Minimalism and Optionality

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ABSTRACT

In contrast to the notion of applying "affect α" whenever possible within the Principles and Parameters framework, the Minimalist program requires grammatical operations to take place only when required morphologically. This raises the question of whether optionality exists in the grammar. This work, based on the examination of nominal structures and interpretations, topicalization and other related structures in Chinese, argues that neither optional movement nor optional reconstruction exists in Chinese. Reconstruction is governed by the last resort principle (minimal effort). It is also shown that minimality plays a role in determining syntactic representations which are potentially ambiguous.

Key Words: minimalist program, minimal effort, optionality, movement, reconstruction, topicalization, refexive, pronoun, minimal syntactic representations

0. Introduction*

An important change from the theory of Government and Binding (or Principles and Parameters), represented by Chomsky 1981, to the Minimalist program developed in Chomsky 1991, 1993, 1995 may be interpreted as from a "why not" concept to a "why bother" notion. The earlier framework is a maximal approach in the sense that if nothing prohibits an operation/process in the grammar, the operation/process can take place. The Minimalist program, in con-

trast, requires minimal operations.   If it is fine to be inert, inert it should be.   If less effort is acceptable, less effort should be made. Operations are generally motivated by morphological requirements.

Under the Minimalist program, the notion of optionality becomes an issue. If there is no morphological requirement, no operation should take place; if there is a morphological requirement, the relevant operation must take place.   In principle, then, optional operations in the grammar should not exist.   There are, however, seemingly optional operations in the grammar: optional movement and optional reconstruction.[1]   The apparent existence of optionality in the grammar forces us either to re-examine the relevant linguistic phenomena more carefully or to revise the theory of the grammar in some way in order to accommodate the notion of optionality.   In this paper, we take Chinese as a starting point to re-examine the data which apparently support optionality in the grammar. We will show that such data in fact do not support the existence of optional operations, either optional movement or optional reconstruction.   We further explore the possibility of extending the notion of "no optionality" beyond movement and reconstruction to syntactic representations (or projections of structures),[2] as illustrated by the resultative compound verb structures in Chinese.

1. Optional movement

As mentioned, within the Principles and Parameters framework, the notion of "affect α" — any element can be affected by any grammatical process as long as nothing disallows it — essentially allows the maximal application of the rules in grammar.   With respect to movement, this maximal approach means that any element can undergo movement, unless there is some independent constraint in the grammar disallowing the movement. Within the minimalist program, the claim is reversed: elements do not undergo movement unless the process is forced by some requirements in the grammar.   This raises the question of whether optional movement is allowed in the grammatical theory and of whether optional movement indeed does not exist in the grammar of natural languages.

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1.   The issue of optional reconstruction may be rephrased in terms of deciding which copy to delete in the copy and deletion approach to movement (Chomsky 1993).   If it is an issue of which copy to delete, the issue of optionality becomes less direct.   See later discussions in the text on reconstruction.
2.   It does not matter in this paper whether it is a minimal syntactic representation (representational approach) or a minimal projection of syntactic structures (derivational approach).

Two logical answers are available: (i) there is indeed no optional movement in the grammar of language; (ii) optional movement is allowed within the Minimalist program only under certain conditions. The latter option does not follow straightforwardly from the Minimalist program. However, there have been efforts to show that this option exists. The efforts can be represented by Fukui's (1993) argument that optional movement can legitimately exist in the grammar, as long as it does not add to the cost of the derivation. Cost is defined in terms of his parameter value preservation (PVP) measure:

(1) *The parameter value preservation (PVP) measure*
A grammatical operation (Move α, in particular) that creates a structure that is inconsistent with the value of a given parameter in a language is costly in the language, whereas one that produces a structure consistent with the parameter value is costless.

In a language like English, for instance, the head parameter is head-initial. Accordingly, movement optionally takes place if it is to the right, but not if it is to the left. By contrast, in a head-final language such as Japanese, optional movement is possible to the left, but not to the right. Optional movement in Japanese is manifested by scrambling at the sentential level and the free ordering of prenominal modifiers at the nominal level. English, on the other hand, does not allow scrambling (optional movement to the left); whereas extraposition or heavy NP shift (optional movement to the right) is allowed.[3] Fukui also cites Chinese as an example to illustrate the PVP: at the sentential level, Chinese is head-initial, therefore optional movement (i.e., scrambling) is not allowed;[4] at the nominal level, Chinese is head-final and thus allows free ordering (i.e., optional movement or scrambling possible within nominal expressions). Evidence comes from the fact that Chinese does not allow more than one constituent moved to the beginning of a sentence (the possibility of multiple movement being a criterion for scrambling), as illustrated in (2a-e) (Fukui's (26a-e), p. 412) and word order among prenominal elements is relatively free (as in (3a-f) (Fukui's (25a-f), p. 412):

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3. It is not clear that heavy NP shift and extraposition in English are indeed optional movement and whether they are movement to the right (see, for instance, Larson (1988) for a different account of heavy NP shift), the discussion of which, however, is beyond the scope of this paper.
4. Chinese does not have extraposition (see Li 1990) or heavy NP shift, which may be related to the general phrase structural constraint on what can occur in postverbal position in Chinese (see Chao 1968, S-F. Huang 1980, Li and Thompson 1981, C-T Huang 1982, Li 1990, among others).

(2) a. Zhangsan xie-le   nei-feng-xin   gei Lisi
     Zhangsan write-Asp that-Classifier-letter to Lisi
     'Zhangsan wrote that letter to Lisi.'
   b. Nei-feng-xin$_i$, Zhangsan xie-le t_i gei Lisi.
   c. Gei Lisi$_j$, Zhangsan xie-le nei-feng-xin t_j
   d. *Nei-feng-xin$_i$, gei Lisi$_j$, Zhangsan xie-le t_i t_j
   e. *Gei Lisi$_j$, nei-feng-xin$_i$, Zhangsan xie-le t_i t_j

(3) a. Zhangsan zuotian   [zai New York de] ke
     Zhangsan yesterday at New York DE class
     'Zhangsan's class in New York yesterday'
   b. Zhangsan [zai New York (de)] zuotian de ke
   c. Zuotian Zhangsan [zai New York de] ke
   d. Zuotian [zai New York (de)] Zhangsan de ke
   e. [Zai New York] Zhangsan zuotian de ke
   f. [Zai New York] zuotian Zhangsan de ke

The contrast between (2) and (3), according to Fukui, provides further support for the claim that optional movement is allowed in the grammar, if movement is costless, i.e., the direction of the movement complies with the value of the head parameter.

We would show below, however, that the Chinese examples cannot be taken as supporting evidence for such an optionality claim. The account for the contrast between (2) and (3) in terms of optionality of movement cannot be adopted. More specifically, optional movement does not take place within nominals, just as it is impossible within clauses. Evidence will come from reconstruction possibilities — tests for the existence of movement — in these structures.

1.1. Scrambling

We begin with the important characteristics of scrambling. Evidence is abundant in Japanese that in sentences like (1) the object NP is moved to the sentence-initial position, leaving a trace behind.[5]

(4) Sono-hon $_i$ -o John-ga t_i katta (koto)
    that-book-acc John-nom   bought fact
    'That book, John bought.'

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5. The Japanese sentences like those used in this section recurred in many, if not all of the relevant Japanese works. The sentences appearing in the texts are from Miyagawa (1994).

The scrambled NP can be reconstructed to its original position (where the trace is). In the following sentence, the scrambled NP can be reconstructed and bound by the subject NP, just like the binding of an anaphor or a bound pronoun by the subject in an unmoved structure:[6]

(5) a. [Soitu/zibun$_i$ -no   sensei]$_k$ -o   [subeta-no gakusei$_i$]-ga t$_k$
       that-person/self-gen teacher -acc   every-gen student   -nom
       hihansi-ta
       criticize-past
       'his/self's teacher, everyone criticized.'
    b. [Soitu/zibun $_i$ -no   sensei]$_k$ -o   [dono gakusei $_i$]-ga t$_k$ hihansi-ta
       that-person/self-gen teacher-acc which student   -nom criticize-past
       'his/self's teacher, which student criticized?'

In addition to the reconstruction possibilities manifested in the binding of anaphors and pronouns, the contrast between the unambiguity of (6a) and the ambiguity of (6b) also indicates that the object NP has been moved to the beginning of the sentence and that reconstruction can take place: (6b) not only has the reading of the moved object NP having wide scope (since it is at a higher position than (c-commanding) the subject NP) but also the reading shared by the base-generated (6a). That is, the moved structure (6b) not only generates a new interpretation but also maintains the original unmoved interpretation, which is expected if the object NP is moved and can be interpreted at its landing site or at its original position (after reconstruction).

(6) a. 3-nin-no gakusei-ga 2-ri-no sensei-o hihan-sita — Subject QP wide scope
       3-cl-gen student-nom 2-cl-gen teacher-acc criticized
       'Three students criticized two teachers.'
    b. 2-ni-no sensei-o, 3-nin-no gakusei-ga hihan-sita-Subject QP wide/ narrow
       scope

We thus take possibilities of reconstruction manifested in binding and scope interpretations to be tests for the existence of scrambling. We will first consider the Chinese nominal expressions.

