (de)  
 please 2SG don't make Lǐ Sì SUB  
 wánxiào.  
 fun  
 'Please don't make fun of Lǐ Sì.'
- e. 這支舞跳得他滿身大汗。  
 Zhè-zhī wǔ tiào de tā  
 this-CLF dance dance ADV 3SG  
 mǎn shēn dàhàn.  
 whole body big.sweat  
 'This dance got him to dance himself all  
 sweaty.'
- f. 他喜歡吃豪華餐廳。  
 Tā xǐhuān chī háohuá cāntīng.  
 3SG like eat fancy restaurant  
 'He likes to eat at fancy restaurants.'

All of these sentences involve either non-typical positions of the theme argument or non-typical expressions occurring in the direct object position. In (8a), the theme argument *lǎoshī* 老師 of the verb *dāng* 當 occurs as the modiffee of the agent *tā* 他. In this construction, the theme usually has to be the role played, or the skill possessed, by the agent (Shěn 2007; Tang 2009). In (8b), the agent arguments *tā* and *wǒ* 我 both occur twice, the second occurrences place them in the modifier position of the theme arguments *shū* 書 and *jiào* 覺, respectively. The durative phrase *sān tiān* 三天 'three days' in (8c) occurs as the modifier of the theme argument *shū* 'book'. In (8d), the affectee argument *Lǐsì* occurs as the modifier of the theme argument *wánxiào* 玩笑. In (8e), the apparent theme NP of the lexical verb occurs in the subject position, whereas the agent occurs in a postverbal position. In (8f), the apparent direct object is not a theme argument, but a locative phrase.

Motivations for the verb movement analysis of these sentences include: (i) the semantic decomposability of the events expressed (suggesting unpronounced morphemes); (ii) the relative productivity of the constructions (suggesting syntactic processes); and (iii) the fact that the verbs occur to the left of their expected positions (suggesting it is the verbs that are moved).

Further studies under the verb movement analysis suggest that verb movement in these examples is triggered by phonological requirement of the light verb to be supported by a lexical verb. The landing site is the head of the light verb projection between IP and VP. (9), for example, depicts the movement structure of (8c).

9. [<sub>IP</sub> tā [<sub>VP</sub> [<sub>V</sub> kànle<sub>i</sub>-DO] sān tiān de [<sub>VP</sub> t<sub>i</sub> shū]]]  
 |\_\_\_\_\_ movement \_\_\_\_\_|

For details, see Huang (1994) and his subsequent work for analyses of (8a–8e), and Féng (2000) and Lin (2001) for (8f). Most of those examples, however, are also compatible with alternative analyses that do not involve verb movement. (8a) is compatible with the reanalysis approach (Mei 1978; Huang 1982; Pān and Lù 2011; Liú and Zhuāng 2011), modulo the latter's incompatibility with the *No Tampering Condition* generally assumed in the generative framework. (8c) is compatible with the *Incremental Theme* analysis (Huang *et al.* 2009:99). (8f) is compatible with the noun incorporation analysis (Li 2011).

For the verb movement analysis, these examples suggest that Chinese is more analytic since more syntactic words are used than their counterparts in languages like English (Lin 2001). The non-movement analysis of examples like (8f) also suggests that Chinese is more analytic, since it assumes that Chinese has no Case morphology (Li 2011).

## 5. A'-MOVEMENTS

Generally speaking, if a phrasal movement process is not induced by Case, voice, or phonological weight, it is categorized as A'-movement. A'-movements in Chinese typically involves quantification, focus, topicalization, wh-question, and relative construction, as illustrated in (10).

10. a. 張三每個人都認識。  
 Zhāng Sān měi-ge rén dōu  
 Zhāng Sān every-CLF person DOU  
 rènshì.  
 know  
 Zhāng Sān knows everybody.'

- b. 張三連李四都認識。  
 Zhāng Sān lián Lǐ Sì dōu rènshì.  
 Zhāng Sān even Lǐ Sì DOU know  
 'Zhāng Sān even knows Lǐ Sì.'
- c. 李四，張三認識。  
 Lǐ Sì, Zhāng Sān rènshì.  
 Lǐ Sì Zhāng Sān know  
 'Lǐ Sì, Zhāng Sān knows.'
- d. 張三認識誰？  
 Zhāng Sān rènshì shéi?  
 Zhāng Sān know who  
 'Who does Zhāng Sān know?'
- e. 我認識張三喜歡的女孩。  
 Wǒ rènshì Zhāng Sān xǐhuān de  
 1SG know Zhāng Sān like SUB  
 nǚhái.  
 girl  
 'I know the girl who Zhāng Sān likes.'

(10a)–(10c) are marked by their non-canonical word order. (10d) and (10e) do not obviously involve non-canonical word order, but their English counterparts do.

Motivations for the movement analyses of some of these constructions are more complicated than those in the previous sections. The movement analysis for (10d) is supported by the fact that *wh*-question clauses are subject to the same selectional restrictions as those in English when embedded under verbs *xǐǎng zhīdào* 想知道 'wonder' and *yǐwéi* 以為 'think' (see Huang 1982). The movement analysis for (10e) is motivated by locality effects when it contains another relative construction (see Li 2002).

