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普遍語法中施事賓語的連結問題：漢語及達悟語中的證據 研究成果報告(精簡版)

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漢語及達悟語中的證據

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APPARENT SUBJECT-OBJECT INVERSION IN CHINESE[*]

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ABSTRACT

This paper is concerned with the problem of argument-function mismatch observed in the (apparent) subject-object inversion in Chinese consumption verbs, e.g., chi 'eat' and he 'drink', and accommodation verbs, e.g., zhu 'live' and shui 'sleep'. These verbs seem to allow the linking of <agent-SUBJ theme-OBJ> as well as <agent-OBJ theme-SUBJ>, but only when the agent is also the semantic role denoting the measure or extent of the action. The account offered is formulated within LFG's lexical mapping theory. Under the simplest and also the strictest interpretation of the argument-function mapping principle (or the θ-Criterion), a composite role such as ag-ext receives syntactic assignment via one composing role only; the second composing role must be suppressed. Apparent subject-object inversion occurs when in the competition between the two composing roles, ag-ext, the agent loses out and is suppressed. This account also facilitates a natural explanation of markedness among the competing syntactic structures.

1. Introduction: The Linking Problem

Despite the view of autonomous syntax which characterizes syntactic theories within the tradition of generative grammar (Newmeyer 1991), various mechanisms and principles have been proposed by generative grammarians to account for the general correspondences between semantic roles and syntactic arguments, for example agents to subjects and patients to objects.[1] Such correspondences are known as 'linking', 'mapping', and also 'argument realization'. Unsatisfied with the earlier rule-based stipulations[2], more principled constraints were proposed to account for the linking between lexical semantics and syntax. Among such universal constraints, the following three stand out and have had the greatest influences: Chomsky's (1981) θ-Criterion, Perlmutter and Postal's (1984) Universal Alignment Hypothesis (UAH), and Baker's (1988) Uniformity of Theta Assignment Hypothesis (UTAH).

(1) θ-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.

(2) Universal Alignment Hypothesis (UAH) (Perlmutter and Postal 1984: 97)
There exist principles of UG which predict the initial relation borne by each nominal in a given clause from the meaning of the clause.

(3) Uniformity of Theta Assignment Hypothesis (Baker 1988: 46)
Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

The θ-Criterion, originally proposed within the Government and Binding framework, states that the mapping between theta roles and syntactic arguments is strictly one-to-one, bidirectionally. The UAH, first formulated in the framework of Relational Grammar (RG), predicts that the connection between lexical semantics and the initial syntactic representation is constant and constrained by general principles (but leaves these principles unspecified) and thus implies that semantic roles represent equivalence classes of predicate arguments which the mapping process refers to. The UTAH maintains that the mapping between theta roles and structural relationships is consistent in that syntactic arguments fulfilling a particular role of a given predicate must all be generated in the same initial underlying syntactic position.

All three hypotheses function as constraints over the syntax-semantics interface and assume a fundamental connection between the event structure and some level of syntactic representation. However, their applicability on linking depends on the particular syntactic framework one assumes. Within the mainstream structuralist tradition, this linking relationship holds between a theta role and the initial pre-movement argument position in the structural configuration of a constituent structure.[3] Within this framework, grammatical functions such as subject and object are secondary notions defined purely in structural terms. However, within alternative frameworks which recognize grammatical relations, also known as grammatical functions, as primary notions, linking holds between the theta structure and the relational structure of syntactic functions. RG and LFG, or Lexical-Functional Grammar, are two prime examples.

UTAH is thus only relevant to a structure-based, transformational framework, not function-based frameworks like RG and LFG. The UAH, though function-based, also presumes a transformational multistratal framework; as such, it does not apply to LFG, a monostratal non-transformational framework. The θ-Criterion, however, applies universally, as it simply states that theta roles must map to syntactic arguments and such linking, besides being mandatory, must also be monogamous.

However, none of the hypotheses mentioned thus far accounts for the central mechanism by which the theta structure and the syntactic structure are linked; for example, specifically how agents are assigned to the syntactic subject and patients to object in typical transitive verbs. One of the most significant

hypotheses put forward to avoid the traditional stipulations on linking individual semantic roles[4] is the notion of thematic hierarchy (TH), which maintains that semantic roles are ranked hierarchically and universally according to prominence and that more prominent roles are mapped to more prominent syntactic arguments, and vice versa. This consequence of the TH with regard to argument realization is formally stated in Larson (1988) as the Relativized UTAH.

(4) Relativized UTAH (Larson 1988: 382)
If a verb α determines theta roles $\theta_1, \theta_2,\ldots, \theta_n$, then the lowest role on the Thematic Hierarchy is assigned to the lowest argument in constituent structure, the next lowest role to the next lowest argument, and so on.

The TH can thus be viewed as a concrete example of the kind of universal principle that the UAH refers to, and one that supplements the UTAH. In the derivational framework, the syntactic prominence that aligns with the semantic prominence in the TH is defined by a command relation. Between two syntactic argument positions, the one c-commanding the other is more prominent. Thus, given that agent outranks theme/patient in prominence and that the subject position c-commands, and thus outranks, the object position in a clause, the linking of agent to subject and patient to object is obtained. However, within non-derivational frameworks such as RG and LFG the prominence of syntactic arguments is not determined structurally; rather, a syntactic prominence scale is considered among syntactic relations such as subject and object, which are deemed primary notions independent of constituent structures. While the subject is universally viewed as the most prominent grammatical function, there is a lack of agreement as to the precise prominence scale across the relation-based frameworks. Likewise, attractive the notion of TH may be, there is surprisingly little agreement as to the precise inventory of such roles or the exact ranking of such roles, except that agent is the most prominent (Newmeyer 2002: 65)[5].

This paper deals with a construction in Chinese which allows agent to be linked to object and patient linked to subject, a linking pattern that has often been considered to be ill-formed cross-linguistically; see the following two quotes.[6]

..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 and Uriagereka 2005: 6)

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

The paper is organized into six sections. Based on the introduction to linking in this section, a theory on linking, formulated within LFG (Kaplan and Bresnan 1982, Bresnan 2001), known as the lexical mapping theory (LMT), will be presented in section 2. Section 3 then discusses the core problem to be dealt

with in the paper: the apparent subject-object inversion observed in consumption verbs and accommodation verbs in Chinese. An example follows.

(5) a. Tamen si ge ren zuo zhe zhang zuozi.
     they four CL person sit this CL table
     'Those four people sit at this table.'

   b. Zhe zhang zuozi zuo tamen si ge ren.
     this CL table sit they four CL person
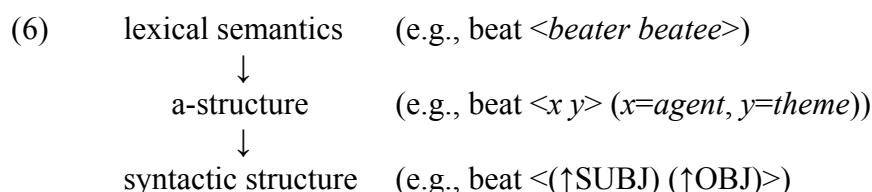   'This table sits those four people.'

Cross-linguistically, inversion, or word order variation in general, often involves a change in the discourse packaging and allows the more familiar information to precede the less familiar information (e.g., Birner 1994; Bresnan 1994; Ackerman and Moore 2001b: 2). It has also been recognized that in Chinese the complement of a verb often serves as the focus in discourse; thus constructions such as passivization, locative inversion, cleft, and pseudo-cleft can all be said to serve the discourse function to place the focused element in a complement position (e.g., Tan 1991; Cheng 1983). Between the canonical construction in (5a) and the inverted form of (5b), the object remains the focus; thus the focus switches from the theme *the table* to the agent *the four people*. However, grammatically the inverted linking of <*agent*-OBJ, *theme*-SUBJ> in (5b) poses a serious challenge to current linking theories, and in this section we will also demonstrate that derivational accounts are not feasible.

In section 4, a principled and well-constrained account will be offered within the mapping theory developed in section 2, after a review of an LMT account of a similar problem in Chinese resultative compound verbs. It will be demonstrated that the strict one-to-one mapping forces the suppression of a composing role in a composite role, which is formed morpholexically by merging two distinct roles and that the competition for syntactic assignment between the two composing roles creates the apparent subject-object inversion. This subject-object inversion is thus only apparent because it occurs only when in the competition between the two composing roles, *agent-extent*, agent loses out and is in fact suppressed. Section 5 consists of a discussion of the LMT account offered and its implications on the theory of markedness. Section 6 concludes the paper.

2. Lexical Mapping Theory

As a non-derivational generative framework, LFG takes seriously the insight that some generalizations regarding the mapping between the predicate argument structure and the syntactic structure must be stated at an independent level of predicate valence (Levin 1987; Rosen 1989; Bresnan and Kanerva 1989; Bresnan and Zaenen 1990; Grimshaw 1990; Jackendoff 1990; Alsina 1993, 1996,

Mohanan 1994; Neeleman 1994; Butt 1995; Butt and King 2000; among others), and thus poses an argument structure (a-structure), which links the lexical semantic structure and the syntactic structure of a predicator (e.g., Bresnan and Kanerva 1989, Bresnan and Zaenen 1990). The particular conception of the a-structure assumed here is based on Baker (1983) and Bresnan (1996, 2001).