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6. For the sake of simplicity, we are not listing the base-generated canonical active sentences (Subject + [Object + V]) to contrast with, where an antecedent must c-command an anaphor or bound pronoun.

1.1.1. Scrambling within Chinese nominal expressions[7]

Within the Chinese nominal expressions, despite the apparent free ordering among various elements preceding a nominal head, these elements do not exhibit any property of movement.[8] For instance, the elements within nominal expressions do not have the possibilities of scope ambiguity. Huang (1982) has convincingly argued that the elements preceding the nominal head are in a right-branching hierarchical order: [A [B ... [X N]]]. A constituent is structurally higher and has scope over another constituent to its right. This is why dates and addresses have to appear in the order as illustrated here and no other ordering is possible:

(7) a. yi-jiu-jiu-wu nian, wu-yue yi-ri, xingqi yi, shangwu shi-dian-zhong
       1995,   May first,   Monday, Morning, 10 o'clock
    de shihou
    DE time
    'the time of 10 a.m., Monday, May 1, 1995'[9]
   b. Meiguo, Jiazhou,   Luoshanji, shi-jie,   er-hao
      America, California, Los Angeles, 10 Street, 2 number
      '2, 10th Street, Los Angeles, California, USA'

The lack of any other ordering possibility indicates that no element may take scope over the element to its left. Similarly, the following examples have fixed relative scope interpretations according to the surface ordering of the relevant constituents:

(8) a. Zhangsan de Chomsky de shu
       Zhangsan's Chomsky's book
   b. Chomsky de Zhangsan de shu
      Chomsky's   Zhangsan's book

In both instances, the left NP cannot take an interpretation in the hierarchy given in (9) that is lower than the one for the NP to the right (see, for example, Lu 1995). That is, if Chomsky in (8a) is the writer, Zhangsan can be a translator

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7. We will not concern ourselves here with the issue of whether Chinese nominal expressions should be represented as an NP or a DP.
8. Keiko Miyagawa (1994) argues that scrambling does not take place within nominal expressions in Japanese.
9. English generally is head-initial, even though it allows a modifier occurring before a head in some cases (see Stowell 1981 for treating modifer-head N as compounds: 'May 1' may be analyzed as a compound).

or an owner. He cannot be the theme of the book. If Chomsky is a translator, Zhangsan must be an owner. The same interpretation constraints apply to (8b): if Zhangsan is the translator in this case, Chomsky can only be an owner.[10]

(9) owner (loose sense) > translator > writer (agent) > theme

Were scrambling (optional movement) possible within NPs, it is not expected that the interpretation of such NPs is so restricted hierarchically. On the other hand, if no movement exists and therefore no trace exists, the lack of ambiguity follows from the strictly right-branching hierarchical structure of NPs in Chinese.

Just as interpretation possibilities do not support the existence of reconstruction, the facts concerning binding possibilities do not show any reconstruction effect, either:

anaphors:

(10) a. Wo you [yiben Zhangsan$_i$ de gei ziji$_i$ de shu].
       I have one   Zhangsan DE for self DE book
       'I have a book of John's that is for himself.'
    b. *Wo you [yiben gei ziji$_i$ de Zhangsan$_i$ de shu] .
        I have one to self DE Zhangsan DE book
    c. Wo you [yiben Zhangsan$_i$ de zai ziji$_i$ jia   de shu].
       I have one   Zhangsan DE at self home De book
       'I have a book of John's that is at his home.'
    d. *Wo you [yiben zai ziji$_i$ jia   de Zhangsan$_i$ de shu].
        I have one   at self home DE Zhangsan DE book

bound pronouns:

(11) a. [Meigeren/shei$_i$ de naben [ni yiqian song gei tai de] shu]
        everyone's/whose   that   you before give to him DE   book
        'that book of everyone's/whose that you gave to him before'
    b. *[[Ni yiqian song gei ta$_i$ de] meigeren/shei$_i$ de naben shu]
    c. *[[Ni yiqian song gei ta$_i$ de] naben meigeren/shei$_i$ de shu]

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10. If nouns have complements in Chinese, theme would be the best candidate for a complement (cf. Huang 1982 for the claim that nouns may not have complements in Chinese). The rigidity in the possible interpretation of prenominal expressions indicates that the complement does not undergo movement.

names/pronouns

(12) a. [Zhangsan$_i$ pengyou de baba de naben ta$_i$ de shu]
        Zhangsan friend   DE father DE that   he DE book
        'that book of him of Zhangsan's friend's father's'
    b. *[Ta$_i$ de naben Zhangsan$_i$ pengyou de baba de shu]
    c. *[Ta$_i$ de Zhangsan$_i$ pengyou de baba de naben shu]

Since there is no reconstruction effect, there is no evidence for the existence of movement.

The lack of scope ambiguity, the rigidity in the interpretation of prenominal NPs (strict obedience to the thematic hierarchy in (9), for instance) and the lack of reconstruction effects with respect to binding argue against the existence of scrambling (optional movement) within nominal expressions in Chinese.[11]

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11. Fukui (pp. 412-413) recognizes that differences in word order within nominal expressions entail differences in meaning, in particular, with respect to binding and scope possibilities. However, free word order, is his main concern. Despite of this weakening of the claims related to optional movement, it is not quite true that word order within nominal expressions is entirely free, as we just saw in the text. Moreover, it is not clear that free word order argues unambiguously for the existence of optional movement (Fukui's central claim being the existence of optional movement). Note that many modifiers can have free word order with respect to each other, not only within nominal expressions but also at the sentential level. Thus, the sentence in (i) has the variations in (ii-vi)
(i) Zhangsan ba ta   henhende yong dao   sha-si le.
    Zhangsan BA him cruelly   use   knife kill   ASP
    'Zhangsan killed him cruelly with a knife.'
(ii) Zhangsan   henhende ba ta   yong dao sha-si le.
(iii)Zhangsan   henhende yong dao ba ta   sha-si le.
(iv)Zhangsan   yong dao henhende ba ta   sha-si le.
(v) Zhangsan   yong dao ba ta   henhende sha-si le.
(vi)Zhangsan   ba ta   yong dao henhende sha-si le.

A logical conclusion one can draw from such facts is that there would be no difference between NPs and clauses with respect to the possibility of scrambling, contrary to what Fukui claims about Chinese.
Further evidence for dissociating free word order from optional movement is the fact that the free word order exhibited in the above examples does not translate into reconstruction possibilities in terms of binding:

(vii) a. Wo yong ni gei Lisi$_i$ de shu ba ta$_i$ da tong le.
         I   use you give Lisi DE book BA him hit ache ASP
         'I hurt him with the book that you gave to Lisi.'
     b. Wo yong ni gei ta$_i$ de shu ba Lisi$_i$ da tong le.
         I   use you give Lisi DE book BA him hit ache ASP
         'I hurt Lisi with the book that you gave to him.'

1.1.2. Scrambling at the sentential level

NP (or PP) fronting in Chinese at the sentential level, as noted in Fukui (1993), differs from scrambling in Japanese with respect to the possibility of multiple application, as illustrated by the acceptability of (13a-b), in contrast to the unacceptability of (2d-e):

(13) a. Mary-ni$_j$ sono-hon$_i$-o   John ga t$_j$ t$_i$ watasita.
        Mary-to that-book-ACC John-NOM   handed
        'John handed that book to Mary.'
     b. Sono-hon$_i$-o   Mary-ni$_j$ John ga t$_j$ t$_i$ watasita.
        that-book-ACC Mary-to John-NOM   handed

For ease of presentation, we will call the Chinese structure with a fronted constituent (2b-c) a topic structure, following the traditional wisdom. There is ample evidence showing that the Chinese topic structure cannot correspond to the Japanese scrambling structure.

First of all, topic structures do not have more scope ambiguities than the corresponding non-topicalized structures. As illustrated in (6a-b), scrambling creates the possibility of scope ambiguity.[12] This is not the case with topic structures in Chinese. Compare the following sentences:

c. Wo ba Lisi$_i$ yong ni   gei ta$_i$ de shu   da tong le.
   I   BA him use   you give Lisi DE book hit ache ASP
   'I hurt Lisi with the book that you gave to him.'
d. *Wo ba ta$_i$ yong ni   gei Lisi$_i$ de shu   da tong le.
   I   ba him use   you give Lisi DE book hit ache ASP
   'I hurt him with the book that you gave to Lisi.'

A more appropriate interpretation of the free word order in (i-vi) and the free word order examples of noun phrases given in Fukui's paper and this paper lies in the generalization that modifiers only need to occur close enough to their modifiee (sister relation, for instance, see Sportiche (1988) or within the same maximal projection). A number of different modifiers can modify the same constituent. As long as they adjoin to the projections of their modifiees, it does not matter much which order they take among themselves. Different ordering may yield different scope interpretation. However, all these modifiers can be base-generated where they are, without being moved from some other place.

