

A Suppressionist Approach to Function-Argument Mismatches

One-Soon Her

National Chengchi University

osh@nccu.edu.tw

Abstract. This paper examines several function-argument mismatches in Mandarin Chinese: locative inversion, resultative inversion, and inversion in consumption verbs. The account offered is theory-neutral, assuming only a strict one-to-one linking between thematic roles and syntactic functions. Upheld in most generative theories, e.g., in GB as the Theta-Criterion and in LFG as the Function-Argument Biuniqueness Condition, the strictly monogamous linking entails the suppression of one of the composing roles in the syntactic assignment of a composite role, formed by two composing roles. The function-argument mismatches in question are simply consequences of such suppressions. This straightforward account further explains the different degrees of markedness of competing structures.

Keywords: Theta-Criterion, suppression, inversion, function-argument mismatch, linking, argument realization

1. Introduction

Among the various principles that have been proposed by generative grammarians to account for the syntactic assignment, also known as “linking” and “mapping”, of thematic roles, Chomsky’s (1981) Theta-Criterion, first proposed within the theory of Government and Binding, is quite likely the most influential.

(1) Theta-Criterion (Chomsky 1981:36)

Each argument bears one and only one θ -role, and each θ -role is assigned to one and only one argument.

As a fundamental constraint on the interface between the event structure and some level of syntactic representation, the strict one-to-one correspondence required by the Theta-Criterion is simple and elegant and is thus also adopted by competing theories; Bresnan (2001:311), for example, proposes a similar principle in the Lexical-Functional Grammar.

(2) Function-Argument Biuniqueness Condition (Bresnan 2001:311)

Each a-structure role must be associated with a unique function, and conversely.

This paper takes this one-to-one correspondence seriously and further claims that, in linking a composite role, formed by two composing roles, to a single syntactic argument, this strict monogamy necessarily forces the suppression of one of the composing roles. The paper thus follows the common theme, and aims to synthesize the analyses offered, in Her (2006, 2007, and 2009b) to demonstrate that this simple thesis straightforwardly accounts for several function-argument mismatches observed in Mandarin Chinese, including locative inversion (cf. Her 2006), resultative inversion (cf. Her 2007), and inversion in consumption verbs, e.g., *chi* ‘eat’, and accommodation verbs, e.g., *zhu* ‘live’ (cf. Her 2009b).

The paper is organized as follows. Section 2 discusses the one-to-one linking constraint and the concept of *suppression* as a morpholexical operation. Section 3 then reviews the case of resultative inversion in Mandarin, followed by the case of inversion in consumption verbs and accommodation verbs in section 4. Section 5 then offers a fresh account in the same spirit for locative inversion. Section 6 examines how this account may be interpreted to explain the different degrees of markedness among competing structures. Section 7 concludes the paper.

2. One-to-one linking and suppression

This section first reviews the current status of the Theta-Criterion in the derivational approach and examines how LFG's Function-Argument Biuniqueness Condition has also been reinterpreted. It aims to demonstrate the important point that one-to-one linking is syntactically required. The second important point is that, given the bi-uniqueness restriction, suppression of a composing role is then necessary in the linking of a composite role, consisting of two composing roles.

The Theta-Criterion has been recognized in the current minimalist literature to be composed of two parts. The first part is the biuniqueness restriction between theta roles and syntactic arguments, and the second part can be stated as (3) (Bošković & Lasnik 2007:17).

- (3) a. Every theta role must be assigned to some argument.
 b. Every argument must be assigned some theta role.

As first noted by Brody (1993), since followed by many, e.g., Hornstein (2001) and Bošković & Lasnik (2007), there is nothing syntactic about (3) as something like it must hold by virtue of semantic interpretation.¹ Hornstein (2001), for example, considers it derivable from the Principle of Full Interpretation. Thus, the only syntactic part in the Theta-Criterion is the biuniqueness requirement, as semantically there is no reason why one argument cannot have two theta roles or more. The Theta-Criterion is thus reduced to simply the biuniqueness restriction, which, along with the subject requirement EPP, has in turn been demonstrated in the minimalist program to be derivable from other independently-motivated principles. The Theta-Criterion is thus no longer needed as an independent principle. One-to-one linking required by syntax is thus maintained, but as a consequence of syntactic interactions.

¹ Under the same spirit, the unified mapping principle in (4) can perhaps be further simplified by eliminating the uniqueness requirement implicit in the availability clause.

