Verb Gapping in Chinese: a Case of Verb Raising[*]

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Abstract

In the current literature, verb gapping is comonly said not to exist in Chinese. Given Johnson's(1994, 1996) analysis of verb gapping as ATB movement of the verb to a functional category, the apparent lack of verb gapping in Chinese seems to fit in nicely with another idea prevalent in Chinese linguistics, viz. that verb movement is confined to the VP-shell (cf. Huang 1992, 1994; Tsai 1994). This article argues against these claims and provides evidence for the existence of verb gapping - though restricted - in Chinese. Furthermore, it shows that Johnsons's ATB movement analysis of gapping can be successfully applied to Chinese as well which leads to the typologically important result that the verb in Chinese can - under particular circumstances - leave the VP shell and raise to a functional category in overt syntax.

1. Introduction

In Johnson (1994) verb gapping in English is analysed as "across-the-board" (ATB) movement of the verb to the functional head *Tense* rather than as an instance of deletion or ellipsis of the verb. This leads to the typological prediction that "verbal gaps will only be found in languages (and constructions) where verb movement is extant" (Johnson 1996: 24, footnote 19). Based on this correlation, the apparent lack of verb gapping in Chinese is acccordingly derived from the putative lack of verb movement beyond the VP shell (cf. Tsai 1994).[1]

We will provide extensive evidence against this view. In particular we will show that the examples provided as evidence for the lack of verb gapping in Chinese are insufficient, i.e. they do not represent the whole array of data to be taken into account for this issue. In other words verb gapping does exist in Chinese, even though it is more restricted than e.g. verb gapping in English, German or Dutch. Johnson's ATB-movement analysis can be successfully applied to Chinese as well thus showing that in some cases the verb in Chinese does raise from the VP-shell to a functional head in overt syntax.

[1] Tsai(1994: 222) excludes this movement even for the level of *Logical Form* and bases this statement upon the lack of Case resistance effects in Chinese and the impossibility for Chinese subject indefinites to reconstruct at LF in order to benefit from ∃-closure (p. 218). As will be shown in the following, the conclusion from the lack of an AgrP projection to the lack of verb movement to a functional category above VP in Chinese is much too hasty.

The present article is organized as follows: The relevant data establishing the existence of verb gapping are presented in detail in section 2.1. The constraints governing verb gapping in Chinese are closely examined in section 2.2 and shown to be less "exotic" than they may seem at first sight, i.e. they are partly reducible to constraints already known from other languages. Johnson's(1994) analysis of English verb gapping structures is briefly presented in section 2.3 and its predictions for Chinese checked in the subsequent sections. Among the issues discussed are the nature of the landing site of the ATB-moved verbs (section 2.4), the distribution and interpretation of adverbs in gapping structures (section 2.5), and a detailed comparison between the constraints governing object preposing (where the object NP is moved from the postverbal position to a position between the subject and the verb) and those governing the much shorter movement of the object NP in the gapped conjunct, a movement implied by Johnson's proposal (section 2.6). We conclude our article in section 3 with some speculations about the relation between topicalisation and other (shorter) types of NP movement.

2. Verb Gapping

2.1. *The data*

It is true that the Chinese equivalents of the standard verb gapping examples are unacceptable in Chinese:

(1)   Wo xihuan mao/meiguoren, ni *(xihuan) gou/deguoren[2]
        1SG like   cat /American 2SG like   dog/German
        'I like cats/Americans, and you (like) dogs/Germans.'

(2)   Nanren   chi mi , beiren   *(chi) mian
        southerner eat rice northerner   eat noodles
        'Southerners eat rice, and northerners (eat) noodles.'

(3)   Wo aishang   -le   Mali , ni *(aishang -le)   Amei
        1SG fall:in:love-PERF Mary 2SG fall:in:love-PERF Amei
        'I've fallen in love with Mary, and you (have fallen in love) with Amei.'

(4)   Ta jintian pengdao-le   Zhangsan, ni *(pengdao-le)   Lisi
        3SG today meet   -PERF Zhangsan 2SG   meet   -PERF Lisi
        'He saw Zhangsan today, and I (saw) Lisi.'