12. In the case of long-distance scrambling (cross a clausal boundary), the scrambled NP only takes a narrow scope reading (Hajime Hoji, Shin Watanabe, personal communication):

(I) QP-ni, [QP-ga......[QP-ga...V]]

Hoji suggests that it is possible to say that the wide scope interpretation of the scrambled QP in a simple clause is derived by a structure different from scrambling, such as base generation of the seemingly fronted QP. See the discussion of Matsuda's (1995) work on scrambling in section 4.

(14) a. Ta gei meige haizi zuo   le   shenme dongxi?
        he for every child make ASP what   thing   — ambiguous
        'What did he make for every child?'
(can be answered by 'he made a horse for Billy, a dragon for Jill....)
     b. Shenme dongxi, ta gei meige haizi zuo   le t ?   — unambiguous
        what   thing   he for every child make ASP
        'What is it that he made for every child?'
(answered by 'toys, he made for every child.')

The answer for sentence (14a) can be a listing of different things for differ-
ent children; (14b) can only be one identical thing made for all the children.
    Sentence (15b) does not have the reading that 6 problems were solved as
(15a) does:[13]

(15) a. Ruguo liangge ren jiejue le   sange wenti...
        if   two   men solve ASP three problems
        'if two men solved three problems....'
     b. Ruguo sange wenti,   liangge ren jiejue le....
        if   three problems, two   men solved

The contrast between (13) on the one hand and (14-15) on the other hand
indicates that topic structures in Chinese cannot be equivalents of scrambling in
Japanese.[14]

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13. Conditional clauses are used here because a matrix clause generally requires a definite or
    specific subject NP and the constraint does not exist in conditional clauses (see Lee 1986,
    but also see Li 1996).
14. We will show later that topicalization can be generated by movement in Chinese, even
    though it is not equivalent to Japanese scrambling. Topcalization may be movement to a
    higher position than scrambling (Kuroda 1992).   The lack of ambiguity in Chinese topical-
    ized structures may have to do with the fact that a topic NP tends to be definite or specific
    in Chinese.   However, even a contrastive topic like (i), which seemingly allows an indefi-
    nite NP, does not seem to have the possibility of narrow scope interpretation with respect
    to the subject NP: (i), in contrast to (ii), does not seem to have a reading of 6 math ques-
    tions and 15 language questions answered correctly.

        (i) Liangge shuxue wenti, sange xuesheng da dui le; sange yuyan wenti, wuge xue-
            sheng da dui le.
            two math question three student answer correct three language questions five
            student answer correct
    cf.(ii) Sange xuesheng da dui le liangge shuxue wenti; wuge xuesheng da dui le sange
            yuyan wenti.
            three student answer correct two math question five student answer correct three
            language question

Other examples with *same/different*:

(16) a. Zhangsan he   Lisi hen   xiang yao xiangtong/butong de dongxi
       Zhangsan and Lisi very want   same/different   things
       'Zhangsan and Lisi want same/different things.'
   b. Xiangtong/butong de dongxi, Zhangsan he   Lisi hen   xiang yao.
       same/different   things,   Zhangsan and Lisi very want
       'Same/Different things, Zhangsan and Lisi want'
   c. Mei   dui Zhongguo fufu   dou hui jieshao   xiangtong/butong de
       every pair Chinese   couple all will introduce same/different   DE
       xuesheng.
       student
       'Every Chinese couple will introduce same/different students.'
   d. Xiangtong/butong de xuesheng, mei   dui Zhongguo fufu   dou hui
       same/different   DE student   every pair Chinese   couple all   will
       jieshao.
       introduce
       'Same/Different students, every Chinese couple will introduce.'

Each of the two pairs of sentences is not equivalent to the other in interpretation: 'same/different' cannot covary with Zhangsan and Lisi or the couple in the fronted case.   By contrast, in Japanese scrambling cases, the scrambled 'same/different' phrases can covary with the subject NP.

(17) Onazi/betsubetu-no gakusei-o, subete no nihonjin huuhu-ga t
       same/different   student   all   Japanese couple
       homemasita
       praise

If an overt focus/contrastive marker *shi* is present, it seems that the reconstruction interpretation is easier for some speakers (see note (32)). (iii), for instance, is possible (for some speakers only) to have the reading of 6 and 10 questions (independent reading possible for all speakers: only 3/5 questions and two students).   The details of the contrastive topic structures will be discussed in a separate work.

   (iii) Shi sange wenti, liangge xuesheng da dui le; bu shi wuge wenti.
       be three question two student answer correct not be five question
       'It is three questions that two students answered correctly, not five questions.'

2. Topic structures — movement or non-movement

The discussions above indicate that a Chinese object NP topicalized to the beginning of the sentence generally cannot be interpreted in its original object position. This suggests that topic-structures in Chinese may not involve movement at all (see Cheng 1991, Chiu 1993). On the other hand, there are other instances which do not seem to be easily accounted for by a non-movement approach. For instance, if we follow Saito's (1985) observation that a displaced PP must be the result of movement rather than coindexing with a pro because a pro cannot be a PP, Chinese topic structures must involve movement since a PP can be topicalized:

(18) a. Dui Zhangsan, wo zhidao ta t bu zenme guanxin.
   to Zhangsan I   know he not how   care
   'To Zhangsan, I know he does not quite care for.'

b. Cong zhejia yinhang, wo zhidao women keyi t jiedao henduo qian.
   from this bakn   I know we   can   borrow much   money
   'From this bank, I know we can borrow a lot of money.'

c. Gen zhe zhong laoshi, wo zhidao wo t yiding   xue-bu-hao
   with this kind teacher I   know I   certainly study-not-well
   'With this kind of teacher, I know I certainly will not learn well.'

The O of a V+O idiom chunk can be topicalized: [15]

(19) a. Wanxiao/mo/dao, ta kai/you/kai   de hao ma?
   joke/-mor/knife   he open/hu-/open DE well Q
   'Does he joke/humor/operate well?'

b. Mo, ta shi hui you, keshi changchang you de buhao
   -mor he be can hu- but   often   hu-DE not good
   'He can humor but not quite well.'

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15. Idiom chunks are often hard to be distinguished from figurative speech. The example of *youmo*, a transliteration of a bisyllabic 'humor' into a bisyllabic word and being reanalyzed as a V+O compound, first discussed in Huang (1983), may be taken as a clearer example of idiom chunks. Other more idiom like V+O expressions such as those in (i), also discussed by Huang, allow topicalization as well.

(i) bian   ta yizhi da/xiao-bu-chulai, (zenme ban?)
   convenience he still big/small-not-out how do
   'He still cannot make bowel movement/urinate (what to do?)'

Along with the familiar discussions on the locality constraint on topicaliza-
tion (Huang 1982 for instance), the movement of the O in VO idioms can take
place across a sentence boundary, but is less acceptable to move across an island:

(20) a. Mo, wo zhidao ta shi hui you, keshi changchang you de buhao
      -mor I   know he be can hu- but   often   hu-DE not good
      'He can humor but not quite well.'
    b. ??Mo, Zhangsan renshi nage you guo,   keshi you de buhao de ren
       -mor Zhangsan know   that hu- ASP   but   hu-DE not good
       '-mor, Zhangsan knows the   person who did   hu-but not quite well.'
       (Humor, Zhangsan knows the person who can humor but not quite well.)
    c. ??Mo, wo zhidao Zhangsan yinwei hui you, hen you renyuan
       -mor, I   know Zhangsan because can hu- very have popularity
       '-mor, I   know Zhangsan popular because he can hu-'

Similarly, the displaced PPs in (18) cannot come from within an island:

(21) a. *Dui Zhangsan, wo renshi [[t hen guanxin de] ren].
        to Zhangsan, I   know   very care   DE person
    b. *Cong zhejia yinhang, wo renshi [[keyi t jie   henduo qian   de]
        from this   bank   I   know   can   borrow much money DE
        ren]
        person
    c. *Gen zhe zhong laoshi, wo renshi [[t yiding   xue-bu-hao   de]
        with this kind   teacher I   know   certainly study-not-well DE
        ren]
        person

The possibility of PP, idiom displacement and the locality constraint on the
displacement suggest that a topic NP can be derived by movement. Further sup-
port is shown by the binding facts:

A displaced anaphor can be bound by an antecedent that it seemingly c-
commands:

(22) a. Zhangsan$_i$ hen zhaogu (ta)ziji$_i$ (de pengyou).
       Zhangsan very care   him self DE friend
       'Zhangsan takes good care of (him)self/his own friends.'
    b. (Ta)ziji$_i$ (de pengyou), Zhangsan$_i$ hen zhaogu.
       him self DE friend   Zhangsan very care
       '(him)self/his own friends, Zhangsan takes good care of'

(23) a. Zhangsan/ Shei/ Nage ren/ Meiren/ Meigeren$_i$ dou
    Zhangsan who which man noone   everyone all
    hen xihuan ziji$_i$ hua de hua.
    very like   self draw DE picture
    'Zhangsan/Who/Which person/Noone/Everyone
    likes the picture that self drew.'
  b. Ziji$_i$ hua   de hua,
    self draw DE picture
    Zhangsan/ Shei/ Nage ren/ Meiren/ Meigeren$_i$ dou hen xihuan[16]
    Zhangsan who which man noone   everyone all very like
    'The picture that self drew, Zhangsan/Who/Which person/Noone/Every-
    one likes.'