(6)   lexical semantics   (e.g., beat *<beater beatee>*)
                ↓
        a-structure   (e.g., beat *<x y>* (*x=agent, y=theme*))
                ↓
        syntactic structure   (e.g., beat <(↑SUBJ) (↑OBJ)>)

Furthermore, to capture the RG concept of grammatical relations, LFG posits two parallel planes of syntactic representation: constituent structure (c-structure) and functional structure (f-structure) (Kaplan and Bresnan 1982). The c-structure encodes the categorial hierarchies, usually represented as tree configurations. The f-structure, formally a feature structure, is the central locus of grammatical information, such as grammatical functions (e.g., SUBJ and OBJ), tense, aspect, polarity, case, person, number, gender, etc. These parallel structures are linked by correspondence principles and together provide the complete syntactic description. The lexical mapping theory (LMT) is the UG component that constrains the linking between a-structure roles and f-structure functions.

LMT also assumes a universal hierarchical organization of a-structure arguments, thus a thematic hierarchy, as shown in (7) (Bresnan and Kanerva 1989, l992), which might also be derived from Dowtyan proto-role properties (Dowty 1991; Bresnan 2001: 321fn). By convention, roles in the a-structure are listed in a descending order accordingly, for example *<ag th>*. The most prominent role in the a-structure, or the logical subject, is known as $\hat{\theta}$.

(7)   Thematic Hierarchy:
      ag > ben > go/exp > inst > pt/th > loc

Grammatical functions (GFs) that are subcategorized for, known as argument functions (AFs), including SUBJ, OBJ, OBL$_\theta$ (oblique functions), and OBJ$_\theta$, (secondary objects), are likewise ranked for syntactic prominence. This syntactic hierarchy is formally due to a classification of AFs with two binary features: [$\pm r$] (whether an AF is restricted to having a thematic role) and [$\pm o$] (whether an AF is objective, and thus a complement of a transitive predicate). SUBJ has two minus values and OBJ$_\theta$ has two plus values. Assuming the minus value to be unmarked, SUBJ is thus the least marked GF, while OBJ$_\theta$ is at the opposite end of the scale. OBJ and OBL$_\theta$ are equal in prominence.

(8)   Markedness Hierarchy of Argument Functions:
      SUBJ(*-r –o*)   >   OBJ(*-r +o*)/OBL$_\theta$(*+r –o*)   >   OBJ$_\theta$(*+r +o*)

Recall that in the derivational framework a theta role of a predicate is consistently assigned to an argument's initial syntactic position, i.e., before any movement takes place, as stated in UTAH. However, LFG maintains the spirit of UTAH by posing a universal scheme of morphosyntactic classification of a-structure roles, as in (9) and (10) (Bresnan and Kanerva 1989) and a unified mapping principle (UMP) (Her 1999, 2003, 2007).

(9) Intrinsic Morphosyntactic Classification of Argument Roles (IC):
θ, $\theta = pat/th$
[-r]

(10) Default Morphosyntactic Classification of Argument Roles (DC):
θ, $\theta \neq \hat{\theta}$
[+r]

(11) Unified Mapping Principle (UMP):
Map each role in a-structure with no higher role available[*] onto the highest AF that is both available and compatible.[7]
*A role is available if it is not linked to an AF, and conversely.
+A role and an AF are compatible if they contain no conflicting feature.

The generalization in (9) can be viewed as an implementation of the unaccusative hypothesis, initially proposed by Perlmutter (1978), that cross-linguistically *pt/th* is encoded as an unrestricted function, i.e., SUBJ or OBJ (Bresnan and Kanerva 1989; Bresnan and Zaenen 1990; Zaenen 1993).[8] The elsewhere condition in (10) captures the generalization that a non-logical subject, non-patientlike role is typically assigned a thematically restricted oblique function. The UMP reflects two generalizations. First, a more prominent role favors a more prominent AF and each role *consistently* favors the most prominent AF possible. Note also that the UMP incorporates the θ-Criterion in that one-to-one linking is strictly required.

Lexical mapping of three different types of verbs is illustrated below: the unaccusative verb *melt* in (12), the unergative verb *bark* in (13), and the transitive verb *break* in (14).

(12) The ice melted.
$melt <$ x $>$ $(x = pt/th)$
IC: [-r]
DC:

S/O
UMP: S

(13) The dog barked.

                       bark < x >   ($x = ag$)

IC:

DC:

                     S/O/…

UMP: S

(14) The girl broke the window.

                    break < x y >   ($x = ag, y = pt/th$)

IC: [-r]

DC:

                  S/O/… S/O

UMP: S   O

The mapping in (12) and (13) is straightforward. In (14), the role x, being an agent role, receives no IC, and being the logical subject, receives no DC. It is thus compatible with all four AFs in (8), while the role y, a patient/theme role, receives IC [-r] and thus no DC.[9] It is compatible with SUBJ and OBJ. The UMP requires the mapping of the more prominent x onto the most prominent AF available, and thus SUBJ; hence, the less prominent y must be mapped to the only function that remains available to it, OBJ.

While the mapping above is accounted for by the universal component of LMT, there are language-specific morphological operations that may affect the a-structure and/or linking. While all morphological operations may affect the predicate, only morpholexical operations may alter the 'lexical stock' of the a-structure by adding, suppressing, or binding argument roles (e.g., Bresnan 2001: 310; Markantonatou 1995; Ackerman and Moore 2001a). The morpholexical operation of passivization, which suppresses, or 'absorbs' as it is known in the derivational framework, the logical subject, is an example; see (15-16).

(15) Passivization: <θ… >

                        ↓

                        ∅

(16) The window was broken.

                    broken < $\bcancel{x}$ y >   ($x = ag, y = pt/th$)

IC: [-r]

DC:

                    S/O

UMP: S

In section 3, to account for the subject-object inversion verbs, we will propose a morpholexical operation that involves both the addition and binding of a thematic role. Morphosyntactic operations, on the other hand, affect only the syntactic classification of a-structure roles, by adding syntactic features [$\pm r$] and [$\pm o$] (Ackerman 1992). Locative inversion, in languages such as English and Chinese, is such an example (Bresnan and Kanerva 1989; Huang and Her 1998).[10]

(17) a. Zhangsan zuo zai tai-shang.
     John   sit at stage-top
     'John is sitting on the stage.'

$$zuo/sit < \quad x \qquad\qquad y \quad > \quad (x = th, y = loc)$$

IC:		[$-r$]	
DC:			[$+r$]

		S/O	OBL$_\theta$/OBJ$_\theta$
UMP:		S	OBL$_\theta$

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

$$zuo/sit < \quad x \qquad\qquad y \quad > \quad (x = th, y = loc)$$

IC:		[$-r$]	
Loc-Inv:		[$+o$]	[$-r$]
DC:			

		O	S/O
UMP:		O	S

3. Apparent Subject-Object Inversion

The non-isomorphy problem, of which both passivization and locative inversion are examples, is the most essential issue in linking. In the derivational framework, the operation of syntactic movement provides some flexibility needed for resolving such syntax-semantics mismatches.[11] In the monostratal framework of LFG, however, such non-isomorphy is often accounted for morpholexically or morphosyntactically, as demonstrated in section 2. The core problem that this paper aims to solve involves an apparent subject-object inversion observed in consumption verbs, e.g., *chi* 'eat', *he* 'drink', and *chou* 'smoke', and accommodation verbs, e.g., *zhu* 'live', *zuo* 'sit', and *shui* 'sleep', in Chinese.

3.1. Consumption verbs

The verb *chi* 'eat' will be used as an example of consumption verbs. Its canonical transitive construction is shown in (18a), where the linking of <*ag*-SUBJ *th*-OBJ> and the SVO word order are as expected, and the inverted linking of <*ag*-OBJ *th*-SUBJ> in (18b) is ill-formed, also as expected. This is still true when the theme object is a quantifier phrase (QP) and thus also denotes measure or extent of the eating, as in (19).

(18) a. Lisi chi rou.
     Lee eat meat
     'Lee eats meat.'

   b.*Rou chi Lisi.

(19) a. Lisi chi (zhe) yi guo rou.
     Lee eat this one pot meat
     'Lee eats (this) one pot of meat.'

   b.*Zhe yi guo rou chi Lisi.
   c.*Yi guo rou chi Lisi.

However, it has been observed that if the agent is a QP, subject-object inversion can occur, as in (20a-b). The inverted linking in (20b) thus appears to violate the thematic hierarchy and presents a non-isomorphy problem. Note that this inversion is irrespective of the theme being a QP or NP, as in (21).

(20) a. Liang ge ren   chi yi bang rou.
     two   CL person eat one pound meat
     i. 'Two people eat one pound of meat.'
     ii. 'One pound of meat feeds/serves two people.'

   b. Yi   bang rou chi liang ge   ren.
     one pound meat eat two   CL person
     'One pound of meat feeds/serves two people.'

(21) a. Liang ge ren   chi   zhe wan rou.
     two   CL person eat   this bowl meat
     i. 'Two people eat this bowl of meat.'
     ii. 'This bowl of meat feeds/serves two people.'

   b. Zhe wan rou chi liang ge   ren.
     one bowl meat eat two   CL person
     'This bowl of meat feeds/serves two people.'

As further noted in Her (2003), the inverted sentences of (20b) and (21b) now take on an additional meaning beyond 'eating', which is subtle but distinctive, in that the inverted object not only is the agent of eating but also denotes the measure or the extent of it. As argued by Y. A. Li (1998, 1999), the interpretation of an indefinite nominal like *liang ge ren* 'two people' in (20-21) indeed concerns quantity. The meaning of (20b) is thus along the line of 'one pound of meat accommodates the eating by, and to the extent of, two people'. The canonical (20a) and (21a), however, are ambiguous with two readings. The first reading involves simple agent and theme, while the second reading is identical to that of (20b). Therefore, in an appropriate discourse context, (20a) and (20b) are equally acceptable and denote the same meaning.