But to conclude from the unacceptability of sentences like (1)-(4) to the statement that Chinese disallows verb gapping (a conclusion with rather far-reaching theoretical consequences) as for example Tsai(1994: 220-221) does on the basis of the unacceptability illustrated in (2), is much too hasty and does not do justice to the situation in Chinese. For

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[2] The following abbreviations are used in glossing examples: CL classifier; EXP experiential aspect; NEG negation; PART sentence-final particle; PERF perfective aspect; PL plural (e.g. 3PL = 3rd person plural); SG singular; SUB subordinator.

as already pointed out by Li Meidu(1988), sentences where the object is a quantified NP rather than a bare noun do allow for the omission of the verb:

(5)   Ta chi-le   liang-wan fan, wo liang-wan zhou
      3SG eat-PERF 2   -bowl rice 1SG 2   -bowl gruel
      'He ate two bowls of rice, and I two bowls of gruel.'

(6)   Wo you san-bu qiche, ta san-liang zixingche
      1SG have 3 -CL car   3SG 3 -CL   bicycle
      'I have three cars, and he three bicycles.'
                                            (examples based on Li 1988: 41)

(7)   Wo mai-le   nei -bu qiche, ta   nei -liang zixingche
      1SG buy-PERF that-CL car, 3SG that-CL   bicycle
      'I bought that car, and he that bicycle.'

(8)   You liang-jian cesuo; ni   jin   zhei-jian, wo   nei -jian
      have   2 -CL toilet 2SG enter this-CL   1SG that-CL
      'There are two toilets; you go into this one, and I into that one.'

(9)   Wo qing -le   shi-ge pengyou lai ;
      1SG invite-PERF 10-CL friend   come

(a)   ni fuze   wu-ge, ta wu-ge   (b)   Lisi renshi san-ge, Zh. yi-ge
      2SG be:responsible 5 -CL 3SG 5 -CL   Lisi know 3 -CL Zh. 1-CL
      'I invited ten friends; (a) you take care of five, and he of five.
                      (b) Lisi knows three of them, and Zhangsan one.'

(10)   Women xi   zhao san-ge yuyanxuejia, tamen xi   san-ge wulixuejia
      1PL   department seek 3 -CL linguist   3CL   dept. 3 -CL physicist
      'Our department is looking for 3 linguists, and their department for 3 physicists.'

As shown in Paul(1994), the verb may also gap in the presence of complements of duration or frequency which - like objects - occupy the postverbal position:

(11)   Ta lai -guo wu-ci , wo yi-ci
      3SG come-EXP 5 -time 1SG 1 -time
      'He has been here five times, and I once.'

(12)   Ta xue -le   yi-nian, wo san-nian
      3SG learn-PERF 1 -year 1SG 3 -year
      'He studied for one year, and I for three years.'

(13)   Ta deng-le   yi-ge xiaoshi, wo liang-ge xiaoshi
      3SG wait-PERF 1-CL hour   1SG 2   -CL hour
      'He waited for one hour, and I for two hours.'

2.2. *Constraints on verb gapping*

Having established the existence of verb gapping in Chinese (by extending the data basis), we now have to try to capture the relevant constraints or at least to tie them together by a descriptive generalization which goes beyond the surface filter postulated by Li(1988: 97). This filter has the form: *N ∅ N and simply rules out the juxtaposition of bare nouns as the result of gapping, but in fact it is not even descriptively adequate. For in addition to the core cases of illicit verb gapping in the presence of a bare noun as object (bare nouns in Li(1988) subsuming generic NPs like *mao* 'cats' in (1) as well as proper names like *Amei* in (3)) where rejection is quasi-unanimous, verb gapping seems also to be prohibited when the object is a modified NP (the latter case not being discussed at all by Li 1988):

(14) *Wo xihuan/mai-le   hongse-de hua , ta lanse-de[3]
          1SG like /buy -PERF red   -SUB flower 3SG blue -SUB
          ('I like/bought red flowers, and he blue flowers.')

(15) ??Zhangsan xihuan gao-de /hong toufa-de nühai, Lisi ai -de / hei toufa -de nühai
          Zhangsan like   tall-SUB/red hair -SUB girl   Lisi short-SUB/black hair-SUB girl
          ('Zh. likes tall girls/girls with red hair, and Lisi short girls/ girls with black hair.')