The anaphor binding facts here seem to suggest that the topic NP is moved from a position c-commanded by the subject, so that the topic NP can be bound by the subject via reconstruction. The contrast between the pairs of the sentences in (24) further shows that reconstruction effects exist, if we take the existence of overt pronouns to be indications of instances of base-generated non-movement structures:

(24) a. (Ta)ziji de baba, Zhangsan hui zhaogu.
    himself DE father Zhangsan will care
    '(Him)self's father, Zhangsan will take care.'
  b. ??(Ta)ziji de baba, Zhangsan hui zhaogu ta.
    himself DE father Zhangsan will care   him
    '(Him)self's father, Zhangsan will take care of him.'

Sentences (18-23) and the contrast between (24a) and (24b) thus are evidence for the existence of movement to generate topic strucutures in Chinese.[17]

This conclusion, however, conflicts with the facts in (14-16), where reconstruction does not seem possible. The lack of reconstruction in fact has been noted in the experimental studies by Chien et al. (1993). In their experimental study of reflexive binding, they find that adults, as well as children, "rarely allowed *taziji* [and *ziji*] to be backward chain-bound[18] by the embedded subject

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16. Some speakers do not quite like the preposed anaphor to be *taziji*, especially when the binder is a QP or a *wh*-operator.
17. There are other facts supporting the existence of movement in topic structures, which we will not discuss further here. See Huang (1982, 1987), Li (1990), among many others.
18. "Chain" consists of the moved element and its trace(s).

NP that followed" (p. 250) the reflexive.   Examples they used are (25a-b):[19]

(25) a. Milaoshu mengjian,   ziji-de qiqiu,   Daxingxing zhuazhe. (p.241)
      Micky Mouse dream, himself's balloon, Big Gorilla grasp
      'Micky Mouse is dreaming that, himself's balloon, Big Gorilla is grasping'
    b. Milaoshu mengjian,   taziji-de erduo, Daxingxing mozhe. (p.247)
      Micky Mouse dream, himself's ear,   Big Gorilla touch
      'Micky Mouse is dreaming that, himself's ear, Big Gorilla is touching'

The contrast between (22-24) on the one hand and (25) on the other is surprising. All of these sentences are illustrations of anaphor binding via reconstruction; yet, the former is much better than the latter. The latter can even be contrasted with (25c-d) where the "backward chain-binding" seems to be more likely, as the sentences are fully acceptable:

(25) c. Ziji-de   qiqiu,   Daxingxing zhuazhe.
      himself's balloon, Big Gorilla grasp
      'himself's balloon, Big Gorilla is grasping'
    d. Taziji-de erduo,   Daxingxing mozhe.
      himself's ear,   Big Gorilla touch
      'himself's ear, Big Gorilla is touching'

Question thus arise: why do the facts in (14-16) seem to indicate that the displaced elements can not be interpreted in their original position and why do the anaphors seem to be interpreted at their original position in some cases but at their landing sites in some other cases? These questions, in fact, are part of a more general question concerning the property of "reconstruction."

3. Reconstruction

Various proposals have been made in the literature concerning the ways to capture the relation between a binder and a bindee when the binder does not c-command its bindee at S-Structure, such as the notion of connectivity/chain binding (Barss 1986), reconstruction (literally placing the moved element back,

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19. Picture recognition/yes-no tests, rather than act-out tests, were used, which supposedly would be better tests to find out possible interpretations, not just preferences. The results of the tests also do not distinguish *ziji* from *taziji* with respect to the possibility of reconstruction. This does not conform to the claim made in Huang and Tang (1989), Katada (1991) that *taziji* (and *ziji* contained in an NP for Katada), but not the bare ziji, undergoes reconstruction.

see for example Katada 1991), and the latest theory of copy and deletion (Chomsky 1993, 1995). Despite the different approaches, there is always the issue of which positions/elements in the representation of [displaced position/element, intermediate position/element, original position/element] should be considered for scope, binding and other interpretation matters. Take a sentence like (26) for example.

(26) *[Which pictures of John$_i$]$_j$ does he$_i$ like t$_j$?

The unacceptability of this sentence indicates that the trace of the moved NP must behave as if it contains *John*. This is captured, for instance, by reconstructing the moved phrase back to its base-generated position, or stating in the terms of copy and deletion that the copy 'picture of John' must not be deleted from its original object position (see Chomsky 1993 the preference principle).[20]

(27) Which$_k$ does he$_i$ like [x$_k$ pictures of John$_i$]

The pronoun would then c-command the name, violating Binding Principle C.

In the case of anaphors, on the other hand, it must be permitted that the constituent containing the anaphor is reconstructed to the base position or to the intermediate position

(28) [Which pictures of himself $_{i/j}$]$_k$ did John$_i$ think that Bill$_j$ admired t$_k$?

In fact, even for cases similar to (27), Binding Principle C violations, it seems that the constituent containing the name can be reconstructed not only to the original position, but also to the intermediate position (but see the discussion of (31-32) and note (23)). This is illustrated by the contrast between (29a-b) (discussed in Huang (1993) and Takano (1995), though the account is based on Reinhart 1981, see note (22)):

(29) a. ?*How many pictures of John$_i$ does he$_i$ think that I like?
     b. ? How many pictures of John$_i$ do you think that he$_i$ will like?

If the pronoun is in the embedded clause, the coreference between the name and the pronoun becomes more acceptable. This contrast can be captured if the

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20. Since the comparison of different approaches is not the focus of this paper, for the sake of simplicity, we will, in the subsequent discussions, just use the term "reconstruction to a certain position," without discussing other alternatives such as the copies to be retained. Keep in mind, however, that the notion of last resort or minimal effort will have different interpretations with different approaches (such as stating the "economy" conditions on which copy to retain).

fronted phrase can be reconstructed to the embedded object position or the inter-
mediate COMP position.   In the latter case, the pronoun would not c-command
the name and the sentence would not violate Binding Principle C.[21]

The sentences (26-29) thus indicate that reconstruction MUST take place: a
moved constituent must be reconstructed to the original position or an intermedi-
ate position. Other data, however, suggest that reconstruction may be optional.
It is obligatory only when it is forced by some principles in the grammar.   Barss
(1986), Huang (1993) and Takano (1995) note that there is an argument-predicate
asymmetry in the obligatoriness of reconstruction (the following examples are
from Huang 1993):

(30) a. [Which pictures of himself $_{i/j}$]$_k$ did John$_i$ think that Bill$_j$ saw t$_k$?
   b. [How proud of himself*$_{i/j}$]$_k$ did John$_i$ think that Bill$_j$ should be t$_k$?

(31) a. ?[How many pictures of John$_i$]$_j$ do you think he$_i$ will like t$_j$?
   b. *[How proud of John$_i$]$_j$ do you think he$_i$ should be t$_j$?

It is possible to account for the contrasts found in (30-31) by assuming that
predicates, but not arguments, must be reconstructed to the original position.

Heycock (1995) refines this observation and notes that the distinction should
lie in the referentiality of the moved constituent: if the moved constituent is
non-referential, it must be reconstructed to its original position,[22] illustrated by
the following examples from Heycock 1995 pp. 258–260):

(32) a. [Which stories about Diana$_i$]$_j$ did she$_i$ most object to t$_j$?
   b. [How many of the stories about Diana$_i$]$_j$ was she$_i$ really upset by t$_j$?
   c. *[How many stories about Diana$_i$]$_j$ is shei likely to invent t$_j$?

The contrast found in (32a-c) and other instances involving (non-
presuppositional) amount phrases and predicate phrases led Heycock to the con-
clusion that only non-referential phrases undergo reconstruction obligatorily, the
reason being non-referential phrases must take narrow scope.

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21. The acceptability of sentences like (i) here would then be accounted for along the lines of
   Lebeaux (1988), that an adjunct is inserted later in the derivation.

   (i)   Which student that John$_i$ taught did he$_i$ say Mary criticized?

   However, cf.   the next note.

22. Under this approach, the unacceptability of (26a) and (29a) would not be accounted for by
   Binding Principle C, via reconstruction to the base-generated or intermediate position.
   For whatever reason, the name and pronoun just cannot be too close to each other (see
   Reinhart 1981, Huang 1993, Takano 1995 and the later discussions in the text concerning
   (37a-c)).

The above discussion shows that the moved elements must be reconstructed in some cases (when forced by some interpretation properties, for instance). On the other hand, there are some other moved elements that do not need to undergo reconstruction. Two logical possibilities exist for the cases that do not need to undergo reconstruction: either they do not undergo reconstruction at all or they optionally undergo reconstruction. Just as the question raised in the beginning whether there is optional movement, the same question can be raised whether there is optional reconstruction. What follows will be devoted to showing that we can take the stricter position (the minimalist view) that optional reconstruction does not exist. Reconstruction takes place only when necessary.