(22) Q: Women mai yi   bang rou   gou-bu-gou?
        we   buy one pound meat enough-not-enough
      'Is it enough if we buy one pound of meat?'

    A: Wo xiang bu   gou. *Liang ge   ren   chi yi   bang* (20a)/
        I   think not enough two CL person eat one pound
        Yi   bang chi liang ge   ren (20b). Women you si   ge   ren,
        one pound eat two CL person   we   have four CL person
        dei   mai liang bang.
        must buy two pound
        'Not enough, I think. One pound feeds/serves two people, and
         there are four of us, so we must buy two pounds.'

It is thus clear that the verb *chi* in (20a) and (20b) takes on an additional semantic role of 'measure' or 'extent', besides agent and theme. This is precisely the possible role of 'extent' Dowty (1991: 554) refers to, and is similar to the role of 'range' discussed in Teng (1975: 95) and the role of 'domain' proposed in Huang (1993: 372-374) and Her (2003). The more widely used term of 'extent' will be adopted here. Dowty (1991: 554) illustrates this role with the following set of examples:

(23) a. I walked a mile.
        I swam 30 meters.
        I slept twelve hours.
     b. This weighs five pounds.
        The piano measures 6'5''.
        It took me an hour to grade the papers.
        The book cost me $5.
     c. I paid $5 (this amount) (?this $5-bill) for the book.
        The book cost me $5 (?this amount) (#this $5-bill).
        I bought the book for $5 (this amount) (#this $5-bill).
     d. I paid for the book with ?$5 (#this amount) (this $5-bill).
        I bought the book with ?$5 (#this amount) (this $5-bill).
     e. I'll trade this record for the book.

Dowty (1991) points out the difficulty in the distinction between adjuncts and arguments. The measure or extent phrases in the (a) examples are usually considered adjuncts,[12] and as such do not receive a theta role from the verb. However, the extent phrases in (b) are subcategorized for, and thus assigned the extent role, by the verb.[13] Sentences in (c) and (d) illustrate how extent is distinguished from theme: *$5* or *this amount* refers to an abstract value and should be recognized as extent, but *$5-bill* refers to the concrete object and should be assigned a theme role, on a par with *this record* in (e). However, English, as shown in (24) and Chinese, as shown in (18), are alike in that a straightforward theme or extent object doest not invert with an agent subject.

(24) a. *6'5'' measures the piano.
   b. *$5 paid me for the book.
   c. *This record traded me for the book.

While Dowty (1991) cautioned about the distinction between extent and theme, the interesting point revealed in the Chinese data is that subject-object inversion occurs only when the agent role takes on an additional extent role. (25b) is ill-formed because the agent denoted by the pronoun or the full NP cannot afford a measure or extent reading. With the addition of a QP (*two people*), the extent reading is available and so is subject-object inversion.

(25) a. Tamen/Zhangsan han Lisi chi zhe guo rou.
   They / John   and Lee eat this pot meat
   'They/John and Lee eat this pot of meat.'

   b. *Zhe guo rou chi tamen/Zhangsan han Lisi.

(26) a. Tamen/Zhangsan han Lisi liang ge ren   chi zhe guo rou.
   They / John   and Lee two CL person eat this pot meat
   'They/John and Lee two people eat this pot of meat.'

   b. Zhe guo rou chi tamen/Zhangsan han Lisi liang ge ren.
   this pot meat eat they / John   and Lee two CL person
   'This pot of meat feeds/serves them/John and Lee two people.'

Note that the object in the inverted (26b) still denotes the actor of the action *chi*, thus the eater, despite the addition of the extent reading. Given this change of semantic content of the verb *chi* in the inverted sentences, it is reasonable to postulate a morpholexical operation for this verb class. However, as we shall see in 3.2, this morpholexical change is also applicable to accommodation verbs.

3.2. Accommodation verbs

The particular sense which the term 'accommodation verbs' refers to in this paper is the provision of space or time needed for a certain activity, for example sleeping, sitting, standing, or dancing. The verb *shui* 'sleep' will be used as the example because of the exact English translation of the inverted sentence, as in (27).

(27) a. Si ge ren   shui zhe jian xiaowu.
　　　 four CL person sleep this CL cabin
　　　 i. 'Four people use this cabin for sleeping.'
　　　 ii. 'The cabin sleeps four (people).'

　　 b. Zhe jian xiaowu shui si   ge ren.
　　　 this CL cabin sleep four CL person
　　　 'The cabin sleeps four (people).'

However, note that *shui* 'sleep' is also a locative inversion verb, as in (28), which should not be confused with the subject-object inversion in (27). Unlike the subject-object inversion verb, the locative inversion verb does not require the inverted subject to be a measure or extent. Thus, the well-formed inversion in (29), where the inverted subject does not have the extent reading, is due to locative inversion, not subject-object inversion.[14]

(28) a. Si ge ren   shui zai zhe jian xiaowu-li.
　　　 four CL person sleep at   this CL cabin-inside
　　　 'Four people are sleeping in the cabin.'

　　 b. Zhe jian xiaowu-li   shui si ge ren.
　　　 this CL cabin-inside sleep four CL person
　　　 'In the cabin sleeps four people.'

(29) a. Zhangsan han Lisi shui zai zhe jian xiaowu-li.
　　　 John   and Lee sleep at this CL cabin-inside
　　　 'John and Lee are sleeping in the cabin.'

　　 b. Zhe jian xiaowu-li   shui-zhe Zhangsan han Lisi.
　　　 this CL cabin-inside sleep-ASP John   and Lee
　　　 'In the cabin is sleeping John and Lee.'

What this demonstrates is that, while the locative inversion verb requires an a-structure of precisely *<th loc>*[15] (e.g., Bresnan 1994; Her 2006), the accommodation verb in subject-object inversion, like consumption verbs, requires an a-structure of *<ag th>*. Her (2006) suggests that the latter is derived morpholexically from the former, a process he terms 'transitivization'. Like

consumption verbs, the transitivized locative verb allows subject-object inversion only when the agent subject is also a measure or extent; thus, inversion in (30b) is ill-formed, but well-formed in (31b).

(30) a. Zhangsan han Lisi shui zhe zhang tatami.
John and Lee sleep this CL straw-mat
'John and Lee use this straw mat for sleeping.'

b.*Zhe zhang tatami shui Zhangsan han Lisi.
this CL straw-mat sleep John and Lee

(31) a. Zhangsan han Lisi liang ge ren shui zhe zhang tatami.
John and Lee two CL person sleep this CL straw-mat
'John and Lee those two use this straw mat for sleeping.'

b. Zhe zhang tatami shui Zhangsan han Lisi liang ge ren.
this CL straw-mat sleep John and Lee two CL person
'This straw mat sleeps two, John and Lee.'

3.3. *Unifying subject-object inversion verbs*

If the locative verb in the subject-object inversion construction is indeed a transitivized verb, then accommodation verbs and consumption verbs can be unified under the same a-structure *<ag th>*. Syntactic tests with the *ba* construction (32a), the *bei* construction (32b), the *hao* 'good' middle construction (32c), relativization (32d), and topicalization (32e) all confirm it.

(32) a. Zhangsan ba zhe zhang tatami shui-le.
John BA this CL straw-mat sleep-ASP
'John has used this straw mat for sleeping.'

b. Zhe zhang tatami bei (Zhangsan) shui-le.
this CL straw-mat BEI John sleep-ASP
'This straw mat has been slept on (by John).'

c. Zhe zhang tatami hen hao-shui.
this CL straw-mat very good-sleep
'This straw mat is very comfortable to sleep on.'

d. Wo xihuan ta shui de zhe zhang tatami.
I like he sleep DE this CL straw-mat
'I like the straw mat that he uses for sleeping.'

e. Zhe zhang tatami, ni   shui.
   this CL straw-mat you sleep
   'This straw mat, you use it for sleeping.'

The NP following *ba* is generally considered the theme object of the verb, whether in the more traditional analyses, e.g., Li (1974), or in the more recent generative grammar, e.g., Li (1990).[16] Likewise, the NP preceding *bei*, especially in the agentless *bei*-construction, is widely accepted as the theme subject of the verb.[17, 18] Furthermore, the well-formed middle construction, relativization, and topicalization all indicate that the 'displaced' NP *zhe zhang tatami* 'this straw-mat' fills a theme object gap, not an oblique locative.

The same distinction can be made more easily in English. In (33a-b), for example, the subject is a theme role; in (33a'-b'), however, as clearly marked by the locative preposition, it has the locative role.
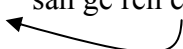
(33) a. The cabin slept four adults.
     a' In the cabin slept four adults.
     b. The car sits five people.
     b' In the car sits five people.

With the consumption verbs and accommodation verbs now consolidated under the a-structure of *<ag th>*, the morpholexical change that derives subject-object inversion verbs thus can apply in a uniform fashion. However, the problem is that not all *<ag th>* verbs undergo inversion. Verbs that are allowed in this inversion construction are far more restricted. We will return to this in 3.6.

3.4.   Analogy to the gou 'enough' construction?

One may notice that the subject-object inversion under discussion seems to be analogous to the *gou* 'enough' construction, as in (34). Based on this observation, Helen Charters (*p.c.*) suggested that the following hypothesis should be tested.[19] The inversion construction is headed by a silent counterpart of *gou* 'enough' and this empty verb is a bound morpheme. The verb in the embedded clause thus undergoes verb movement to adjoin to the matrix verb. Given the similarity in meaning between the two constructions, this derivational analysis, shown in (35), indeed deserves some attention.