(16) *Zhangsan qing -le   ta -de xuesheng, Lisi ta -de tongxue
          Zhangsan invite-PERF 3SG-SUB student   Lisi   3SG-SUB class-mate
          ('Zhangsan invited his students, and Lisi his classs-mates.')

Though the judgements are not quite as clear-cut as for examples with bare nouns, most speakers reject this kind of sentences. In combination with the unacceptability of verb gapping observed in sentences with generic NPs like *mao* 'cat ' etc. illustrated in (1) and (2) (we leave proper names aside for the moment), this points to an interdiction of verb gapping in the presence of a generic object NP. Given the well-known fact that the properties of the object import for the interpretation of the predication and determine the nature of the VP, we propose that verb gapping in Chinese is only possible in non-generic VPs. That verb gapping may be sensitive to the [+generic] nature of the VP was already pointed out by Hankamer(1973: 34) who observed for English that in the case of adjunct PPs, gapping is more felicitous with a generic VP:

(17a) ? Max writes plays in the bedroom, and Harvey in the basement.

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[3] Sentences (14) and (15) remain unacceptable even when directly preceded by a question which clearly establishes the context:
(i)   Nimen xihuan/ mai-le   shenme yanse-de   hua?
            2PL   like   / buy-PERF what   colour-SUB flower
         *Wo xihuan/mai-le   hongse-de hua , ta lanse-de
            1SG like /buy-PERF red   -SUB flower 3SG blue -SUB
            'What colour are the flowers that you like/bought?
            ('I like/bought red flowers, he blue ones.')
(ii)   Nimen zui   xihuan nayi-zhong nühair?
            2PL   most like   what-kind girl
         *Wo zui   xihuan gao-de nühair, ta ai -de (nühair)
            1SG most like   tall-SUB girl   3SG short-SUB girl
            'What kind of girls do you prefer? (I prefer tall girls, he short ones.')
Ex. (i) also shows that the acceptability judgement is the same irrespective of whether the stative verb *xihuan* 'to like' or the action verb *mai* 'to buy' is used.

(17b) ??Max is writing a play in the bedroom, and Harvey in the basement.

(17c)???Max is memorizing the play in the bedroom, and Harvey in the basement.

In fact, the data illustrated in (17a) - (17c) (for which Hankamer cannot provide any explanation) represent one of the few exceptions to Hankamer's *No-Ambiguity Condition* (NAC).[4] Another exception to the NAC is equally interesting for us here, because it shows that pronouns do not behave like orthodox NPs with respect to gapping.[5] Though the relevant constructions in English displaying this difference cannot be reproduced in Chinese, it does not seem to be a coincidence that in Chinese verb gapping is completely excluded with a pronoun as object:

(18) *Lisi da-le   /xihuan ni ,   Zhangsan wo
       Lisi hit-PERF like   2SG   Zhangsan 1SG
       ('Lisi hit/likes you, and Zhangsan me.')

Furthermore, Hankamer(1973: 63) points to the existence of "some sort of parallelism conditions" generally observed by ellipsis rules and supposed to help to assure recoverability. For Chinese, a high degree of structural and semantic parallelism is in fact indispensable for verb gapping to be acceptable at all, which can be easily deduced from examples (5) - (13).[6] But as in English, in Chinese as well the parallelism in itself is not sufficient to assure the acceptability of verb gapping (cf. the unacceptable (1) - (4)), but other conditions must be satisfied as well.[7]

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[4] "Any application of Gapping which would yield an output structure identical to a structure derivable by Gapping from another source, but with the 'gap' at the left extremity, is disallowed." (Hankamer 1973: 29)

[5] Hankamer (1973: 35): "[...] a pronoun contiguous to the verb does not seem to count as an NP as far as the NAC is concerned:

(89)   Paul Schachter has informed me that that the basic order in Tagalog and related languages is VOS; Yves Goddard ~~has informed me~~ that the unmarked order in Algonkian is OVS; and Guy Garden ~~has informed me~~ that the basic order in Aleut is OSV.   (Ross 1967)
vs.
(92)   Paul Schachter has informed Haj Ross that the basic order in Tagalog [...] is VOS; ~~Paul Schachter has informed~~ Yves Goddard that the unmarked order in Algonkian is OVS; and ~~Paul Schachter has informed~~ Guy Garden that the basic order in Aleut is OSV."