Let us start with the Chinese data discussed earlier. As indicated in (23-25), anaphors seem to be reconstructed only in some cases. Comparing (23-24), (25c-d) on the one hand and (25a-b) on the other, we see that the important difference between them is that the displaced anaphor does not have a c-commanding antecedent in the former set but does have one in the latter set. In other words, in the cases of (23-24) and (25c-d), the anaphor would not have a proper binder if it stayed in the moved position. However, if the anaphor is reconstructed, the requirement that an anaphor must have a binder (Binding Principle A) would be satisfied and the sentence would be grammatical. The following pair shows the same point: even though (33b) is pragmatically less preferred than (33c), (33b) is better than (33c):

(33) a. Shei/nage ren/meiren/meigeren$_i$ dou hen xihuan Wang laoshi gei
        who/which man/noone/everyone all very like   Wang teacher give
     ziji$_i$ de chengji
     self's   grade
     'Who/Which person/ Nobody/Everyone likes the grade that Teacher Wang gave to self.'

   b. Wang$_i$ laoshi gei ziji$_i$ de chengji, shei/nage ren/meiren/meigeren dou hen xihuan t^{23}

   c. Wang laoshi gei ziji$_i$ de chengji, shei/nage ren/meiren/meigeren$_i$ dou hen xihuan t

The displaced anaphor has a c-commanding binder within the displaced phrase, it therefore can satisfy Binding Principle A without reconstruction and

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23. It seems that the displaced 'self' can be coindexed with 'everyone' more easily than with 'who/which person/nobody'. The same contrast has also been pointed out by Kuno, as informed by Hoji (personal communication). It is possible that some kind of generic reading is involved in such cases, the exact nature of which, however, is not very clear.

no reconstruction takes place. The interpretation possibilities in (34) further shows the lack of reconstruction of the displaced phrase:

(34) Zhangsan$_i$ yiwei,   laoshi$_j$ gei ziji$_{i/j/*k}$ de chengji, Lisi$_k$ kandao le t
     Zhangsan thought teacher give self   DE grade Lisi see   ASP
     'Zhangsan thought that, the grade that the teacher gave to self, Lisi saw.'

On the other hand, in the cases like (25b), reconstruction becomes more likely if the matrix subject is not a possible antecedent for the anaphor:

(35) a. gushi litou   shuo, (ta)ziji$_i$ -de erduo, Daxingxing$_i$ mozhe.
       story inside say   (him)self's ear,   Big Gorilla   touch
       'The story says that, (him)self's ear, Big Gorilla is touching'

The anaphor 'himself' must refer to an animate antecedent. 'Story' is inanimate and is not a possible antecedent for the anaphor, which therefore must undergo reconstruction to be interpreted.   In (35b), the first person subject cannot be an antecedent for the anaphor, which therefore must also be reconstructed to be interpreted:

(35) b. Wo mengjian, taziji$_i$ de erduo, Daxingxing$_i$ mozhe.
       I   dream   himself's ear,   Big Gorilla   touch
       'I dreamed that himself's ear, Big Gorilla is touching'

In (35c), the plural matrix subject NP cannot be a possible antecedent for the anaphor, which is to be interpreted as coreferential with the embedded subject:

(35) c. Tamen mengjian, tazij$_i$ de erduo, Daxingxing$_i$ mozhe.
       they   dream   himself's ear,   Big Gorilla   touch
       'They dreamed that himself's ear, Big Gorilla is touching'

The discussion above shows that, even though the result of the experimental study by Chien et al. suggests the lack of reconstruction in the cases they studied, unexpected from what have been discussed in the theoretical literature, this puzzling result invites us to examine further what motivates reconstruction and when it occurs. What we propose here is that reconstruction, in principle, is possible in the cases discussed by Chien et al. It is only that reconstruction is not necessary, because there is a possible antecedent to bind the anaphor at its landing site (sentences (25a-b)). When reconstruction is not necessary, it does not take place, a phenomenon predicted by the notion of "last resort" or "minimal effort," when reconstruction is taken to be a process that places the displaced element back.

If this line of pursuit is on the right track, we would predict that a pronoun would not need to reconstruct because it does not require a binder. This seems to be the case, as preposing the phrase containing the pronoun (36c-f) makes binding less likely than (36a-b):[24]

(36) a. Shei$_i$ xihuan laoshi　gei　ta$_i$　de　chengji?
 　　　who　like　　teacher give him DE grade
 　　　'Who likes the grade that the teacher gave him?'
 b. Meiren$_i$ xihuan laoshi　gei　ta$_i$　de　chengji.
 　　　nobody　like　　teacher give him DE grade
 　　　'Nobody likes the grade that the teacher gave him.'
 c. ??Laoshi gei　ta$_i$　de　chengji, shei$_i$ xihuan.[25]
 　　　teacher give him DE grade　who like
 d. ??Laoshi gei　ta$_i$　de　chengji, meiren$_i$ xihuan.
 　　　teacher give him DE grade　nobody like
 e. Zhangsan$_j$ yiwei, laoshi gei ta$_{j/*i}$ de chengji, shei$_i$ xihuan?
 　　teacher give him DE grade who like
 f. Zhangsan$_j$ yiwei, laoshi gei ta$_{j/*i}$ de chengji, meiren$_i$ xihuan.
 　　teacher give him DE grade nobody like

In order for the quantificational expressions 'who' and 'nobody' to bind the pronoun, the pronoun must be reconstructed to the c-command domain of these expressions. However, the pronoun *ta* only needs to be free. It does not need to be bound (but see note 26). The reconstruction thus does not seem to occur.

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24. Speakers vary with respect to the possibility of a pronoun bound by a QP (Aoun and Li 1990). Most speakers, however, do find a contrast between a straightforward c-commanding binding of a pronoun and a backward (reconstructed) binding of a pronoun, even though they may differ in the acceptability of the backward binding. Those who dislike backward binding in general also dislike the sentence (i), even though (ii) is still good for them:

 (i) 　Taziji$_i$ de chengji, meiren/shei$_i$ xihuan
 　　　himself DE grade 　noone/who 　like
 (ii) 　Ziji$_i$ 　de chengji, meiren/shei$_i$ xihuan
 　　　himself DE grade 　noone/who 　like

 It is possible that *taziji* here is analyzed as a pronoun *ta* plus an intensifier *ziji*.
25. The pronoun, even though not required to be bound, still needs a reference from the contexts (linguistic or non-linguistic). In the cases of (36c-d), the backward binding of the pronoun by the QP is not totally impossible, since there is no clear interpretation for the pronoun elsewhere in the linguistic context. In contrast, the backward binding of the pronoun by the QP in (36e-f) is less likely, because Zhangsan can provide an interpretation for the pronoun.

Briefly summing up, we show that the lack of reconstruction effects reported by Chien et al need not be surprising if we take reconstruction to be a process that takes place only when it is necessary. In the case of anaphors, if there is an antecedent for the anaphor at its landing site, the anaphor does not undergo reconstruction because it is not required to. In the case of pronouns, backward binding by binders is harder than the regular forward binding because a pronoun does not need to be bound. There is no requirement for the reconstruction to take place.[26]

To complete the discussion, we would like to point out that preposing of phrases containing names in Chinese shows the same behavior as in English: Even though (37a) is not acceptable, further embedding of either the pronoun or the name makes the sentence more acceptable (see Huang 1993, Qu, 1994):

(37) a. ??Zhangsan$_i$ de nu pengyou, ta$_i$ hui dailai
     Zhangsan DE girl friend, he will bring
    'Zhangsan's girl friend, he will bring along.'

  b. Wo gei Zhangsan$_i$ jieshao   de nu pengyou, ta$_i$ hui dailai.
    I   to Zhangsan introduce DE girl friend   he will bring
    'The girl friend that I introduced to Zhangsan, he will bring along.'

  c. ?Zhangsan$_i$ de nu pengyou, wo xiwang Lisi hui jiao ta$_i$ dailai.
    Zhangsan DE girl friend   I   hope   Lisi will ask him bring
    'Zhangsan's girl friend, I hope Lisi will ask him to bring along.'

The relative unacceptability of (37a) should not be attributed to the obligatory reconstruction of the preposed phrase. Rather, it is due to some condition on the structural distance between the name and the pronoun, as discussed in Reinhart (1981), Huang (1993).

4. Further Issues

We have shown in this work that scrambling (optional movement) does not exist within nominal expressions in Chinese because nothing in the working of thematic relations, scope, binding properties etc. supports the existence of movement. Topicalization is somewhat more complicated. We showed that it CAN be derived via movement, based on the types of elements that can be displaced,

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26. If reconstruction takes place, it can be reconstructed to any position in the chain, either the original site or the intermediate site, as indicated by the possibilities of interpretations for (30a).

the locality condition on the displacement and the binding properties. The question is whether the movement is optional or not. The answer would be negative if we follow Fukui's (1993, pp. 408-409) criteria and his discussion of the English topicalization. Fukui suggests that English topicalization differs from Japanese scrambling in two important respect: (i) topicalization is restricted in such a way as to apply only once per clause, and (ii) it cannot be undone at LF. The contrast between these two structures is captured by the claim that Japanese scrambling is an adjunction process but English topicalization is a Spec-head agreement: topicalization "can apply only once since Spec-head agreement in the language requires a one-to-one relationship between a functional head and its specifier. Also, topicalization in English, like *wh*-movement, cannot be undone in LF because the relevant Spec-head agreement must be checked at LF." (p. 409) Topicalization in Chinese does not apply twice in a clause, according to Fukui's discussion of the unacceptability of (2a),[27] and it cannot be undone at LF (cf. the unacceptability of (39)), it will not be categorized as a scrambling process, consequently, not an optional operation.