Within the LFG literature, it has also been proposed that the Function-Argument Biuniqueness Condition, along with the Subject Condition, can be dispensed with and are simply consequences of a general unified mapping principle (Her 2009b). Note that this unified mapping principle contains no requirement that an argument function (AF) must be mapped to a role, which, as pointed out earlier, must hold by virtue of interpretation.

(4) Unified Mapping Principle (Her 2009b:1148)

Map each role in a-structure to the highest compatible* AF available⁺.

* An AF is compatible iff it contains no conflicting features.

+ An AF is available iff it is not fully specified by a role and not linked to a higher role.

We can thus conclude, whether one assumes a derivational approach or a lexicalist approach, one-to-one linking between thematic roles and grammatical functions is syntactically enforced. However, in LFG it is in the spirit of an independent universal principle, while in the minimalist program it is attributed to syntactic interaction. We will demonstrate in this paper that the biuniqueness restriction as an independent universal principle simplifies, rather than complicates, the grammar.

The central issue this paper deals with is this: when an argument is clearly composed of two theta roles, do both roles participate in the syntactic assignment of the entire argument? An example of this is the resultative compound in Chinese, which will be discussed in section 3. An example is given in (5).

(5) a. *ku* ‘cried’ <ag> + *lei* ‘tired’ <th> → *ku-lei* ‘cry-tired’ <ag-th>

b. *Xiao nanhai ku-lei le.*

little boy cry-tired ASP

‘The little boy got tired from crying.’

Her (1997) first explored this question and proposed that the one-to-one linking requirement, if taken seriously, in fact entails that the two composing roles, agent and theme, in the composite role, *ag-th*, cannot both be linked, and one must be SUPPRESSED to allow the other syntactic assignment. Thus, *the little boy* is linked to either the agent with the theme suppressed, or vice versa, but never both at the same

time. Randall's (2010:182) Bound Argument Condition (*Given two bound CS arguments, only the higher one is eligible to link to an AS position*) follows the same spirit; however, we shall demonstrate that Randall's formulation is too restrictive as either composing role in a bound, or composite, role can receive syntactic assignment.

Argument suppression, together with addition and binding, is a well-established lexical operation. For example, the suppression (or absorption) of the highest role, also known as the logical subject, has been widely assumed to be part of PASSIVIZATION. Suppression is likewise part of the MIDDLE formation. As a notion independently motivated, it does not complicate the grammar in any way if it is also taken to be the logical consequence of strict biuniqueness requirement in the syntactic assignment of argument roles.

Note that suppression does not necessarily eliminate an argument semantically; it merely blocks the role from surfacing as a syntactic ARGUMENT. Yet, the suppressed role may surface as a syntactic ADJUNCT; passivization, (6a) for example, allows the suppressed external role to be identified with, and thus semantically linked to, a *by*-adjunct phrase (Bresnan 1994:81), and a so-called "subject-oriented" adverb is also allowed, as in (6b). A middle verb, however, allows neither of these options, as shown in (7a-b).

- (6) a. The tulip was watered flat (by the boy).
 b. The tulip was watered flat (intentionally).
- (7) a. His books sell easily (*by the dealers).
 b. His books sell easily (*intentionally).

Thus, the "depth" of suppression seems to depend on the particular lexical process and thus cannot be predicted, as suggested in Her (2009a:458). Moreover, suppression, besides being part of a lexical process, can be a necessary "side-effect" in the linking of any composite role, formed by merging two different roles.

However, an alternative to this suppressionist account is available in the literature. Carrier & Randall (1992), for example, proposed a Relativized Theta-Criterion in (8). "AS" stands for "argument structure" in (8).

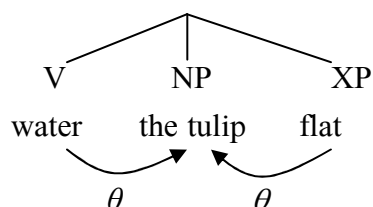
(8) Relativized Theta-Criterion (Carrier & Randall 1992:180)

An XP chain can be associated with at most one argument position *in any given AS*. Each AS position must be satisfied by one and only one XP chain in the syntax. (Emphasis added)

This revised formulation essentially states that two or more roles can indeed be assigned to one syntactic argument as long as each of these roles is assigned by a different head. The same possibility was also considered previously in Chomsky (1981:335), Emonds (1985), and Rapoport (1986) and has also been proposed later in the minimalist approach to syntax, e.g., Hornstein (1998, 2001) and Bošković & Lasnik (2007).² Carrier & Randall (1992) needed this more relaxed interpretation of biuniqueness requirement for the theta assignment in transitive resultatives they proposed, as in (9). Thus, the NP *the tulip* receives two theta roles, one from the matrix verb *water* and the other from the embedded predicate *flat*. Note that Randall (2010:182) maintains the same position.