(34) Zhe guo rou   gou   san ge ren   chi.
     this pot meat enough three CL person eat
     'This pot of meat is enough for three people to eat.'

(35) Zhe guo rou   *e*   san ge ren chi.

However, as the following examples amply demonstrate, there is little support for this derivational analysis.

(36) a. Zhe guo rou   gou   *tamen* chi.
     this pot meat enough they eat
     'This pot of meat is enough for them to eat.'

   b.*Zhe guo rou chi *tamen*.

(37) a. Zhe guo rou   gou   *Zhangsan han Lisi* chi.
     this pot meat enough John   and Lee eat
     'This pot of meat is enough for John and Lee to eat.'

   b.*Zhe guo rou chi *Zhangsan han Lisi*.

(38) a. Zhe guo rou   gou   tamen san   ge ren   chi *liang tian*.
     this pot meat enough they   three CL person eat two day
     'This pot of meat is enough for those three people to eat for two days.'

   b.*Zhe guo rou chi tamen san ge ren *liang tian*.

(39) a. Zhe guo rou   gou   tamen san   ge ren   *jinqing-de*   chi.
     this pot meat enough they three CL person whole-heartedly eat
     'The pot of meat is enough for those three people to eat wholeheartedly.'

   b.*Zhe guo rou chi tamen san ge ren *jinqing-de*.

(40) a. Zhe guo rou   *bu gou*   tamen san   ge ren   chi.
     this pot meat not enough they   three CL person eat
     'This pot of meat is not enough for those three people to eat.'

   b.* Zhe guo rou *bu chi* tamen san ge ren.

(41) a. Zhe guo rou   *gou-bu-gou*   tamen san   ge ren   chi?
     this pot meat enough-not-enough they   three CL person eat
     'Is this pot of meat enough for those three people to eat or not?'

   b. *Zhe guo rou *chi-bu-chi* tamen san ge ren?

Compared to the wide range of syntactic structures allowed by the *gou* 'enough' construction, the subject-object inversion construction is extremely restricted: it does not allow any of the following: bare pronoun objects (36b), non-QP full NP objects (37b), post-object time expressions (38b) or manner adverbs (39b), negation (40b), and A-not-A question form (41b). Furthermore, the class of verbs allowed in the inversion construction is far more restricted.

(42) a. Zhe guo rou   gou   tamen san   ge ren   *xiangyong*.
       this pot meat enough they three CL person enjoy
       'The pot of meat is enough for those three people to enjoy.'

    b.*Zhe guo rou *xiangyong* tamen san ge ren.

Many other verbs are allowed by *gou* in (42a) but are disallowed in (42b), e.g., *zhu* 'cook', *qie* 'cut', *xi* 'wash', *wan* 'play', *xinshang* 'appreciate', etc. But perhaps the final straw is the fact that the verb in *gou*'s embedded clause is allowed to have an overt full object (43a) and even double objects (44a).

(43) a. Zhe guo rou   gou   tamen san   ge ren   *bao shuijiao*.
       this pot meat enough they three CL person wrap dumpling
       'This pot of meat is enough for those three people to make dumplings.'

    b.*Zhe guo rou *bao* tamen san ge ren *shuijiao*.

(44) a. Zhe guo rou   gou   tamen san   ge ren   *song laoshi liwu*.
       this pot meat enough they three CL person give teacher gift
       'The pot of meat is enough for those three people to use as gifts to
        give to their teachers.'

    b.*Zhe guo rou *song* tamen san ge ren *laoshi liwu*.

We can thus quite confidently conclude that the inversion construction is not parallel to the *gou* 'enough' construction.

3.5.   *Analogy to a gei 'give' construction?*

Ren (2005) gives quite an extensive description and informal analyses of various non-patient objects in Mandarin, including agentive objects. The core of her account of the subject-object inversion construction is that it is a variant of the *gei* 'give' construction, where the object is no longer an agent; rather it is now a beneficiary and also the terminus point of the entity that is transferred, which is now the subject. She offers examples like the ones in (45-47) to demonstrate the analogous structures between *gei* and the inversion verb.

(45) a. Zhe zhang shafa gei tamen wu   ge   ren   zuo.
       this CL   sofa give they   five CL person sit
       'This sofa provides sitting for those five people.'

    b.Zhe zhang shafa zuo tamen wu   ge   ren.
       this CL   sofa sit   they   five CL person
       'This sofa sits those five people.'

(46) a. Zhe guo fan gei tamen shi ge   ren   chi.
　　　 this pot rice give they ten CL person eat
　　　 'This pot of rice provides eating for those ten people.'

　　 b. Zhe guo fan chi tamen shi ge   ren.
　　　 this pot rice eat they ten CL person
　　　 'This pot of rice feeds those ten people.'

(47) a. Zhe pen shui   gei tamen liang ge   ren   xi.
　　　 this pan water give they   two CL person wash
　　　 'This pan of water provides washing for those two people.'

　　 b. Zhe pen shui   xi   tamen liang ge   ren.
　　　 this pan water wash they   two CL person
　　　 'This pan of water washes those two people.'

　　 The same syntactic tests used in the previous section for the *gou* 'enough'
analysis will be repeated here. If (45a-47a) are indeed derivationally related to
(45b-47b) respectively as the two are variants of the same construction, as Ren
(2005: 22-23) claims, then it is to be expected that the two share the same range
of syntactic behavior. They do not.

(48) a. Zhe guo rou   gei *tamen* chi.
　　　 this pot meat give they   eat
　　　 'This pot of meat provides eating for them.'

　　 b.*Zhe guo rou chi *tamen*.

(49) a. Zhe guo rou   gei *Zhangsan han Lisi* chi.
　　　 this pot meat give John   and Lee eat
　　　 'This pot of meat provides eating for John and Lee.'

　　 b.*Zhe guo rou chi *Zhangsan han Lisi*.

(50) a. Zhe guo rou   gei san   ge   ren   chi *liang tian*.
　　　 this pot meat give three CL person eat two day
　　　 'This pot of meat provides for three people's eating for two days.'

　　 b.*Zhe guo rou chi san ge ren *liang tian*.

(51) a. Zhe guo rou   gei tamen san ge   ren   *jinqing-de*   chi.
　　　　this pot meat give they three CL person whole-heartedly eat
　　　 'The pot of meat provides wholehearted eating for those three people.'

　　 b.*Zhe guo rou chi tamen san ge ren *jinqing-de*.

(52) a. Zhe guo rou   *bu* gei tamen san   ge ren   chi.
　　　 this pot meat not give they three CL person eat
　　　 'This pot of meat does not provide for those three people's eating.'

　　 b.* Zhe guo rou *bu chi* tamen san ge ren.

(53) a. Zhe guo rou   *gei-bu-gei*   tamen san   ge ren   chi?
　　　 this pot meat give-not-give they   three CL person eat
　　　 'Does this pot of meat provide for those three people's eating or not?'

　　 b. *Zhe guo rou *chi-bu-chi* tamen san ge ren?

　　 The *gei* construction, like the previous *gou* 'enough' construction, enjoys a full range of syntactic freedom that is not found in the subject-object inversion construction, including bare pronoun objects (48a), non-QP full NP objects (49a), post-object time expressions (50a) or manner adverbs (51a), negation (52a), and A-not-A question form (53a). Likewise, a far greater range of verbs is allowed in the *gei* construction than in the inversion construction.

(54) a. Zhe guo rou   gei tamen san ge   ren   *xiangyong*.
　　　 this pot meat give they three CL person enjoy
　　　 'The pot of meat provides enjoyment for those three people.'

　　 b.*Zhe guo rou *xiangyong* tamen san ge ren.

　　 Other examples abound, e.g., *zhu* 'cook', *qie* 'cut', *xi* 'wash', *wan* 'play', *xinshang* 'appreciate', etc. The final straw is again the fact that the verb in *gei*'s embedded clause may retain an overt full object (55a) and even double objects (56a).

(55) a. Zhe guo rou   gei tamen san ge   ren   *bao shuijiao*.
　　　 this pot meat give they three CL person wrap dumpling
　　　 'The pot of meat provides for dumpling-making by those three people.'

　　 b.*Zhe guo rou *bao* tamen san ge ren *shuijiao*.

(56) a. Zhe guo rou   gei tamen san ge ren   *song laoshi liwu*.
　　　 this pot meat give they three CL person give teacher gift
　　　 'The pot of meat provides for those three people to use as gifts to
　　　　 give to their teachers.'

　　 b.*Zhe guo rou *song* tamen san ge ren *laoshi liwu*.

　　 Therefore, we can again safely conclude that the inversion construction is not parallel to the *gei* 'give' construction.[20]

3.6.   A morpholexical operation

Both accounts discussed in 3.4 and 3.5 impose an underlying bi-clausal structure on the inversion construction. However, a *vp*-stacking analysis requires evidence such as the multiple adverbial positions shown in (57b-c).

(57) a. John –*ed*   *e*   the ball roll down the hill.

b. John *gently* rolled the ball down the hill.
c. John rolled the ball *gently* down the hill.

A syntactically derived construction thus must exhibit some robustness in syntactic behavior and a considerable degree of productivity. The inversion verbs do not fit either criterion. As we have demonstrated, the inversion construction is highly restricted in its syntactic behavior, prohibiting even negation or A-not-A question. Furthermore, we have also demonstrated that the verbs allowed in the inversion construction, though unified under a-structure *<ag th>*, are highly unproductive. We will now explore the issue of productivity further.