[6] For some native speakers I consulted the parallelism in Li's(1988: 41) examples:
(i)   Zhangsan chi-le   san-ge pingguo, Lisi si-ge juzi
        Zhangsan eat-PERF 3 -CL apple   Lisi 4 -CL orange
        'Zhangsan ate three apples, and Lisi four oranges.'
(ii)   Zhangsan you   yi-dong fangzi, Lisi liang-bu qiche
        Zhangsan have 1 -CL   house Lisi 2 -CL car
        'Zhangsan has one house, and Lisi two cars.'
was in fact not sufficient and they improved their acceptability by choosing the same quantifier for both object NPs (cf my examples (5) and (6)).

[7] For those native speakers who accept sentences (i) and (ii) the contrast apparently is strong enough to make gapping acceptable in a generic VP. In other words, this seems to be a case where the parallelism might override other constraints:
(i)   ? Wo he   cha, ta kafei   (ii)   ?Wo chi niurou, ta   zhurou
         1SG drink tea 3SG coffee   1SG eat beef   3SG pork
         'I drink tea, and he coffee.'   'I eat beef, and he pork.'
But a lot of speakers who accept gapping with quantified NPs nevertheless reject these examples.

Johnson (1996: 2) shows that these parallelism conditions reflect the necessity of contrastive focus in gapping structures:

"Of the many properties of gapping left unexamined, there is one whose effects will be apparent throughout. This is that the material left in the conjunct with the gap, let us call these the *remnants*, are in a <u>contrastive focus</u> relation to parallel terms in the other conjunct, let's call these their *correlates*. This is reflected in the intonational characteristic of Gapping, which requires that both remnants and correlates be stressed (cf. Sag 1980, p. 192ff). This fact, whatever its source, places significant limits on the construction. It may be what enforces a certain <u>parallelism</u> on the conjuncts that Gapping relates, illustrated by the oddness of examples like (3).

(3) a   *Some talked to Mittie and others ~~talked~~ about Sam.

    b   *Some remembered stories about JOHN, and others ~~remembered~~ BILL.

[...] There is a lower bound as well. The Gap cannot include an entire clause - there must be at least one remnant [...]. Let us assume that this too is a consequence of the contrastive relationship that Gapping invokes. It is typical of the literature, however, to require of Gapping that at least two remnants survive."   (emphasis mine)

It is thus not uncommon for verb gapping to demand a high degree of parallelism, viz. a clear contrast between the parallel terms and to be dependent on the nature of the VP, nor is it unexpected that pronouns behave differently from orthodox nouns in gapping. The point we want to emphasize is that the constraints for verb gapping in Chinese observed so far cannot be (mis-)interpreted as evidence for the lack of verb gapping in Chinese.

We still have not tackled the question of how to reconcile the unacceptability of sentences like (3) and (4) (repeated here for convenience) containing proper names as objects with our generalization that verb gapping is acceptable in non-generic VPs:

(19) *Wo aishang   -le   Mali , ni   Amei
        1SG fall:in:love-PERF Mary 2SG Amei
        ('I've fallen in love with Mary, and you with Amei.')

(20) *Ta jintian pengdao-le   Zhangsan, ni   Lisi
        3SG today   meet   -PERF Zhangsan 2SG Lisi
        ('He saw Zhangsan today, and you Lisi.')

I propose to explain the unacceptability of sentences like (19) and (20) by the fact that the second conjunct is not a felicitous continuation of the first conjunct. The juxtaposition *NP proper name* in the second conjunct is not understood as a clause with a verb missing, but is in fact interpreted as 'NP = proper name', where the proper names *Amei* and *Lisi* function as nominal predicates (cf. Paul 1995).[8] In the case of proper names

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[8] Proper names as nominal predicates, i.e., without the presence of the copula *shi* represent a somewhat marked case. Accordingly, sentences like (i) - (iii) were not fully acceptable to all of the native speakers consulted and some would have preferred the presence of *shi*:

(i)   Zhei-ge ren   Zhangsan, nei -ge ren   Lisi   (ii)   Wo Zhang Ping
        this -CL person Zhangsan that-CL person Lisi   1SG Zhang Ping
        'This person is Zhangsan, and that person is Lisi.'   'I am Zhang Ping.'