(9) Theta assignment in transitive resultatives

- a. *water* agent [theme r-state]
- b. *flat* theme []
- c. VP



Under this relaxed version of biuniqueness requirement, *the little boy* in (5) can likewise be linked to both agent and theme at the same time, given that agent is as-

² They contend that a theta-marked element can still be moved into a theta-marked position under restricted circumstances and thus reject the Theta-Criterion. However, in earlier versions of the minimalist program, e.g., Chomsky (1992) and Broekhuis & den Dikken (1993), *move* allows no movement into a complement position.

signed by *cry* and theme by a different head, *tired*. However, as pointed in Her (2004), once *two* roles are allowed to link to a single syntactic argument, there is *in principle* no upper limit, as any restriction would then be arbitrary. It does not seem likely that UG would allow such a wild card in linking. Thus, not only an independent biuniqueness principle is necessary, but also the strict version of the biuniqueness requirement makes a simpler grammar and should be preferred over the relaxed version meta-theoretically, if everything else is equal. But, everything else is not equal, as we shall demonstrate in the next three sections that the strict version is in fact better motivated empirically as well.

3. Inversion in consumption verbs

Li (1995) first discovered the potentially three-way ambiguous resultatives in Mandarin, an example of which is the resultative compound *zhui-lei* ‘chase-tired’. In (10), as we can see, there are two ways for the theta roles of the two verbs to combine, namely that the single role *z* of the second verb *lei* ‘tired’ can attach to either role, *x* or *y*, of the first verb *zhui* ‘chase’ to form a COMPOSITE ROLE. Another logical possibility, namely a three-place predicate requiring $\langle x y z \rangle$, is not available in the grammar of Chinese for resultative compounds.

(10) *zhui* ‘chase $\langle x y \rangle$ ’ + *lei* ‘tired $\langle z \rangle$ ’ \rightarrow *zhui-lei* (i) $\langle x y-z \rangle$
 (ii) $\langle x-z y \rangle$

However, interestingly, the expression of (10) allows not two but *three* well-formed readings. Note also that, of the three well-formed readings, (11a) and (11d) are causatives, but (11c) is not. Following Li (1995, 1999), the feature [caus] refers to the “cause”, and [af] to the “affectee”.³

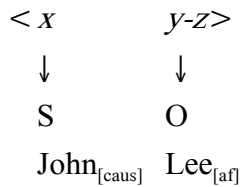
³ Causativity is assigned as part of the resultative compounding. See Li (1995) and Her (2007) for detailed accounts.

ONE-SOON HER

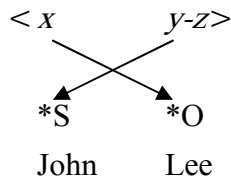
(11) *Zhangsan zhui-lei-le Lisi.*

John chase-tired-ASP Lee
 SUBJ OBJ

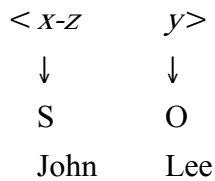
a. ‘John chased Lee and made Lee tired.’ (causative)



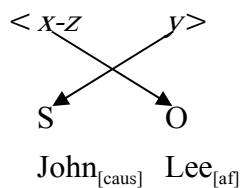
b. *‘Lee chased John and he (John) got tired.’



c. ‘John chased Lee and (John) got tired.’ (non-causative)



d. ‘Lee chased John and was made tired (by John).’ (causative)



The linking in (11a) is mundane, the agent-like *x* links to subject and the composite role of patient and theme, *y-z*, links to object. The logical alternative, i.e., the linking in (11b), is a linking pattern that has often been widely assumed to be ill-formed cross-linguistically; see the following two quotes:

[...] as far as is known there is no hypothetical verb in any language whose subject is a patient and whose direct object is agent.