Further studies under movement analyses suggest the following properties. The landing site for these movements can either be IP-external or IP-internal, at least for focus- or topic-related movements (see Ernst and Wang 1995; Shyu 1995; Zhang 1997; J. Wu 1999; Hole 2004; Tsai 2008; Kuo 2009; amongst others). A marker associated with a moved expression (e.g., *lián* 連 in (10b)) can freely attach to any expression regardless of its theta-role. Focus-related movement in Chinese cannot cross a tensed clause (Qu 1994; Shyu 1995). *Wh*-movement is treated as covert movement by some linguists (Huang 1982), but there are also alternative, non-movement analyses (Tsai 1994). The locality

conditions involved in these movements can be quite complex (→ Islands). There are also various other descriptive and theoretical issues that linguists have just started to investigate, including issues of *pied-piping* (the structural makeup of moved constituents, see Shu 2011) and the status of obligatory overt movement with scopal effects (J. Wu 1999; Shu 2012), among others.

For studies of comparative syntax, the lack of overt *wh*-movement in Chinese is related to the fact that Chinese does not have V-to-T movement (so adverbs occur before verbs and auxiliary verbs), and the relevant functional categories are [-strong]. However, overt focus- and quantifier related movements do not fit this picture. It is plausible that feature strength is parametrized according to lexical items as well as languages. Alternatively, these movements are imposed by the lack of V-to-T movement in Chinese (Huang 2003). This issue requires further research.

In addition to movements at clausal level, there are also movements at the NP- internal level. See Zhang (2015) for a movement analysis for pre-numeral modifiers in Chinese.

## 6. CONCLUSION

Movement theory is a useful tool for linguists since it elegantly accounts for the similarities and differences between sentences with canonical word order and sentences with non-canonical word order. As we have seen in the Chinese examples, the similarities are due to their shared basic meaning, and the differences are due to factors such as Case, voice, clause-typing, quantification, and information structure. Although there are plausible non-movement alternative accounts in some cases, in most cases the evidence for movement analyses is very strong. Studies of Chinese movement structures are enlightening to movement theory since they showcase covert movement, A-movements that are disassociated from Case, IP-internal A'-movements, and A'-movements with A-movement properties. On the other hand, movement theory is enlightening to studies of Chinese syntax in that it sheds more insight on the analytic property of Chinese, suggesting that syntactic processes can be

covertly realized in Chinese, and that different lexical items in Chinese have different specifications on the overt/covertness of these processes.

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Chih-hsiang Shu

## Musical Notation

Among the Confucian classics, the *Yuèjì* 樂記 [Record of Music], which is currently a fascicle in the *Lǐjì* 禮記 [Record of Rites], is not only the oldest surviving treatise on music and aesthetics, but also the foremost text that explains the origin and characteristics of music and its relationship to nature, morals, ritual, governance, and society (Cook 1995). The principles and ideas expounded in the *Yuèjì* have long been accepted as the core of Confucian thought on music (DeWoskin 1982:95–98). In this and other classical texts, we can find references to Chinese music and dance of remote antiquity, such as the pieces performed during the reigns of the mythical rulers Yáo 堯 and Shùn 舜. If these music pieces were ever in existence, their accurate dating is nearly impossible. Among the music attributed to ancient sages, Sháo 韶 [Succession]—first mentioned in another Confucian classic *Shàngshū* 尚書 [The Book of Documents] and purported to be the work of the sage ruler Shùn—is undoubtedly the best known dance music of ancient times. It is even said, in the *Lúnyǔ* 論語 [The Analects], that Confucius himself upon hearing a performance of Sháo in the State of Qí 齊 (mostly in the modern province of Shāndōng) was oblivious to the taste of meat for three months.

According to Confucian doctrine, the legendary deeds of these ancient sage rulers are the manifestation of the highest virtue, which are to be praised and followed by later rulers. Likewise, their music and dance have been regarded as the ideal of *yuè* 樂, or music. Since officials and musicians of later times had no access to the musical contents of this ideal, each dynastic court, as we learn from the standard histories, strived to shape its ceremonial music and dance according to its understanding of the next best thing—the formal music of the Zhōu (c. 11th cent.–256 BCE) court.

In yet another Confucian classic *Zhōulǐ* 周禮 [Rites of Zhōu], music is said to be performed in many formal settings: sacrificial ceremonies during which heaven, earth, and ancestors were honored; grand feasts held by the son of heaven to greet the feudal lords; feasts during which the son of heaven received his vassals; archery ceremonies held at different levels of the government; feasts held by the son of heaven to honor seniors in the realm; celebration ceremonies following successful military campaigns; and royal hunts during which armies were inspected. The making of music was enriched by a wide variety of musical instruments, which are grouped under eight materials, referred to as *bāyīn* 八音 or eight timbres, in the *Shàngshū*: metal, stone, silk, bamboo, gourd, earth, skin, and wood. The following are examples of some of the better known instruments, one in each group: *zhōng* 鍾 'bronze bell', *qìng* 磬 'stone-chime', *qín* 琴 'zither' with silken strings, *dí* 笛 'transverse flute' made from bamboo, *shēng* 笙 'mouth organ' made from a gourd, *xūn* 壎 'vessel flute or ocarina' made of clay, *gǔ* 鼓 'barrel drum' with a skin membrane, and *zhù* 柷 'wooden barrel'. Such diverse needs for music and a great variety of instruments must have inspired the creation and evolution of ancient Chinese musical tone systems, and eventually led to a stable system of 12 semitones in the gamut around the Qín (221–206 BCE) and Hàn (206 BCE–220 CE) periods. Unfortunately, the precise development history of the tonal system was not documented and the few textual references to early music are often tales shrouded in mythologies and legends.

For instance, as the legend goes, Huángdì 黃帝 (Yellow Emperor), a legendary cultural