(38) *Shei, ta xiang zhidao Lisi xihuan.
who   he want know Lisi like
'Who, he wonders Lisi likes.'

The implication is that a topicalization structure has a functional projection, the Spec of which will be the landing site of topicalization.[28] This is in fact the analysis of topicalization by Shi (1992), Shyu (1995), for instance.[29]

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27. Double topicalization does not seem to be totally unacceptable:

   (i)?Cong zhejia yinhang, weile Zhangsan, wo zhidao ta yiding   bu gan qu jie   qian.
      from this bank   for Zhangsan I know he certainly not dare go borrow money
   'From this bank, for Zhangsan, I know he certainly does not dare to go to borrow money.'

   If double topicalization is allowed, it needs to be assumed that there are multiple positions for topic.
28. This implication is based on Fukui's discussions. However, this is not necessary. What this work argues is that movement is not optional and reconstruction is not optional either. It does not matter if movement is adjunction or to a functional projection.
29. Are there any other structures in Chinese that can be candidates for optional movement? The answer is negative. The most likely movement structures are passive structures, object preposing structures (SOV) and *lian* ... *dou* 'even ... all' constructions. None of these constructions allow more than one application. These structures have also been analyzed as involving some functional projections: passive structures, Spec of tense (Spec of INFL, Li 1990, for instance (or some element of the split INFL)); object proposing, a focus structure (Shyu 1995, for instance) or Agreement projection (Qu 1994, for instance);

We have also shown that reconstruction in topicalized structures either does not occur or must occur, depending on the morphological properties of the displaced elements.[30] We thus may conclude that, at least from the perspective of Chinese facts, there does not exist optional movement or optional reconstruction.[31] Two questions arise from this conclusion: (i) why optional operations do not exist in Chinese and (ii) whether optional operations exist at all in other languages. As concluding remarks, we will entertain some speculative answers to these two questions.

Let us begin with the second question: whether optional operations exist in languages other than Chinese. An immediate candidate is srambling in Japanese, which was fundamental to the discussion of optionality (see Introduction). Unfortunately, the literature on Japanese scrambling is anything but conclusive. The recent study of scrambling structures by Matsuda (1995), which attempts to isolate the interacting factors such as the types of sentences expressing categorical judgement or thetic judgement (in the sense of Kuroda 1992), does offer some insight into the complex issue. Greatly simplifying the presentation, Matsuda's main claim is that the apparent ambiguity of the so-called scrambling structures in Japanese may in fact be manifestation of two different structures. One structure interprets the scrambled NP as if it has always been at the landing site (non-focused topic structure). Reconstruction possibilities do not exist. This structure behaves like a base-generated one without movement taking place,

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lian ... dou construction, a focus projection (Shyu 1995, for instance). We disregard relativization here, because relativization has been analyzed as an operator movement (see Ning 1993, for instance), forced by the relation between a relative clause and the head.

30. In relation to the previous note, *lian ... dou* construction must undergo reconstruction (Shyu, 1995), object preposing does not reconstruct (Shyu 1995, Qu 1994) and there does not seem to be reconstruction in passives either, as the passive subject is not derived via A'-movement at all (Ting 1995).

31. Karine Megerdoomian (personal communication), in her study of scope ambiguities of scrambled structures in Eastern Armenian, claims that reconstruction of the moved constituent is forced by binding requirements. Reconstruction is not entirely determined by the distinction between A or of A-bar movement. She shows that the scrambled element is interpreted at the moved position if it needs to bind from that position or at the base-generated position if it needs to reconstruct in order to be bound.

Concerning the reconstruction of reflexives in Chinese, when a wider range of data is tested, it is found that there is a great deal of speaker variation (uncertainty) as to whether a moved reflexive, with a possible antecedent in a higher position (i.e., reconstruction is not necessary for interpretation purpose), can be reconstructed or not. The generalization seems to be that, if the linguistic context does not favor a stay-at-landing site reading or a reconstructed reading, reconstruction does not take place.

However, reconstruction can take place when pragmatics strongly favors the reconstructed interpretation.

with respect to reconstruction possibilities. The other structure (with the scrambled NP focused) interprets the scrambled NP as if it is always reconstructed. (see the detailed discussion and arguments in Matsuda 1995).[32] If Matsuda's analysis is correct, it is possible to claim that movement is not optional: it either obligatorily moves or not. The same seems to apply to reconstruction.[33]

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32. Kitagawa (1994) argues that [IO DO V] and [DO IO V] structures in Japanese both can be base-generated or resulted from movement.

33. It is not clear why, in the scrambled structure with the scrambled NP reconstructed (the second structure discussed in the text), the scrambled NP must always be reconstructed. One possibility to interpret this is that the movement is a low-level stylistic movement (PF movement for instance), which therefore does not affect any interpretation (except for discourse factors). Another possibility is given by Matsuda (1995) who argues that when the scrambled NP is a focused NP, the rest of the sentence is a presupposition and this presupposition part undergoes raising to a position higher than the scrambled NP at LF. It is not clear at this point how the details of the LF raising of the presupposition should be worked out. It does, however, suggests the possibility that, in fact, the focused NP is not reconstructed. The seemingly reconstruction effects are the result of the raising of the presupposition part. Nevertheless, this is purely a speculation, as it is not clear what the LF structure is, after the presupposition part is raised.
In this respect, it is worth pointing out that, in the literature on English reconstruction, we saw various possibilities: the relevant facts concerning Binding Principle A show that reconstruction is possible.

(i) Which picture of himself$_{i/j}$ does John$_i$ think that Bill$_j$ likes?
(ii) Pictures of himself$_{i/j}$, John$_i$ thinks Bill$_j$ likes

Binding Principle B facts indicate that reconstruction is obligatory to the original position (reconstruction to the intermediate site not allowed):

(iii) Which picture of him$_{i/*j}$ does John$_i$ think that Bill$_j$ likes?
(iv) Pictures of him$_{i/*j}$, John$_i$ thinks Bill$_j$ likes

Principle C facts indicate that some other factors should be considered, such as the degree of embedding for pronouns and names, as illustrated in the text (cf. examples (29-32), (37)). Considering just Principle A and B facts, it is possible to claim that reconstruction always takes place. The question is why such a process must take place. Matsuda's analysis may offer a direction to the answer: the preposed phrases in English are focused phrases. If this is on the right track, the implicit assumption would be that Chinese topic structures are not focus structures (see Shyu 1995 for a discussion of focus structures in Chinese). In this respect, it is worth pointing out the fact that if the reflexive is a contrastive one in Chinese sentences like (25a-b), it is not hard to get a reconstructed interpretation. In fact, in a sentence like the one below, the reconstructed interpretation seems to be easily accessible:

(v) Zhangsan zhidao shi (ta)ziji de pengyou Lisi hui zhaogu, bu shi bieren de pengyou.
    Zhangsan know be he(self) friend Lisi will care, not be other's friend
    'Zhangsan knows that it is (him)self's friend that Lisi will take care, not others' friends.'

A tentative conclusion may be drawn, therefore, that Japanese scrambling does not involve optional reconstruction, in line with what the Chinese data indicate (also see note (33) for some brief discussions of the English reconstruction possibilities). If this is a correct conclusion, it would suggest that some version of the economy or last resort principle advocated in the Minimalist program not only is relevant to deciding whether an element undergoes movement but also relevant to deciding whether an element undergoes reconstruction. Taking analogy of the maximal approach "affect α" (Lasnik and Saito 1992), we may claim that "affect α" does not take place unless as a last resort. The answer to the first question raised above would be reduced to answering why the notion of last resort or economy must exist in the grammar. Instead of delving into this fundamental question, however, we would like to explore further what types of such last resort "affect α" cases can be considered.

Cheng and Huang (1994) observed that the unacceptability of (39b) and the reduced possibilities of interpretations in (40b) are due to a minimal parsing principle that favors processing the nuclear clause in its basic or minimally derived form:

(39) a. Lisi mang-bing-le   Zhangsan.
      Lisi busy-sick-ASP Zhangsan
      'Lisi got Zhangsan to be sick from being too busy.'
    b. *Zhangsan, Lisi mang-bing-le.
      Zhangsan   Lisi busy-sick-ASP
      'Zhangsan, Lisi got sick from being too busy.'