First of all, subject-object inversion verbs seem to be monosyllabic. All the examples cited by Ren (2005) and in other works cited therein, as well as all the examples my informants and myself can come up with, are monosyllabic verbs. However, there are plenty of bisyllabic verbs in Chinese (e.g., Chung 2005). To illustrate, *xiangyong* 'enjoy using, eat' is often used as a polite and formal substitute for *chi* 'eat'. And when it comes to the intake of internal medicine, either *chi* or *fuyong* can be used as the verb, again the latter being more formal. However, inversion is not allowed with the two bi-syllabic alternatives, in spite of their identical semantic content with *chi* 'eat'. This kind of phonological constraint is characteristic of morphological operations, not syntactic derivation.

Furthermore, a precise semantic characterization of the verbs allowed in the construction proves elusive. Ren (2005: 16) observes that inversion verbs must denote an action at the completion of which the theme is to be occupied or possessed. Accommodation verbs certainly fit the description, and consumption does entail possession, so this also covers consumption verbs. This considerably further narrows down the *<ag th>* verbs allowed and also nicely unifies verbs of accommodation and verbs of consumption. However, there are many exceptions.

When one buys something, one ends up possessing it, but *mai* 'buy' is not allowed, nor is any of the following: *shou* 'receive', *jie* 'borrow', *na* 'take', *qu* 'take', *tou* 'steal', *qiang* 'rob', *de* 'obtain', *you* 'have', *bao* 'hug, embrace', and *zhan* 'occupy'. The two verbs *chi* 'eat' and *tun* 'swallow' are fairly close in meaning, and something swallowed is certainly occupied, but *tun* allows no inversion between the swallower and the swallowee, nor do *yan* 'swallow', *yao* 'bite', *chang* 'taste', *tian* 'lick', and *jiao* 'chew'. Interestingly, while *jiao* 'chew' is not good, *ken* 'chew (on)' is acceptable, presumably because in certain contexts, *ken* actually means to chew and eat.

(58) Zhe guo jizhua   neng ken/*jiao ji   ge ren?
     this pot chicken-feet can chew   how-many CL person
     'How many people can chew this pot of chicken feet and be fed?'

While *he* 'drink' is good, *xi* 'suck', as in *xi kele* 'sucking coke', is not, both referring to a similar action of getting liquid into the mouth. However, when the same verb *xi* refers to the sucking of smoke into the mouth, as in *xi xuejia* 'smoking cigars', or the sucking of powder into the nose, as in *xi gukejian* 'sniffing cocaine', inversion is allowed.

(59) a.*Yi guan kele   xi liang ge   ren.
        one can coke suck two CL person
        'One can of coke accommodates the drinking by two people.'

     b. Yi   bao yan   xi shi ge   ren.
        one pack cigarette suck ten CL person
        'One pack of cigarettes accommodates the smoking by ten people.'

     c. Yi   angsi gukejian xi   san   ge   ren.
        one ounce cocaine suck three CL person
        'One ounce of cocaine accommodates the sniffing by three people.'

On the other hand, Ren's generalization also *under*generates. Take *xi* for example. The ill-formed (60b) is accounted for, because at the completion of washing, possession is not entailed. However, the well-formed (61b) is a surprise. The soap after washing is gone, not possessed or occupied.

(60) a. Liang ge ren   xi   zhe tiao maotan.
        two   CL person wash this CL blanket
        'Two people wash this blanket.'

     b.*Zhe tiao maotan xi   liang ge ren.[21]
        this CL blanket wash two CL person

(61) a. Shi ge   ren   xi   zhe kuai feizao.
        ten CL person wash this block soap
        'Ten people use this block of soap to wash themselves.'

     b. Zhe   kuai feizao xi   shi ge ren.
        this block soap wash ten CL person
        'A block of soap accommodates the washing by ten people.'

Likewise, the grammatical *shua 'brush'* in (62b) is unaccounted for, because at the completion of the brushing of teeth, the toothpaste in question has been consumed but not possessed as is in the case of food and beverages.

(62) a. Shi ge   ren   shua   yi tiao yagao.
       ten CL person brush one tube toothpaste
       'Ten people use one tube of toothpaste for brushing (teeth).'

    b. Yi   tiao yagao   shua shi   ge ren.
       one tube toothpaste brush ten CL person
       'A tube of toothpaste accommodates the brushing (of teeth)
        by ten people.'

The point is quite clear, then. All these idiosyncrasies in syntactic behavior and arbitrary gaps in lexical generalization all point to a morpholexical solution, not a syntactic one. A morpholexical operation is proposed in (63) to account for the additional extent role bound with the existing agent role, which explains the fact that the inverted agent, now the object, also denotes the extent of the action.[22] Following Huang (1992), the term 'composite' role will be used to refer to a role formed by two composing roles, such as *ag-ext*.

(63) Extent-addition morpholexical operation:
      $V_a \langle x\ y \rangle *$, $x = ag$ & $y = th$, $\rightarrow$ $V_a \langle x\text{-}z\ \ y \rangle$, $z = ext$

        *V_a denotes an action at the completion of which x is to be
        possessed, occupied, or consumed by y.[23]

In this informal formulation, the verb class of V_a in (63) is also understood to have many gaps and allow certain exceptions. In terms of linking, both *<ag-ext*-SUBJ *th*-OBJ> or *<ag-ext*-OBJ *th*-SUBJ> are well-formed. Before going into the specific problem this inversion poses for linking, we should demonstrate that in the inverted sentences it is indeed subject-object inversion; in other words, the inverted theme is indeed the subject and the inverted agent the object. Examples of the subject raising construction are given in (64) to demonstrate that the preverbal NPs are indeed (raised) subjects (Tan 1991). In (64a), *shi* is a raising verb[24], and so is *yinggai* 'should' in (64b); thus, the only preceding NP can only be a subject in both sentences.

(64) a. Zhe zhang chuang shi shui tamen si   ge ren.
       this CL   bed   SHI sleep they four CL person
       'This bed does sleep those four people.'

    b. Zhe guo rou yinggai chi tamen liang ge ren.
       this pot meat should eat they   two CL person
       'This pot of meat should feed/serve those two people.'

Furthermore, as convincingly argued for in Sybesma (1999), all postverbal bare nominals in Chinese are complements, not adjuncts. Thus, the unmarked postverbal NPs in (64) must be non-oblique objects. Again, evidence from the *ba*-construction confirms the postverbal NP's objecthood.

(65) a. Zhe zhang chuang ba tamen si   ge ren   shui de
this CL   bed   BA they four CL person sleep DE
yao-suan-bei-tong.
ache-all-over
'Sleeping in this bed has made those four people ache all over.'

b. Zhe guo rou   ba tamen liang ge ren   chi de xin-man-yi-zu.
this pot meat BA they   two CL person eat DE fully-content
'Eating this pot of meat made those two people fully content.'

4. A LEXICAL MAPPING ACCOUNT

The first issue that has to be resolved in linking the inversion verbs is how to incorporate the extent role into the existing thematic hierarchy. Huang (1993) proposes that extent ('domain' in his term) be one of the least prominent roles in the thematic hierarchy.

(66) Revised Thematic Hierarchy:
ag > ben > go/exp > inst > pt/th > loc/ext

This placement is based on several facts. The extent role   completely lacks characteristics of the agent, it is like the locative in that it also entails the terminus point of the action, and thus like the locative it is predicated of the theme. Huang further proposes that this role be assigned IC [+o] in Chinese to account for its objecthood. However, as pointed out in Her (2006), given that the ICs form a universal component of the mapping theory, any assignment of syntactic features by way of an IC thus must either be universal or parameterized. Language-specific assignment must be posited as (part of) a morphological operation. Since the TH is assumed to be universal, I will assume the strongest position that the [+o] assignment for the extent role is an IC and thus universal.[25] The remaining problem is the precise linking mechanism of the a-structure of inversion verbs, summarized in (67) below.

(67) a. Liang ge   ren   chi yi   bang rou.
two   CL person eat one pound meat
i. 'Two people eat one pound of meat.'
<x   y>   (x = *ag*, y = *th*, z = *ext*)
↓   ↓
S   O
people   meat

ii. 'One pound of meat feeds/serves two people.'

$<$x-z$\quad$ y$>$ $\qquad$ (x = *ag*, y = *th*, z = *ext*)

$\quad\downarrow\qquad\downarrow$

$\quad$S$\qquad$O

people$\quad$meat

b. Yi$\quad$bang$\quad$rou chi liang ge ren.
one pound meat eat two CL person
'One pound of meat feeds/serves two people.'

$<$x-z$\qquad$ y$>$ $\qquad$ (x = *ag*, y = *th*, z = *ext*)

$\quad$S$\qquad$O

people$\quad$meat

For the canonical $<$*ag th*$>$ in (67a(i)), the mapping is straightforward. The issue with the a-structure $<$*ag-ext th*$>$ is two-fold. First, how exactly is a composite role, formed by two composing roles, linked to a single syntactic function? Second, why does inversion occur? We will demonstrate that once the first question is satisfactorily answered, the answer to the second question simply falls out.

4.1. Strict one-to-one linking and suppression

As stated earlier, the θ-Criterion requires the mapping between thematic roles and syntactic arguments be strictly one-to-one, bidirectionally. Within the LMT adopted in the paper, this condition is incorporated in the unified mapping principle, or UMP. Thus, an explanation is needed as to technically why the linking of a composite role, formed by two thematic roles, such as *ag-ext*, to a single syntactic argument, be it a grammatical function or a syntactic chain, does not violate the UMP or the θ-Criterion.