(Lasnik & Uriagereka 2005:6)

[...] agents of two-argument verbs are always subjects.
 (Levin & Rappaport Hovav 2005:24)

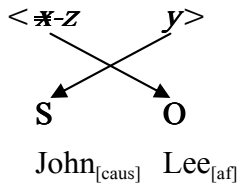
Given the composite role of agent and theme, $x-z$, in (11c-d), the linking gets tricky. As discussed in section 2, one can either assume a rigid one-to-one linking requirement or a relaxed one. Under the relaxed version, there is no problem to link both roles in the composite, thus $x-z$, at the same time, as the two composing roles indeed are assigned by two different lexical heads, *zhui* ‘chase’ and *lei* ‘tired’, respectively. Still, since the composite role links either to subject (11c) or to object (11d), one still needs to account for the two linking alternatives technically. The linking in (11c) follows from the universal constraint favoring agent subjects, as depicted in the above two quotes. But, how then does (11d) come about? The solution offered by Li (1995) is essentially this: the theme role y in (11d) also receives a cause role, which universally must be linked to subject, and thus overrides the agent x . The claim is that the agent linking to subject is violable if the violation is sanctioned by linking cause to subject. Li’s account is thus “expensive” on two accounts: first, agent linking to subject is violated, and second, *two* roles, $x-z$, are linked to object at the same time.

An alternative under the rigid one-to-one restriction is offered in Her (2007), where the linking of $x-z$ at the same time is not allowed, and thus either x or z must be suppressed to allow linking of the other. This naturally gives rise to two linking patterns.

- (12) *Zhangsan zhui-lei-le Lisi.*
 John chase-tired-ASP Lee
 c. ‘John chased Lee and (John) got tired.’ (non-causative)
- | | |
|-----------------------|-------------|
| $\langle x-z \rangle$ | $y \rangle$ |
| ↓ | ↓ |
| S | O |
| John | Lee |

ONE-SOON HER

- d. ‘Lee chased John and was made tired (by John).’ (causative)



The linking in (12c) is once again straightforward: with z suppressed in $x-z$, the agent x links to subject and the patient y links to object. Better still, the linking in (12d) is likewise straightforward: with x suppressed in $x-z$, the theme z , also the affectee, must link to object to allow the linking of the patient y , also the cause, to subject. There is no violation of any universal constraint.

Let’s examine the sentence in (13), which is identical to (11), except the addition of an AGENT-ORIENTED adverb *guyi* ‘intentionally’. Note the crucial difference in interpretations: (11) allows three well-formed readings, but (13) only allows two.

(13) *Zhangsan* *guyi* *zhui-lei-le* *Lisi*.

John intentionally chase-tired-ASP Lee

- a. ‘John chased Lee and made Lee tired intentionally.’
- b.*‘Intentionally, Lee chased John and he (John) got tired.’
- c. ‘John chased Lee and (John) got tired intentionally.’
- d.*‘Intentionally, Lee chased John and was made tired (by John).’

The relaxed version of linking biuniqueness would incorrectly predict (13d) to be well-formed, since its agent role, like that of (13a) and (13c), is fully expressed. The rigid requirement of one-to-one linking, on the other hand, makes precisely the correct prediction: (13d) is ill-formed due to the suppression of the agent role. The latter is thus to be preferred for its theoretical simplicity and empirical coverage.

4. Resultative inversion

A well-known subject-object inversion construction in Chinese involves a consumption verbs, e.g., *chi* ‘eat’, *he* ‘drink’, and *chou* ‘smoke’, or accommodation verbs, e.g., *zhu* ‘live’, *zuo* ‘sit’, and *shui* ‘sleep’, in Chinese.⁴ We will use *chi* ‘eat’ as an example. Again, the canonical linking in (14a) obeys the universal constraint; inversion is impossible, as shown in (14b). However, when the agent of the verb is also an appropriate QP indicating the extent, subject-object inversion can occur, as in (15a-b). Again, the inverted < *agent*-OBJ *theme*-SUBJ > linking pattern in (14b), like the resultative inversion in (11d), appears to have violated a universal constraint.

(14) a. *Tamen chi zhe guo rou.*
 they eat this pot meat
 ‘They eat this pot of meat.’

 b. **Zhe guo rou chi tamen.*
 this pot meat eat they

(15) a. *Liang ge ren chi zhe guo rou.*
 two CL person eat this pot meat
 i. ‘Two people eat this pot of meat.’
 ii. ‘This pot of meat feeds two people.’

 b. *Zhe guo rou chi liang ge ren.*
 this pot meat eat two CL person
 ‘This pot of meat feeds two people.’

Her (2009b) has convincingly demonstrated that this construction has many idiosyncrasies in syntactic behavior and also arbitrary gaps in lexical generalization and thus a morpholexical solution, rather than a syntactic one, is in order. A mor-

⁴ See Ren (2005) for a much more comprehensive range of data and a thorough discussion. The discussion and account here are mostly adopted from Her (2009b).