(40) a. Xiaohai ba Lisi zhui-lei-le.
      child   ba Lisi chase-tired-ASP
      'The child chased Lisi tired.'
      'The child caused Lisi to chase him tired.'
    b. Lisi, xiaohai zhui-lei-le.
      Lisi child   chase-tired-ASP
      'Lisi, the child chased him tired.'[34]

Cheng and Huang suggest that the basic form of the nuclear clause is er-

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34. A clearer interpretation for this sentence is: the child chased Lisi and the child got tired from the chasing (see the next note). This is even clearer when the comment clause is embedded:

(i) Lisi, wo zhidao xiaohai yijing   zhui-lei-le.
     Lisi I   know   know   already chase-tired-ASP

gative in (39b). The causative use of the verb (39a) is a derived structure (a causer (or a CAUSE verb) is added to the basic form). When the basic form of the nuclear clause is ergative (39b), no null object is available to be coindexed with the topic. The lack of ambiguity in (40b) follows in the same way. "The nuclear clause must be interpreted as a transitive (with a null object coindexed with the topic) or as an ergative (with no null object), but not as a causative with a null object, which is derivative of the ergative. Hence the causative reading lacking from (40b)." (p. 31)

The notion of "minimal parsing" plays a major role in the interpretation of these sentences. Here we would like to elaborate on the notion of minimality. First, observe that a sentence like (41) that contains a compound verb [V1(activity)+V2(result)], 'chase-tired', can have three interpretations (cf. Li 1993):

(41) Zhangsan zhui-lei-le   Lisi.
     Zhangsan chase-tired-ASP Lisi
     a. 'Zhangsan chased Lisi and Zhangsan got tired.'
     b. 'Zhangsan chased Lisi and Lisi got tired.'
     c. 'Zhangsan made Lisi tired from chasing him.'

The first two readings are the interpretations from the transitive use of the compound verb and the third reading is a derived causative interpretation; i.e., it is possible to have both the basic and derived interpretation.

Compare (41a-c) with (41d). Topicalization of the object NP not only loses the derived causative interpretation (c) but also the second reading (b) according to which the topicalized NP is the subject of the result verb 'tired':[35]

If Lisi is to get tired, the BA or passive construction will be used:
(ii) Lisi, wo zhidao xiaohai yijing   ba ta   zhui-lei-le
     Lisi I   know child   already BA him chase-tired-ASP

(iii) Lisi, wo zhidao yijing   bei xiaohai zhui-lei-le.
      Lisi I   know already by child   chase-tired-ASP
35. As indicated in the previous note, some speakers find the (b) reading possible when the comment clause is a single clause structure: (even though for some other speakers, only (ii) or (iii) can be used to express the intended meaning)

(i)   Lisi, Zhangsan zhui-lei-le
      Lisi, Zhangsan chase-tired-ASP

(ii) Lisi, Zhangsan ba ta   zhui-lei-le.
      Lisi, Zhangsan ba him chase-tired-ASP

(iii) Lisi, bei Zhangsan zhui-lei-le.
      Lisi, by Zhangsan chase-tired-ASP

(41) d. Lisi, wo zhidao/yiwei Zhangsan zhui-lei-le
      Lisi I   know/think Zhangsan chase-tired-ASP
      'Lisi, I know/think Zhangsan has chased and got tired.'

On the other hand, there are sentences that allow the topicalized NP to be the object of the result verb:

(42) Na ping iu,   wo zhidao/yiwei Zhangsan yijing   he-guang le.
      that bottle wine, I   know/think Zhangsan already drink-empty-ASP
      'That bottle of wine, I know/think Zhangsan has already consumed (and emptied) it.'

Note that the main difference between (41) and (42) is that the compound verb is three-way ambiguous when no topicalization takes place but *he-guang* in (42) can only have the interpretation that something (the bottle of wine) becomes empty because of an agent's drinking. Verbs of the former type contain a result verb (V2 in the compound verb) that can be predicated of the subject NP or the object NP (plus the derived causative use: three interpretations). Verbs of the latter type contain a result verb that can only be predicated of the object NP. More examples of the former type are: *shuo-fan* 'say-bored', *ti-tong* 'kick-ache', *qi-lei* 'ride-tired'.[36] The latter type are: *ti-po* 'kick-broken', *zhu-hu* 'cook-mushy', *qi-huai* 'ride-broken' etc. Another important distinction between the two types

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36. Huang (1992) and Cheng and Huang (1994) note that with sentences like (i-ii), the definiteness of the object NP determines the interpretation:

(i)   Ta qi-lei-le   ma   le.
     he ride-tired-ASP horse ASP
     'He got tired from horse-riding.'
(ii) Ta qi-lei le   napi ma   le.
     he ride-tired that horse ASP
     'He rode that horse and that horse got tired.'

In a topicalized sentence, however, the definite horse cannot be the one that gets tired (just like the interpretation of a sentence when *lei* is replaced by *ni* 'tired/bored' which refers only to human beings. In order to express the horse being tired, either a BA structure or a passive structure is used.

(iii) (Napi) ma, wo yiwei Zhangsan yijing   qi-lei/ni-le.
     that   horse I   think Zhangsan already ride-tired-ASP

(iv) (Napi) ma, wo yiwei Zhangsan yijing   ba ta   qi-lei-le.
     that   horse I   think Zhangsan already BA him ride-tired-ASP

(v) (Napi) ma, wo yiwei yijing   bei Zhangsan qi-lei-le.
     that   horse I   think already by Zhangsan ride-tired-ASP

is that the former always allows an intransitive use and the latter is always used transitively. In other words, it is possible to state *Zhangsan shuo-fan/ti-tong/ qi-lei le* meaning Zhangsan got bored from the activity of saying/got hurt from the activity of kicking/got tired from the activity of riding. It does not matter what Zhangsan said, kicked or rode. In contrast, the latter set of verbs requires the presence of an object NP (an NP other than the agent) in interpretation: something must get broken or mushy when the event of 'kick-broken/cook-mushy/ride-broken' takes place. In other words, the former type does not require an object NP but the latter type does.

With this, let us return to (41a-d). Recall that (41d) has the reading that Zhangsan got tired from the action of chasing, but not Lisi got tired or Zhangsan caused Lisi to chase him and get tired (the derived causative interpretation) (cf. (41a-c)). If the topic NP is reconstructed back to the object position (or related to a trace in the object position), it is not clear why the two readings which require the presence of an object NP (being the causee or the one that got tired from Zhangsan's chasing) would not be available. On the other hand, if the compound verb does not take a syntactic object, it would be interpreted as an intransitive verb. If it is an intransitive verb, the only interpretation would be that the subject is the one that did the chasing and got tired. A topic NP here would be interpreted through a predication relation between a topic NP and a comment clause, probably, an aboutness relation. Since chasing can normally take a chasee, the aboutness relation most likely will derive the reading that Lisi is the chasee. This amounts to saying that the compound verb in (41a-c) is used transitively (because of the presence of an overt object) but the compound verb in (41d) is a syntactically intransitive verb. The topic NP is interpreted not through its relation to an object NP of the compound verb but through a predication relation between the topic and the comment. The contrast between (41a-c) and (41d) in interpretation follows from the different subcategorization property of the compound verb. If this account is on the right track, the compound verb in (41d) does not have the choice of taking an object NP. Instead, the following generalization must hold:

(43) If a verb need not take an object and it does not have an overt object, assume that it does not have an object in the syntactic representation.[37]

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37. See the Question and Answer part of Huang (1992).
   Depending on different syntactic analyses, one might not want to call the postverbal NP in such cases (and the cases in (39a-b) as discussed in the text earlier and immediately again) an object NP. If this is adopted, the term "object NP" in (43) would be changed to "post-

(43) not only accounts for the lack of ambiguity in (41), in contrast to the ambiguity in (40), but also accounts for the contrast between (39a) and (39b), repeated here.

(39) a. Lisi mang-bing-le   Zhangsan.
     Lisi busy-sick-ASP Zhangsan
     'Lisi got Zhangsan to be sick from being too busy.'
  b. *Zhangsan, Lisi mang-bing-le.
     Zhangsan   Lisi busy-sick-ASP
     'Zhangsan, Lisi got sick from being too busy.'

A compound verb 'busy-sick' normally does not take an object: someone will be busy and get sick and no other argument NP is needed (or even possible with respect to the argument structure of *busy, sick*), even though a causative structure may be derived by adding an extra argument and a CAUSE verb, as in (39a). If a causative reading is intended, there must be a cause which occurs in the postverbal position in this case. When the postverbal NP is topicalized (39b) (therefore no overt NP follows the verb), the sentence is interpreted as if there is no postverbal argument NP. When no postverbal argument NP exists, Lisi is the only argument that is related to being busy and sick. Since Lisi is the one being busy and sick, Zhangsan will have no interpretation and the sentence becomes unacceptable. The availability of a causative interpretation depends on the occurrence of an overt NP in postverbal position, which is lacking in (39b).[38]

Many other similar cases exhibit the behavior as stated in (43). For instance, the verb *da-bai*, 'hit-lose' which is not as transparent a compound verb as the ones discussed earlier (in the sense that *da* does not carry much meaning) has the option of taking an object NP, resulting in different interpretation:

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verbal argument NP." Note also that (43) is a statement on the choice of the presence/ absence of an object when it is not required. In a passive sentence (indicated by the morpheme *bei*) (and for that matter, a BA sentence), no such optionality exists. In the BA sentence, the object occurs as the object of *ba*. It is thus expected that the *ba* and *bei* sentences are better in the cases discussed in the previous two notes.

38. Just as noted in notes (34-36), a BA or passive sentence can save the causative interpretation:

(i) Zhangsan, Lisi ba ta mang bing le.
(ii) Zhangsan bei Lisi mang bing le.