One solution is of course to claim that one-to-one linking is too strict and thus should be relaxed to some extent. For example, the Relativized θ-Criterion proposed in Carrier and Randall (1992) indeed allows two theta roles to share the same syntactic assignment.

(68) Relativized θ-Criterion (Carrier and Randall 1992: 180)
An XP chain can be associated with at most one argument position in any given AS (argument structure). Each AS position must be satisfied by one and only one XP chain in the syntax. (*Parentheses added*)

This conception goes back to Chomsky (1981:335) and has also been proposed in Rappaport (1986) and Emonds (1985: chp 2). It is further adopted in

some works in the Minimalist approach to syntax (e.g., Hornstein 1998, 2001).[26] However, this weakening of the θ-Criterion in fact does not solve our dilemma because it allows an XP to bear two roles but only if they are assigned by two different heads. In the a-structure of 'shui<*ag-ext th*>' all three roles are assigned by the only head available, i.e., *shui* 'sleep'.

It is of course preferred if strict one-to-one linking can be maintained, as it is more constrained and thus makes stronger and more general predictions.[27] This is the position taken in Her (2004), where he claims that the enforcement of strict one-to-one linking entails the suppression of one of the composing roles in the composite role; in other words, consistently, one composing role, and one only, receives syntactic assignment. Therefore, logically, the suppression of a composing role in linking a composite role is motivated as well as constrained by the one-to-one linking required by the mapping principle or the θ-Criterion.

As mentioned in section 2, role suppression, together with addition and binding, can all be part of morpholexical operations. The suppression, or absorption as it is called within GB, of the highest role, or the logical subject, in the passivization operation is universally accepted. Suppression is also required in constructions such as middle and tough. As a universally independently motivated notion, suppression as part of linking composite roles thus in no way complicates the grammar; quite the contrary in fact.

Since suppression only blocks a role from surfacing as a syntactic ARGUMENT, a suppressed role may still surface as a syntactic ADJUNCT. For instance, in a passive sentence, the suppressed external role may still be identified with, and thus semantically linked to, an adjunct *by*-phrase, as in (69a) (Bresnan 1994: 81), or a so-called 'subject-oriented adverb', as in (69b). Even though in the middle construction neither option is allowed, as shown in (70), the fact remains that the suppressed role is still implicit. The car does not drive itself in (70a-c); nor did the treasure bury itself in (69a-c).

(69) a. The treasure was buried (by the pirates).
    b. The treasure was buried (intentionally).

    c. Baozang bei mai-le.
       treasure BEI bury-ASP
       'The treasure was buried.'

(70) a. The car drives well (*by the salesman).
    b. The car drives well (*intentionally).

    c. Zhe liang che hen hao-kai.[28]
       This CL car very good-drive
       'The car drives well.'

Thus, when a composing role in a composite role is suppressed, it is simply not relevant in relation to the linking of the composite role, which depends entirely on the unsuppressed composing role. However, the fact that a

suppressed composing role is bound with the expressed composing role predicts that syntactically the suppressed role can never split away from its bound partner and surface in a separate form, by way of an adjunct or a 'subject-oriented' adverb. Thus, the fact that the inverted agent in (71), now the object, does not allow any 'subject-oriented' adverbs or manner adverbs clearly indicates that the agent role is in fact suppressed and the linking of the composite role *ag-ext* is determined solely on the basis of the extent role.

> (71) a. Yi   bang   rou (*guyi/*gaogaoxingxing-de) chi liang ge ren.
>   one pound meat intentionally/happily   eat two CL person
>
> b. Yi zhang zuozi (*guyi/*gaogaoxingxing-de) zuo si ge   ren.[29]
>   one CL   table   intentionally/happily   sit four CL person

This drastic reduction in volitionality, and thus agentivity, also serves as evidence that the agent is suppressed. The restrictions in this regard are thus rather similar to, and yet more principled than, those of the middle construction. The suppression entailed by strict one-to-one linking is thus well-motivated and well-constrained. Note also this concept is not tied to the LFG framework at all, and is in fact applicable in derivational as well as lexicalist frameworks.

Before applying the strict one-to-one linking and the suppression it entails to subject-object inversion verbs, let's first look at another case of composite roles where one-to-one linking and suppression satisfactorily account for the inversion construction.

4.2.   *Resultative inversion*

A resultative compound exhibits an intriguing pattern of linking. As first comprehensively documented by Li (1995), a verb such as *zui-lei* 'chase-tired' allows up to three readings and two of the readings are clearly causative.

> (72) Zhangsan zhui-lei-le   Lisi.
>   John   chase-tired-ASP Lee
>   a. 'John chased Lee and made Lee tired.'   (causative)
>   b.*'Lee chased John and John got tired.'
>   c. 'John chased Lee and (John) got tired.'   (non-causative)
>   d. 'Lee chased John and was made tired.'   (causative)

Her (2004, 2007), dissatisfied with the violation of the θ-Criterion by Li's (1995, 1999) account, offers an alternative within LFG's LMT, where strict one-to-one linking and suppression in fact predict that resultative compounding should generate potentially four well-formed a-structures. Following Li (1995), V_{caus} refers to the causing verb and V_{res} the result verb. The resultative compounding process that merges a transitive V_{caus} and an intransitive V_{res} are summarized in (73).

(73) Resultative Compounding

V_{caus}<x y> + V_{res}<z> →

    $V_{caus}V_{res}$ <α β>*, where <α β> = (i) <x y-~~z~~>

                                      (ii) <x[caus] ~~y~~-z[af]>

                                        (iii) <x-~~z~~ y>

                                        (iv) <~~x~~-z[af] y[caus]>

    *The role containing an unsuppressed $θ_z$ receives [af], and the other role [caus].

With suppression taken into account, linking is straightforward. As shown in (74a), the causative reading is due to (73ii). However, it is also predicted that a non-causative reading of (74a'), due to (73i), is available. However, given the presence of causativity in (74a), the absence of causativity in (74a') is overridden, logically. The reading in (74b) is impossible as neither of the two compatible a-structures, (73i) and (73ii), produces it. The reading of (74c) is due to the non-causative (73iii). The causativity and apparent inverted linking in (74d), due to (73iv), is also predictable due to a well-established principle: the causer is more prominent than the affectee (Dowty 1991). Note that suppression is indicated by a single cross-out.

(74) Zhangsan zhui-lei-le   Lisi.
    John   chase-tired-ASP Lee

    a. 'John chased Lee and made Lee tired.'   (causative)
        < x[caus]   ~~y~~-z[af]>   (x = ag, z = th)
            S   O
           John   Lee

    a' 'John chased Lee and Lee got tired.'   (non-causative)
        < x   y-~~z~~ >   (x = ag, y = th)
            S   O
           John   Lee

    b.*'Lee chased John and John got tired.'   (non-existent)
        < x   y-~~z~~ >   (x = ag, y = th)
        < x[caus]   ~~y~~-z[af]>   (x = ag, z = th)
          *O   *S
         Lee   John

    c. 'John chased Lee and (John) got tired.'   (non-causative)
        < x-~~z~~   y >   (x = ag, y = th)
           S   O
          John   Lee

    d. 'Lee chased John and was made tired.'   (causative)
        < ~~x~~-z[af]   y[caus]>   (y = th, z = th)
           O   S   ([caus] > [af])
          Lee   John

4.3. *Subject-object inversion*

We now move on to examine the linking in the subject-object inversion verbs under the same assumptions of one-to-one linking and suppression. Argument-function mapping is illustrated in detail within the LMT presented in section 2.

(75) a. Tamen liang ge   ren   chi yi   bang   rou.
they   two   CL person eat one pound meat
i. 'Those two people eat one pound of meat.'

chi <   *x*   *y*   >   (x = *ag*, y = *th*)

IC: [*-r*]

DC:

               S/O/…   S/O

UMP: S   O

ii. 'One pound of meat feeds/serves those two people.'

chi < *x-z̶*   *y*   >   (x = *ag*, y = *th*, z = *ext*)

IC: [*-r*]

DC:

               S/O/…   S/O

UMP: S   O

b. Yi   bang   rou chi tamen liang ge ren.
one pound meat eat they   two CL person
'One pound of meat feeds/serves those two people.'

chi < *x̶-z*   *y* >   (x = *ag*, y = *th*, z = *ext*)

IC: [*+o*]   [*-r*]

DC: [*+r*]

            OBJ$_\theta$ S/O

UMP: OBJ$_\theta$ S

Again, the linking of <*ag*-SUBJ *th*-OBJ> in the basic transitive reading of (75a(i)) is mundane; the real issue is why inversion occurs between (75a(ii)) and (75b). The answer virtually falls out under the assumption of strict one-to-one linking. Within the composite role *ag-ext*, two possibilities arise in linking. If the extent role is suppressed, the linking is again mundane, much like that of a typical transitive verb. When the agent role is suppressed, the composite role is then syntactically assigned solely based on the extent role. An apparent inversion occurs. This inversion is only apparent because, technically, the agent role is not syntactically assigned to the object at all; it is suppressed from syntactic

assignment completely. However, the semantic content associated with a suppressed role is still implicitly available. In the case of a composite role, the suppressed composing role is inherently bound with its partner and thus always finds an implicit semantic connection with it. Therefore, even though (75a(ii)) and (75b) have inverted linking, their semantic content remains the same. However, crucially, given agent's overt linking in the former but its suppression in the latter, only the former can be modified by a 'subject-oriented' adverb, as shown below.