ONE-SOON HER

pholexical operation in (16) is proposed to account for the additional extent role required of the existing agent role.

(16) Extent-addition morpholexical operation:

$$V_a \langle x y \rangle^*, x = ag \ \& \ y = th, \rightarrow V_b \langle x-z y \rangle, z = ext$$

* V_a denotes an action at the completion of which y is to be possessed, occupied, or consumed by x .⁵

The addition of the extent role is justified, given the fact that verbs like *chi* ‘eat’ can in fact take this additional extent role as an independent argument, i.e., without forming a composite role with the agent, as in (17a). Crucially, when agent becomes implicit, the extent role and the theme role may freely invert, as in (17b).

(17) a. *Yi guo rou chi liang tian.*

one pot meat eat two day

<✱ y z>

↓ ↓

S O

‘One pot of meat provides for two days’ eating.’

b. *Liang tian chi yi guo rou.*

two day eat one pot meat

<✱ y z>

↙ ↘
S O

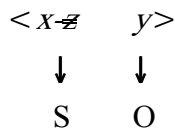
‘One pot of meat provides for two days’ eating.’⁶

⁵ As clearly demonstrated in Her (2009b), this formulation has many (idiosyncratic) gaps, some of which might have a phonological explanation.

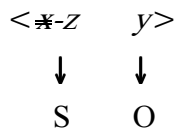
⁶ Between the two different word orders, the focus of course shifts from *two days* in (17a) to *one pot of meat* in (17b); however, the semantic value remains unchanged.

Given the lexical formation in (16) and the biuniqueness requirement, indeed three linking patterns are predicted to be well-formed, as in (18).

(18) a. *Liang ge ren chi zhe guo rou.*
 two CL person eat this pot meat

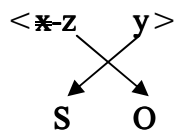


i. ‘Two people eat this pot of meat.’



ii. ‘This pot of meat feeds two people.’

b. *Zhe guo rou chi liang ge ren.*
 this pot meat eat two CL person



‘This pot of meat feeds two people.’

Thus, the inverted linking in fact has nothing to do with the agent role, which is suppressed and receives no linking at all. The inversion in (18b) is therefore identical to the inversion in (17b), where the agent role is likewise suppressed. The only difference between the two sentences is that in (17b) agent and extent are two independent roles, while in (18b) they form a composite role. Suppression is the same nonetheless.

This account is not straightforwardly available under the relaxed version of the biuniqueness requirement, given that there is only one lexical head, *chi* ‘eat’. One may be forced to claim that there is a phonologically empty head that forms a compound with *chi* ‘eat’ and also assigns this additional extent role. It is not attractive but it is a solution, though merely technically. However, empirically there is evidence that the agent is indeed suppressed in the inverted reading.

ONE-SOON HER

(19) a. *Liang ge ren guyi chi zhe guo rou.*
two CL person intentionally eat this pot meat
'Two people intentionally eat this pot of meat.'

b. **Zhe guo rou guyi chi liang ge ren.*
this pot meat intentionally eat two CL person

Compare (19a) with (18a), with the addition of the agent-oriented adverb, the ambiguity in (19a) disappears. The extent reading is no longer available. Furthermore, the inversion allowed in (18b) is also no longer available in (19b). With the suppression of the agent role, an agent-oriented adverb naturally leads to anomaly.

5. Locative inversion

In this section, we shall examine the locative inversion construction, which is observed in many languages, English and Chinese included, and offer a fresh account, again based on the concept of role suppression. An example of locative inversion in Chinese is given in (20), with the English counterpart shown in the free translation.

(20) a. *Yuehan zuo zai tai-shang.*
John sit at stage-top
'John is sitting on the stage.'

b. *Tai-shang zuo zhe Yuehan.*
stage-top sit ASP John
'On the stage is sitting John.'

It is well-established in the literature that a locative inversion verb requires two and only two roles, *theme* and *locative* (e.g., Bresnan 1989, 1994, 2001; Tan 1991; Huang & Her 1998; Her 2006). Without concerning us with the technical details, essentially all previous analyses take for granted the < *theme locative* > required and focus on accounting for the two linking alternatives, i.e., the canonical < *theme-SUBJ locative-OBL* > in (20a) and the inverted < *theme-OBJ locative-SUBJ* > in (20b). We shall challenge the well-established assumption that loca-

tive inversion verbs require an argument structure of *< theme locative >*. Compare (21a) and (21b).