(44) a. UCLA da-bai-le.
     UCLA hit-lose-ASP
     'UCLA lost.'
   b. USC da-bai-le   UCLA.
     USC hit-lose-ASP UCLA
     'USC beat UCLA.'

Just as (43) predicts, a sentence like (44c) cannot be acceptable, as *da-bai* needs to be interpreted like the one in (44a):[39]

(44) c. *UCLA, wo yiwei USC dabai-le.
     UCLA, I   think USC hit-lose-ASP

In brief, some notion of "minimality" or "least effort" seems to play a role in determining the interpretation or acceptability of sentences with resultative compound verbs. When the postverbal NP is not overt, it behaves as if there is a trace related to the topic NP[40] when an object NP is required by the compound verb. On the other hand, if the compound verb does not require an object, the sentence is interpreted as if there is no object position. In other words, if a position is subcategorized by the compound verb, it is projected; if it is optionally subcategorized and the object NP does not occur overtly in the object position, the object position is not projected.[41]   The choice of a syntactic representation thus seems to be subject to a minimality consideration.[42]

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39. If the aspect marker is *guo*, an experiential aspect marker, instead of *le*, a perfective aspect marker, the sentence is more acceptable. This is contrasted with the sentences like (39b) (containing causative verbs) where the change of aspect markers does not change the acceptability. The effect of aspect markers on the distribution of NPs is discussed in a separate work in progress.
40. Relativization seems to behave in the same way, though some other factors seem to affect the interpretation (such as the occurrence of the aspect marker *le*). More detailed investigation is needed.
41. This would follow from a bottom up projection subject to a minimality consideration: if an overt NP is present, the object is projected (as complement of the verb). If the object is not present, the object is not projected.
42. In a causative sentence, a null CAUSE morpheme is present in the syntactic representation (see Huang 1992). The question is what difference exists between such a null morpheme being projected and the empty object not being projected when not required by subcategorization. An answer might lie in the difference between a head and a complement: a head is obligatory but a complement can be optional. This, however, is speculative and requires more examination of the nature of "minimal projections/representations."

5. Conclusion

As discussed at the beginning, optionality has become an issue if we assume the notion of minimality at work in the grammar. This paper set out to re-examine the cases that have been regarded as canonical examples of optional operations. It was shown that the so-called optional movement or optional reconstruction may not exist in the grammar, at least as far as the aspects of grammar discussed in this work are concerned. The notion of the lack of optionality extends even to the consideration of what positions are present in certain syntactic representations, as indicated by the discussion on resultative compound verbs. The notion of minimality thus not only is relevant to the operations on representations but also representations themselves. Full implications of this claim would require much more detailed investigation.

REFERENCES

Aoun, Joseph and Yen-hui Audrey Li. 1990. Minimal disjointness. *Linguistics* 28: 189-204.

Barss, Andy. 1986. Chains and anaphoric dependence. Cambridge, Mass: MIT dissertation.

Chao, Yuen-Ren. 1968. *A grammar of spoken Chinese*. Berkeley, California: University of California Press.

Cheng, Lisa L.-S. 1991. On the typology of *wh*-questions. Cambridge, Mass: MIT dissertation.

Cheng, Lisa and C.-T. James Huang. 1994. On the argument structure of resultative compounds. in *In honor of William S-Y. Wang: Interdisciplinary studies on language and lauguage change*. 187-221. Taiwan: Pyramid Press.

Chien, Yu-chin, Keneth Wexler and Shing-wu Chang. 1993. Short and long-distance reflexives and the property of subject orientation. *Journal of East Asian Linguistics*.

Chiu, Bonnie 1993. The inflectional structure of Mandarin Chinese. Los Angeles, California: University of California dissertation.

Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.

Chomsky, Noam. 1991. Some notes on economy of derivation and representation. in *Principles and parameters in comparative grammar*, edited by Robert Freidin. 417-454. Cambridge, Mass: MIT Press.

Chomsky, Noam. 1993. A minimalist program for linguistic theory. in *The view from building 20: essays in linguistics in honor of Sylvain Bromberger*, edited by Kenneth Hale and Samuel Jay Keyser. Cambridge, Mass: MIT dissertation.

Chomsky, Noam. 1995. *The minimalist program*. Cambridge, Mass: MIT Press.

Fukui, Naoki. 1993. Parameters and optionality. *Linguistic Inquiry* 24: 399-420.

Heycock, Caroline. 1995. Asymmetries in reconstruction. *Linguistic Inquiry* 26: 547–570.

Huang, C.-T. James. 1982. Logical relations in Chinese and the theory of grammar. Cambridge, Mass: MIT dissertation.

Huang, C.-T. James. 1983. Phrase structure, lexical integrity and Chinese compounds. *Jounral of Chinese Language Teachers Association*.

Huang, C.-T. James. 1988. Two types of intransitive verbs in Chinese. *Proceedings for The second World Conference on Chinese Language and Language Teaching*. Taipei.

Huang, C.-T. James. 1992. On lexical structure and syntactic projection. in *Proceedings of Intenational Symposium on Chinese Linguistics and Language* 3. Taiwan.

Huang, C.-T. James. 1993. Reconstruction, the A/A' distinction, and the structure of VP: some theoretical consequences. *Linguistic Inquiry* 24, 103–138.

Huang, C.-T. James and C.-C. Jane Tang. 1988. The local nature of long-distance reflexive in Chinese. *NELS* 18, 191–206. also in *Long-distance anaphora* edited by J. Koster and E. Reuland. 263–282. Cambridge: Cambridge University Press.

Huang, Shuan-fan. 1980. Historical change of prepositions and emergence of SOV order. *Journal of Chinese Linguistics* 6: 212–242.

Kitagawa, Yoshi. 1994. Shells, yorks an scrambled e.g.s, *NELS* 24.

Katada, Fusa. 1991. The LF representation of anaphors. *Linguistic Inquiry* 22: 287–314.

Kuroda, S. Yuki. 1992. *Japanese syntax and semantics*. Dordrecht: Kluwer Academic Publishers.

Larson, Richard. 1988. On the double object construction. *Linguistic Inquiry* 19: 335–392.

Lasnik, Howard and Saito, Mamoru. 1992. *Move α*. Cambridge, Mass: MIT Press.

Lebeaux, David. 1988. Language acquisition and the form of the grammar. Amherst, Mass.: University of Mass. doctoral dissertation.

Lee, Thomas H.-T. 1986. Studies on quantification in Chinese. Los Angeles, California: University of California dissertation.

Li, Yafei. 1993. Structural head and aspectuality. *Language* 69: 480–504.

Li, Yen-hui Audrey, 1990. *Order and constituency in Mandarin Chinese*. Dordrecht: Kluwer Academic Publishers.

Lu, Bingfu. 1995. Word order and its variations. Los Angeles, California: University of Southern California. ms.

Matsuda, Yuki. 1995. A study on the distribution of Japanese focused phrases. Los Angeles, California: University of Southern California. ms.

Miyagawa, Keiko. 1994. Scrambling. Los Angeles, California: University of Southern California. ms.

Ning, Chun-yuan. 1993. Theory of relativization in Chinese. Irvine, California: University of California dissertation.

Qu, Yanfeng. 1994. Object noun phrase dislocation in Mandarin Chinese. The University of British Columbia dissertation.

Reinhart, Tanya. 1981. Definite NP anaphora and c-command domains. *Linguistic Inquiry* 12: 605–635.

Saito, Mamoru. 1985. Some asymmetries in Japanse and their theorectial implications. Cam-

bridge, Mass: MIT dissertation.

Shi, Dingxu. 1992. The nature of topic comment constructions and topic chains. Los Angeles, California: University of Southern California dissertation.

Shu, Shu-ing. 1995. The syntax of focus and topic in Mandarin Chinese. Los Angeles, California: University of Southern California dissertation.

Sportiche, Dominique. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry* 19: 425–450.

Stowell, Tim. 1981. On the Origins of phrase structures. Cambridge, Mass: MIT dissertation.

Takano, Yuji. 1995. Predicate fronting and internal subjects. *Linguistic Inquiry* 26: 327–340.

Ting, Jen. 1995. A non-uniform analysis of the passive construction in Mandarin Chinese. Rochester, New York: University of Rochester dissertation.

最簡原則與選擇自由

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摘　　要

　　原則參數語法理論所持的觀點是一種最寬容的原則：如果一個語法規則適用於一個語法單位，那麼這個語法規則就可以使用。能用則用。但最近發展的“最簡方案”，提倡的要則卻是“最簡原則”，一個語法變換，能不用就不用。這種觀念的改變意味語法中不應有一些可要可不要的語法變形。一個語法規則的運用該用就用，能不用就不用。現有文獻中卻不乏可用也可不用有選擇性的移動變形或移動復原。本文主要討論這些看似有選擇性的語法規則運用，從漢語的名詞結構及主題變形等舉例證明有選擇性的移動變形並不存在。移動復原也沒有選擇，必須遵從最少運作的原則。最後我們並探討這種最簡運作的原則推廣到一些模棱兩可句形分析的可行性。

關鍵詞：最簡方案，最簡原則，可選擇性，移動變形，移動復原，主題變形，反身詞，代名詞，最簡句形分析