(76) a. Tamen liang ge ren   *guyi*   chi yi bang rou.
　　　 they   two   CL person intentionally eat one pound meat
　　　 i. 'Those two people intentionally eat one pound of meat.'
　　　 ii. 'By their$_i$ intention, one pound of meat feeds/serves
　　　　　 them two people$_i$.'

　 b. Yi   bang rou   (*guyi*)   chi tamen liang ge ren.
　　　 one pound meat intentionally eat they   two CL person

Finally, note that this LMT account assigns the inverted subject in (75b) to the restricted function of OBJ$_\theta$, rather than the unrestricted OBJ. There is some evidence for that. As demonstrated earlier, the inverted agent is indeed objectlike in that it also appears in the *ba*-construction. However, a typical OBJ in Chinese also allows a counterpart *bei*-construction, while an OBJ$_\theta$ does not.

(77) a. Zhangsan gei-le   Lisi zhe ben shu.
　　　 John   give-ASP Lee this CL book
　　　 'John gave Lee this book.'

　 b. Zhe ben shu bei (Zhangsan) gei-le   Lisi.
　　　 this CL book BEI John   give-ASP Lee
　　　 'The book was given to Lee (by John).'

　 c.*Lisi bei (Zhangsan) gei-le   zhe ben shu.
　　　 Lee BEI   John   give-ASP this CL book
　　　 'Lee was given the book (by John).'

　 d.*Liang ge ren   bei   yi   bang rou chi.
　　　　 two CL person BEI one pound meat eat
　　　 'Two people are fed one pound of meat.' (intended meaning)

In (77b), the OBJ *zhe ben shu* 'this book' does passivize, but the indirect object in (77c), which an OBJ$_\theta$ restricted to the theme role, does not. Likewise, the fact that the inverted agent does not passivize, as shown in (77d), would suggest that it is more likely an OBJ$_\theta$, rather than a full-fledged OBJ. Also, a typical OBJ allows extraction, while an indirect or secondary object does not, as shown in (78) and (79) respectively.

(78) a. Zhe zhong rou, Zhangsan chi.
      this kind   meat John   eat
      'This kind of meat, John eats.'

     b. Zhangsan chi de   zhe zhong rou.
       John   eat REL this kind   meat
       'The kind of meat that John eats.'

(79) a.*Lisi, Zhangsan gei-le   zhe ben shu.
      Lee John   give-ASP this CL book
      'Lee, John gave this book to.'

     b.*Zhangsan gei-le   zhe ben shu   de   ren.
       John   give-ASP this CL book REL person
       'The person that John gave this book to.'

The behavior of the inverted subject in topicalization and relativization, as in (80), is similar to that of an OBJ$_\theta$ in (79), not OBJ in (78). Its status as an OBJ$_\theta$ thus seems reasonable.

(80) a.*Si   ge   ren,   zhe zhang chuang shui.
      four CL person this CL   bed   sleep
      '*Four people, the bed sleeps.'

     b.*Zhe zhang chuang shui de si   ge   ren.
       this CL   bed   sleep REL four CL person
       '*The four people the bed sleeps.'

5. Discussion

The analysis of the subject-object inversion construction presented above consists of three components. The first component is data-driven and posits that the inversion verb takes on an additional extent role, which binds with the existing agent role in a-structure. The second component is also data-driven; we demonstrated the extremely restricted range of syntactic behavior this construction allows and the low degree of productivity in the lexical class of the inversion verbs, both strongly suggesting a morpholexical solution and not a syntactic one. The third component argues that strict one-to-one linking requires the suppression of a composing role in a composite role. The three components are separate and each is independently motivated. The linking facts are fully accounted for as a consequence of the three components coming together.

However, this inversion in question is only apparent because, technically, the more prominent agent role is not syntactically assigned at all; it is suppressed

from syntactic assignment. Thus, the subject-object inversion described in this paper is no more an inversion than the passive construction, where the less prominent theme likewise surfaces as the syntactic subject while the agent is suppressed for linking and may or may not appear by way of the adjunct *by*-phrase. The thematic hierarchy is thus never violated. However, an explanatory theory should be able to account for not only the grammaticality of the inverted linking but also the fact that it is highly marked. The LMT account does offer a potentially promising foundation for a markedness theory in linking, which will be explored in 5.2, after we clarify an important issue with the notion of suppression first in 5.1.

5.1. *Thematic relations, argument roles, and suppression*

As stated in section 2 on the constructs of LMT, the a-structure is an independent interface level of predicate valence between the lexical semantic structure and the syntactic structure. Linking and the one-to-one requirement imposed by the UMP (or the θ-Criterion) is thus between the a-structure roles (or the θ-roles) and the grammatical functions selected by the predicator. However, as an anonymous review pointed out, an argument role may contain more than one thematic relation. Take a verb of transfer *sell* $<x\ y>$ for example; the role *x* is the *agent* of the action, the *source* of the goods, and also the *recipient* of the compensation. However, in linking this a-structure to syntax, the role *x*, as a bundle of these thematic relations, is determined to be more prominent than *y*, which has the thematic relation of *patient* and/or *theme*. Regardless of its multiple thematic relations, *x* as a single role is mapped to a single function. LMT thus predicts the mapping to be $<x$-SUBJ y-OBJ$>$. The fact that a single role may contain two or three thematic relations is irrelevant to the one-to-one linking requirement. A role does not get two or three different syntactic assignments depending on which thematic relation is chosen (or which ones are suppressed); in other words, suppression applies to an argument role, not to a thematic relation a role contains.

However, crucially, when two roles bind and form a composite role, as we have witnessed in resultative compounds, they remain two roles and as such are subject to the one-to-one linking requirement. And the necessary suppression of a composing role in the syntactic assignment of a composite role leads a revealing account of the multiple readings of a single resultative compound (see section 4.2 and Her 2007). Similarly, the extent-addition morpholexical operation proposed in section 4.3 adds an extent role *z*, not an additional thematic relation, to *x* in V$<x\ y>$ and forms a composite role *x-z*. Suppression of either *x* or *z* is thus necessary in the linking of *x-z*. As we have clearly demonstrated with example (71) in 4.1, when *x* (agent) is suppressed in the linking of *x-z* (agent-extent), the object function it is mapped to in the inverted sentence retains the extent reading but lacks the agent reading. In contrast, consider the verb *sell* again. In the middle construction *the book sells easily*, the

role *x*, together with all its thematic relations are suppressed. This is strong evidence that suppression applies to roles only.

Based on this discussion of suppression and the LMT account proposed above, we will now present an account for the markedness of the linking in the apparent subject-object inversion.

5.2.   *A potential account of markedness*

Based on the concept that grammatical variation is invariably due to some form of grammatical competition (Hsieh 1989, 1991, 2005; Her 1997), Her (2007) put forward a markedness theory in LMT. Recall that argument roles and argument functions are ranked on their respective prominence scale. The mapping principle maps each role, in a descending order in effect, to the most prominent function possible, also in a descending order in effect. The unmarked linking thus aligns the two prominence scales. A 'skewed' linking is marked and produces a more opaque reading. It is further assumed that an independent role is unmarked, a composite role is not, and that an expressed role is unmarked, a suppressed role is not. More importantly, an innovative concept of *upset* was introduced in Her (2007): an upset occurs when the more prominent item loses out in a competition for unmarkedness, and upsets create opacity. We now re-examine the LMT account offered in (75), summarized in (81), in light of this markedness theory.

(81) Tamen liang ge   ren   chi yi   bang   rou.
     they   two   CL person eat one pound meat

    a. 'Those two people eat one pound of meat.'
      chi <   *x*   *y*   >   (x = *ag*, y = *th*)
           S   O

    b. 'One pound of meat feeds/serves those two people.'
      chi <   *x-z̶*   *y*   >   (x = *ag*, y = *th*, z = *ext*)
           S   O

(82) Yi   bang   rou chi tamen liang ge ren.
    one pound meat eat they   two CL person
    'One pound of meat feeds/serves those two people.'
      chi <   *x̶-z*   *y*   >   (x = *ag*, y = *th*, z = *ext*)
          OBJ*θ*   S

Between (81a) and (81b), the latter has a composite role and is thus more marked. Note also that, in (81b), an upset occurs in the competition for independence, or unmarkedness, between agent and theme. It is an upset because agent is more prominent than theme and yet it is agent which loses out in the competition for independent syntactic assignment. Thus, <*ag-ext th*> is predicted

to be more marked than *<ag th-ext>*. This makes the contrast between (81b) and the apparent inversion in (82) more interesting. Both contain a (marked) composite role and an upset, but crucially, a further upset is identified in the more opaque (82): the more prominent agent is suppressed and thus loses out to extent in their competition for syntactic assignment. A markedness scale thus obtains among these three readings, shown in (83).

(83) a. *<ag th>*   (transparent, *no marked features and no upsets*)
        S O

    b. *<ag-ext th>*   (semi-opaque, *one marked feature and one upset*)
          S   O

    c. *<ag-ext th>*   (opaque, *one marked feature and two upsets*)
         O_θ S

The reading associated with (83a) is by far the most transparent, as predicted by its fully aligned linking with no marked features, while the opacity of (83c) is also satisfactorily accounted for by the marked feature of a composite role and two upsets.