(21) a. *Liang ge weibing guyi li zai men-bian.*
 two CL guard intentionally stand at door-side
 ‘Two guards stand by the door intentionally.’

b. #*Men-bian guyi li zhe liang ge weibing.*
 door-side intentionally stand ASP two CL guard
 ‘*By the door stand two guards intentionally.’
 #‘Someone intentionally has two guards stand by the door.’

Like the inversion in resultative compound verbs and consumption verbs discussed earlier, the subject in the canonical form allows modification by an agent-oriented adverb, as in (21a); however, once inverted, it loses its agenthood and thus forbids an agent-oriented adverb, as in (21b). This contrast indicates that the theme in (21a) has an additional agent role, while that of (21b) does not. Compare (21) with (22) below.

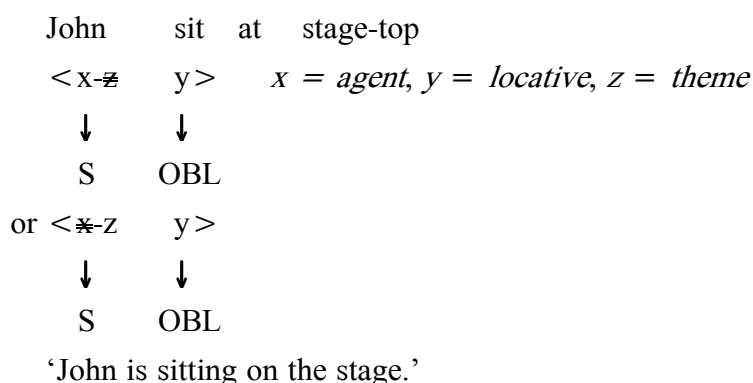
(22) a. #*Liang zhan gao deng guyi li zai men-bian.*
 two CL tall lamp intentionally stand at door-side
 ‘*Two tall lamps stand by the door intentionally.’
 #‘Someone intentionally has two tall lamps stand by the door.’

b. #*Men-bian guyi li zhe liang zhan gao deng.*
 door-side intentionally stand ASP two CL tall lamp
 ‘*By the door stand two tall lamps intentionally.’
 #‘Someone intentionally has two tall lamps stand by the door.’

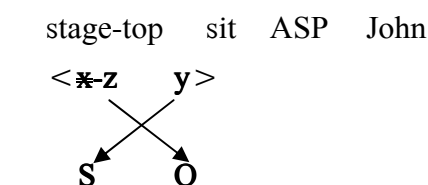
Notice that the animate *weibing* ‘guards’ in (21a) behaves differently from the inanimate *gao deng* ‘tall lamps’ in (22a); however, once inverted, they behave the same, as in (21b) and (22b). Existing accounts, which treat all the above as a simple theme role, cannot account for these contrasts. My proposal is thus this: the argument structure is in fact *< agent-theme locative >* in (20) and (21), while *< theme locative >* in (22). Once again, in linking the composite role *agent-theme*, one of the two must be suppressed. Specifically, only when agent is suppressed is the inversion

pattern $\langle \text{agent-theme-OBJ locative-SUBJ} \rangle$ allowed; if not, linking in inversion, $\langle \text{agent-theme-OBJ locative-SUBJ} \rangle$, would again violate the universal constraint discussed earlier. The linking in (20) is illustrated in (23) below.

(23) a. *Yuehan zuo zai tai-shang.*



b. *Tai-shang zuo zhe Yuehan.*



‘On the stage is sitting John.’

To conclude, previous assumption that locative inversion verbs require an argument structure of $\langle \textit{theme locative} \rangle$ is only partially correct and accounts for sentences like (22). However, to account for sentences like (20), an argument structure of $\langle \textit{agent-theme locative} \rangle$ is in order, and, once again, the suppression of the agent role as a composing role in the composite role plays a crucial factor here in allowing inversion.

6. Discussion

We have thus demonstrated that the strict one-to-one linking not only affords a simpler grammar but also is better motivated empirically. In this section, we shall further demonstrate that a notion of (un)markedness in linking can also be derived based on the notion of suppression. We contend that an unmarked linking, with a more harmonious or transparent mapping between thematic roles and syntactic ar-

guments, facilitates a more accessible reading, while a more marked linking, with a higher degree of disharmony or opacity, gives rise to a more obscure reading. Let's first examine the three readings allowed by *zhui-lei* 'chase-tired', discussed in section 3 and repeated in (24).

(24) *Zhangsan zhui-lei le Lisi.*

John chase-tired ASP Lee

a. 'John chased Lee to the extent of making him (Lee) tired.'

$\langle x$	$y-z \rangle$
$\langle X_{[\text{caus}]}$	$\cancel{Y-Z}_{[\text{af}]} \rangle$
S	O
John	Lee

b. *'Lee chased John and he (John) got tired.'

$\langle x$	$y-z \rangle$
$\langle x$	$\cancel{y-z} \rangle$
*O	*S
Lee	John

c. 'John chased Lee and he (John) got tired.'

$\langle x-z$	$y \rangle$
S	O
John	Lee

d. 'Lee chased John and was made tired (by John).'

$\langle Y_{[\text{caus}]}$	$\cancel{X-Z}_{[\text{af}]} \rangle$
S	O
John	Lee

Following Her (2007), an independent role, whose linking is guaranteed, can be assumed to be less marked than a composite role, where linking is not straightforward. Furthermore, in a composite role, the suppression of a more prominent composing role to allow linking of a less prominent composing role can be assumed to be less marked than vice versa. Again, we will use the metaphorical term UPSET in Her (2007) for any marked choice when a less marked choice is available. Thus, the more

ONE-SOON HER

upsets there are in linking, the less accessible is the reading associated with it. Among the four linking patterns, which produce the three well-formed readings in (24), a markedness hierarchy can therefore be derived.

(25) *zhui* ‘chase < *x y* >’ + *lei* ‘tired < *z* >’ →

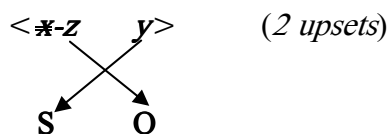
- i. < *x y-z* > (reading 32a: *no upset*)
- ii. < *x*_[caus] *y-z*_[af] > (reading 32a: *no upset*)
- iii. < *x-z y* > (reading 32c: *1 upset*)
- iv. < *y*_[caus] *x-z*_[af] > (reading 32d: *2 upsets*)

In (25i-ii), which produces the least marked reading, the suppression of either the patient *y* or the theme *z* is not an upset given the similar prominence of the two composing roles. One upset arises in (25iii) as *z* forms a composite role with the more prominent *x*, rather than the less prominent *y*. The same upset occurs in (25iv), where an additional upset also arises as the more prominent *x* is suppressed in *x-z* to allow linking of the less prominent *z*. This markedness hierarchy in (25) indeed coincides with native speakers’ intuition. As Li (1995:256) puts it, (32a) has the “basic” meaning. The reading of (32d), on the other hand, is most subtle.

The same principles can apply to the inverted linking in consumption verbs as well, repeated in (26). It is more marked than the canonical linking, again due to two upsets in linking. That the agent, *x*, a more prominent role than the theme *y*, becomes a part of a composite role *x-z* constitutes the first upset, and its suppression, instead of the less prominent extent role *z*, produces another upset.

(26) *Zhe guo rou chi liang ge ren.*

this pot meat eat two CL person



‘This pot of meat feeds two people.’

Finally, let’s examine the linking in locative inversion, repeated in (27). It is again more marked than the canonical linking due to the two upsets in linking. That the agent, *x*, a more prominent role than the locative *y*, becomes a part of a composite

role $x-z$ constitutes the first upset, and its suppression, instead of the less prominent theme role z , produces the second upset.

(27) *Tai-shang* *zuo zhe* *Yuehan*.

stage-top sit ASP John

$\langle \cancel{x-z} \ y \rangle$ (2 upsets)

S O

‘On the stage is sitting John.’

7. Conclusion

The strict one-to-one linking between theta roles and syntactic arguments is the simplest interpretation of the biuniqueness requirement and, as we have demonstrated, it motivates, as well as constrains, the suppression of a composing role in a composite role. The relaxation of this biuniqueness restriction not only complicates the grammar but also fails to account for some crucial data involving the inversion constructions discussed in the paper. The suppression of a thematic role is not a novel idea; rather it is a well-established morpholexical operation. For example, passivization is widely assumed to involve the suppression of the external role. This paper has discussed several function-argument mismatches observed in Mandarin Chinese, including locative inversion, resultative inversion, and inversion in consumption verbs, e.g., *chi* ‘eat’, and accommodation verbs, e.g., *zhu* ‘live’. The account offered is theory-neutral, assuming only a strict one-to-one linking, which entails the suppression of one of the composing roles in the syntactic assignment of a composite role, formed by two composing roles. The function-argument mismatches in question are simply consequences of such suppressions. This straightforward account further explains the different degrees of markedness of competing structures.