6. CONCLUSION

Unlike other perhaps more genuine agentive objects reported in certain languages, e.g., Navajo (Hale 1973), Norwegian (Lødrup 1999), and Tagalog (Kroeger 1993), the inversion discussed in this paper involves an *agent-extent* composite role, rather than a straightforward agent role. Under the simplest and also the strictest interpretation of the one-to-one linking imposed by the argument-function mapping principle (or the θ-Criterion), a composite role, formed by two composing roles, must receive syntactic assignment via one composing role only; the second composing role is necessarily suppressed. Inversion occurs when the extent role in the *agent-extent* composite role receives linking and thus forces the suppression of the agent role. Thus, this subject-object inversion is only apparent, as technically the agent role is not syntactically realized at all. The account is formalized in the linking theory within LFG, known as the lexical mapping theory. This lexical mapping account also facilitates a natural explanation of markedness among the competing syntactic structures. The inverted structure is marked because the most prominent agent role not only loses its independence, it is also suppressed to allow linking by the least prominent extent role.

Notes

1 This may or may not apply to all languages, esp. ergative languages, which is an issue of great debate but will not be discussed here.

2 In LFG, for example Bresnan (1982a), prior to the lexical mapping theory, linking of thematic roles to grammatical functions was largely stipulated.

3 In the Government and Binding framework it is the D(eep)-structure, and in the Minimalist framework, it is where the item initially merges with its head.

4 An example of such stipulations is found in Fillmore (1968: 33), where it is stated that if an Agent is present, it is the subject; otherwise, if an Instrument is present, it is the subject; otherwise, the Objective (= Theme or Patient) is the subject.

5 Newmeyer (2002) is in fact critical of the TH and even doubts its very existence; however, see Levin (2005) for what I consider a much more balanced and insightful view on this issue.

6 This may not be correct, in fact. As Adams Bodomo (*p.c.*) points out, there is a peculiar construction in Dagaare, a Gur language of West Africa, in the very restricted context of sacrifice to the gods, where such an inversion does occur:

(i) a   bOOrI   de   la   a   nUO
    def sacrifice (gods) take foc def fowl
    'The gods have accepted the fowl.'

(ii) a   nUO de   a   bOOrI
    def fowl take def sacrifice (gods)
    'The fowl has been accepted by the gods.'

Also, genuine agentive objects, though rare, have been reported in several other languages, e.g., Navajo (Hale 1973), Norwegian (Lødrup 1999), and Tagalog (Kroeger 1993).

7 Mapping is thus declarative. Conceptually, however, mapping proceeds from left to right; in other words, mapping starts from the most prominent role (Her 2007: 230).

8 The Unaccusative Hypothesis was first proposed in RG: "Certain intransitive clauses have an initial 2 but no initial 1" (Perlmutter 1978: 160). Initial 2 is the object, and initial 1 the subject.

9 The DC assigns [+r] as a default condition; thus, it does not apply if it contradicts the [-r] already assigned as an IC.

10 The particular formulation of locative inversion adopted here is from Huang and Her (1998), which is similar in spirit with that of Bresnan and Kanerva (1989) but differs in its details.

11 For example, Chomsky (1981) accounts for passives in languages like English by NP-movement. In Coopmans' (1989) treatment of locative inversion, the locative PP is topicalized and the theme subject moved and VP-adjoined.

12 Dowty's view here is debatable, I believe, even for English and is certainly not true for all languages. For example, Sybesma (1999) argues that in Chinese all postverbal bare nominals, including frequentatives and durations, are complements. But again, as an anonymous review points out, this is also debatable.

13 The distinction between adjuncts and arguments is syntactic in nature, and thus two phrases that are similar semantically may indeed receive different treatment. For example, the NP agent in an active sentence is an argument, but the *by*-PP agent phrase in its passive

counterpart is an adjunct. Also, the locative phrase in (i) is an adjunct and the one in (ii) is an argument

(i) On the stage, my aunt Mary stood.
(ii) On the stage stood my aunt Mary.

[14] As noted in Bresnan (1994) and Huang and Her (1998), due to the information structure and the shift of focus to the inverted subject, locative inversion does not normally occur with a pronominal theme.

[15] Locative inversion thus involves a morphosyntactic change from <*th*-SUBJ *loc*-OBL$_\theta$> to <*th*-OBJ *loc*-SUBJ>.

[16] Bender (2000), however, presents a dissenting view and argues that *ba* is a three-place verb instead. Under this view, the NP following *ba* is still an object, but an object of the verb *ba*, not of the verb following this NP.

[17] Ting (1998) argues that *bei* in the long passive, i.e., with an expressed agent NP, is a verb, and Her (1991) claims that *bei* is always a verb. Under both accounts, the subject of *bei* is still a theme.

[18] The following type of examples is often cited as evidence that post-*ba* NP and pre-*bei* NP can be a locative. It is a misconception, as the window is the entity which undergoes the action of digging and is thus still a theme.

(i) Wo ba chuanghu wa-le   yi   ge dong.
   I   BA window dig-ASP one CL hole
 'I took the window and dug a hole in it.'

(ii) Chuanghu bei wo wa-le   yi ge dong.
   window   BEI I dig-ASP one CL hole
 'A hole was dug out in the window by me.'

[19] Charters suggested this possibility in an off-the-cuff comment at ALS 2006, where a previous version of the paper was presented. I thank her for this and other comments.

[20] We can thus also reject proposals where the inversion construction is parallel to a construction with a verb synonymous to *gei* 'give', such as *gong* 'provide' or *gonggei* 'provide'.

[21] This sentence is good only in the sense of (61b), where the blanket is the thing used for washing, not the thing being washed.

[22] Within a constructionist view, this additional meaning would be contributed to the inversion construction instead of the lexical item (e.g., cf., Lien 2003: 6).

[23] As clearly demonstrated in 3.6, this formulation, though more accurate than Ren's, must still allow idiosyncratic gaps. Some can be explained with phonological constraints, while others may simply be arbitrary.

[24] *Shi*'s most important use in modern Chinese is a copula, or a linking verb, like the verb *be* in English (e.g., Chang 2003).

[25] As an anonymous reviewer points out, the extent role, as a theme/patient type of role, could be parameterized, but also notes that extent in English is expressed as OBJ (as in the examples in (23)). The reviewer hence suggests that if languages with *ext*-OBJ do not allow the extent role to be the passive SUBJ (as in Chinese and English), this might be evidence that [+o] is universal.

[26] Within this view, an object raised out of VP should be able to receive another role from v in the vp shell; however, as pointed out by Zhang (2004: 195), no one ever claims that it does. θ-Criterion thus needs to be further weakened to rule this out.

[27] As Her (2004: 7) points out, a relaxed θ-Criterion would predict that an XP may *in principle* be associated with more than two theta roles, a position that cannot be substantiated. However, setting the number of arguments to two would be an *ad hoc* stipulation. The relaxation of the θ-Criterion thus weakens UG.

[28] Liu (1995) argues convincingly that *hao*-V is a verb compound which requires a middle construction.

[29] This sentence is acceptable only in the sense that *guyi* 'intentionally' refers to an external agent available from the discourse context who is responsible for the arrangement that every table sits four people. It cannot refer to *si ge ren* 'four people' in the sentence.

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　　計畫主持人於94學年8月1日至8月28日期間，應澳洲Queensland University東亞系系主任 Dr Ping Chen 邀請前往研究訪問，共同研究有關漢語非受事賓語的句法機制以及其語意與言談功能。此次訪問研究延續了本人於七月時參加澳洲語言學2006年學術研討會之研究活動。今年之會議正好由 Queensland University主辦， 於7月7日至7月九日，為期三天。共有超過80篇論文於會議中發表，主題涵蓋語言學各次領域，是南半球的語言學盛會。ALS2000舉辦的同時並且有應用語言學的年度會議，因此吸引的許多鄰近國家的學者與會，其中也包括來自台灣的學者與研究生。

　　本人發表的論文題目為： Linking Agentive Objects in Mandarin Chinese，正是國科會研究計畫於本年度之主題。在會議上獲得了來自紐澳日韓及兩岸的與會學者熱烈的討論，用了比大會所給予的兩倍時間。因此，本人於會議後持續與會中提出建議之多位紐澳學者討論此一主題，例如前中研院語言所研究員，現為 La Trobe University 教授之著名學者 Dr Randy LaPolla及紐西蘭 Auckland University 之漢語學者 Helen Charters 及 Queensland University 之語言學學者，如 Mary Laughren 與 Dr Ping Chen 等。

　　與這些學者的討論，本人深獲其利。Dr Helen Charters 提出的意見，認為「這一鍋肉吃三個人」可能來自「這一鍋肉夠三個人吃」中「夠」虛化為 empty category 之 bound morpheme 後，「吃」向上移位而成。此一分析雖因「這一鍋肉夠三個人慢慢吃」「*這一鍋肉吃三個人慢慢」而排除，但「這一鍋肉夠吃三個人」此句的存在卻點出了這種倒裝句的句義確實與「夠」有關，而不是大陸學者任鷹所說的「供給」義。Dr LaPolla 也認同本人的此一看法。而 Dr Ping Chen 更是早於1994年之「中國語文」期刊之「試論漢語中三種句子成分與語意成分的配位原則」一文中就已經注意到此一有趣的現象，並且正是從漢語中語意角色優先序列的概念來解釋其語法功能是主題、主語或賓語的選項以及其表層的句法表現。而本人所改良的詞彙映照理論乃將此一概念更為形式化，並且將語意角色的形式內涵與語法功能的形式內涵整合一致，因此更合乎普遍語法的要求。此一研究心得的交換實為可貴。經由這樣的討論及意見交換後，宣讀的論文已經修訂完成並投交大會之會後論文集審查委員會。又再經過更審慎的思考及討論後，將論證予以加強，本人判斷應

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1. Apparent Subject-object inversion in Chinese. Paper submitted to *Linguistics*.
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