Acknowledgements

Research reported in the paper has been supported by the following NSC grants: 97-2410-H-004-112-MY2, 96-2411-H-004-037, 95-2411-H-004-027. I am grateful

for comments by the two anonymous reviewers and Yvonne Treis. I also thank Yu-Ying Ho and Guang-Zhong Wu for assistance in formatting this paper.

Abbreviations

ASP: aspect marker – CL: classifier – AS: argument structure – CS: conceptual structure – AF: argument function – caus: cause – af: affectee

Bibliography

- Bošković, Željko & Howard Lasnik (eds.). 2007. *Minimalist syntax: The essential readings*. Massachusetts: Blackwell.
- Bresnan, Joan. 1989. The syntactic projection problem and comparative syntax of locative inversion. *Journal of Information Science and Engineering (Special issue devoted to the Proceedings of ROCLING II, Taipei, 1989)* 5. 287-303.
- Bresnan, Joan. 1994. Locative inversion and the architecture of universal grammar. *Language* 70. 72-131.
- Bresnan, Joan. 2001. *Lexical-functional syntax*. Oxford: Blackwell.
- Brody, Michael. 1993. Theta-theory and arguments. *Linguistic Inquiry* 24. 1-23.
- Broekhuis, Hans & Marcel den Dikken. 1993. Chomsky's minimalist program. *Tabu* 23. 219-252.
- Carrier, Jill, & Janet Randall. 1992. The argument structure and syntactic structure of resultatives. *Linguistic Inquiry* 23. 173-233.
- Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.
- Chomsky, Noam. 1992. *A minimalist program for linguistic theory*. MIT Occasional Papers in Linguistics 1.
- Emonds, Joseph. 1985. *A unified theory of syntactic categories*. Dordrecht: Foris.
- Her, One-Soon. 1997. *Interaction and variation in the Chinese VO construction*. Taipei: Crane.
- Her, One-Soon. 2004. Argument-function linking in resultatives. *Concentric: Studies in Linguistics* 30(2). 1-34.

- Her, One-Soon.** 2006. Optimality-theoretic lexical mapping theory: A case study of locative inversion. *International Journal of Technology and Human Interaction (Special Issue: Human Language Technology in Multilingual Perspectives)* 2(1). 67-94.
- Her, One-Soon.** 2007. Argument-function mismatches in Mandarin Chinese: A lexical mapping account. *Lingua* 117(1). 221-246.
- Her, One-Soon.** 2009a. Unifying the long passive and the short passive: On the *bei* construction in Taiwan Mandarin. *Language and Linguistics* 10(3). 421-470.
- Her, One-Soon.** 2009b. Apparent subject-object inversion in Chinese. *Linguistics* 47(5). 1143-1181.
- Hornstein, Norbert.** 1998. Movement and chains. *Syntax* 1(2). 99-127.
- Hornstein, Norbert.** 2001. *Move! A minimalist theory of construal*. Massachusetts: Blackwell.
- Huang, Hui-Ting & One-Soon Her.** 1998. Mandarin locative inversion and relation-changing rules. In Shuanfan Huang (ed.), *Selected Papers from the Second International Symposium on Languages in Taiwan*, 287-304. Taipei: Crane.
- Lasnik, Howard & Juan Uriagereka (with Cedric Boeckx).** 2005. *A course in minimalist syntax: Foundations and prospects*. Malden, MA: Blackwell.
- Levin, Beth & Malka Rappaport Hovav.** 2005. *Argument realization*. Cambridge University Press.
- Li, Ya-Fei.** 1995. The thematic hierarchy and causativity. *Natural Language and Linguistic Theory* 13. 255-282.
- Li, Ya-Fei.** 1999. Cross-componential causativity. *Natural Language and Linguistic Theory* 27. 445-497.
- Randall, Janet.** 2010. *Linking: The geometry of argument structure*. Dordrecht: Springer.
- Rapoport, Tova R.** 1986. Nonverbal predication in Hebrew. In Mary Dalrymple et al. (eds.), *Proceedings of the West Coast Conference on Formal Linguistics* 5, 207-218. Stanford, CA: Stanford Linguistics Association.
- Ren, Ying.** 2005. *Xiandai hanyu feishoushi binyu yanjiu [On non-patient objects in modern Mandarin]*. Beijing: Shehui Kexue Wenxian Chubanshe.
- Tan, Fu.** 1991. *Notion of subject in Chinese*. Stanford, CA: Stanford University PhD dissertation.