(ii)   Daoyan Xie Tieli

as pedicates, an identity relation is established between the subject NP and the nominal predicate, rather than properties being ascribed to the subject NP. Consequently, a sentence like (19) is rejected because the second conjunct is not related to the first conjunct at all: '??I've fallen in love with Mary, and you are Amei.'

In the preceding sections, we have established the existence of verb gapping in Chinese by extending the data basis. Contrary to the current opinion, verb gapping is possible in Chinese, even though it is heavily restricted and therefore a more marked phenomenon than e.g. verb gapping in English, German etc.

First, verb gapping is limited to non-generic VPs.

Second, it is only possible in a coordination with 'and', which in Chinese is expressed by the simple juxtaposition of the clauses without any overt marking. In the case of 'or', an overt conjunction *haishi* is used, and verb gapping is completely ruled out then.

Third, verb gapping is observed in the spoken language only, and it necessitates a maximum parallelism, i.e. a clear contrast between the parallel terms.

Last, but not least the acceptability judgements show a certain degree of variation: among the native speakers consulted, those from North-East China only accept examples of the type illustrated in (11)-(13) with temporal complements, while speakers from regions further south (Jiangsu province and Taiwan) in addition judge sentences like (5)-(10) grammatical as well.[9]

Though the data are somewhat heterogeneous, we think that they are nevertheless too important to be dismissed. In the light of Johnson's analysis of verb gapping as ATB raising of the verb, presented in the following section, we might speculate that the unstability of the data is indicative of ongoing changes in Chinese syntax, in particular changes in the ability of the verb to leave the VP and raise to a functional category.

2.3. *Verb Gapping as ATB movement (Johnson 1994, 1996)*

Johnson(1994, 1996) has extensively argued that an analysis in terms of "across-the board" (ATB) movement is able to capture the constraints observed in verb gapping

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director Xie Tieli
'The director [of the film/play] is Xie Tieli.'　　　　　Ma Zhen(1989: 27)

The standard cases of nominal predicates (without *shi* 'be') are illustrated by the following sentences:

(iv)　　Ta　Beijing-ren　, wo　Shandong-ren
　　　　3SG Peking-person 1SG Shandong-person
　　　　'He is from Peking, I am from Shandong.'

(v)　　Ta　feiyan　　　　　　　　　(vi)　　Zhei-ge ren　　hao -ren
　　　3SG pneumonia　　　　　　　　　　　this -CL person good-person
　　　'He has pneumonia.'　　　　　　　　　　'This person is good.'

Cf. Chao (1968: 90 ff) for quite a sample of nominal predicates, including (iv) - (vi).

[9] If Ernst(1996) is right in claiming that - like arguments - temporal complements need Case, then the fact that some speakers only accept verb gapping in the presence of temporal complements cannot be interpreted as an instance of an argument/adjunct asymmetry. This is in fact the expected result, for temporal complements are the only type of "adjunct" which - like direct objects - must appear in postverbal position, and in that respect they behave like arguments.

structures.[10] We will very briefly present some of the main points of his analysis which are important for our proposal here, i.e. we will concentrate on his analysis of *simple gaps*, there being no acceptable equivalents of *complex gaps* in Chinese.[11]

According to Johnson(1994: 38)[12] an English sentence with a gapped verb in the second conjunct like *Some ate natto and others ~~ate~~ rice* in fact involves the coordination of VPs rather than that of sentences, with subjects being base-generated within VP:

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[10] ATB movement is restricted to coordinations and illustrated by sentences like (i) (= Johnson's(1996: 21, (63)):

(i)   Who$_i$ did you say that Carrie likes t$_i$ and Sarah hates t$_i$?

For further discussion of this type of movement, cf. Williams(1977, 78), Burton/Grimshaw 1992 and McNally(1992), among others.

[11] The following sentences illustrate *complex gaps* in English which are further divided into "local" vs. "long-distance" cases (cf. Johnson 1996: 15; 37). In the local cases, the verb gaps with one of the phrases it is in construction with, whereas long-distance gaps are characterized by the long-distance scrambling of the parallel terms:
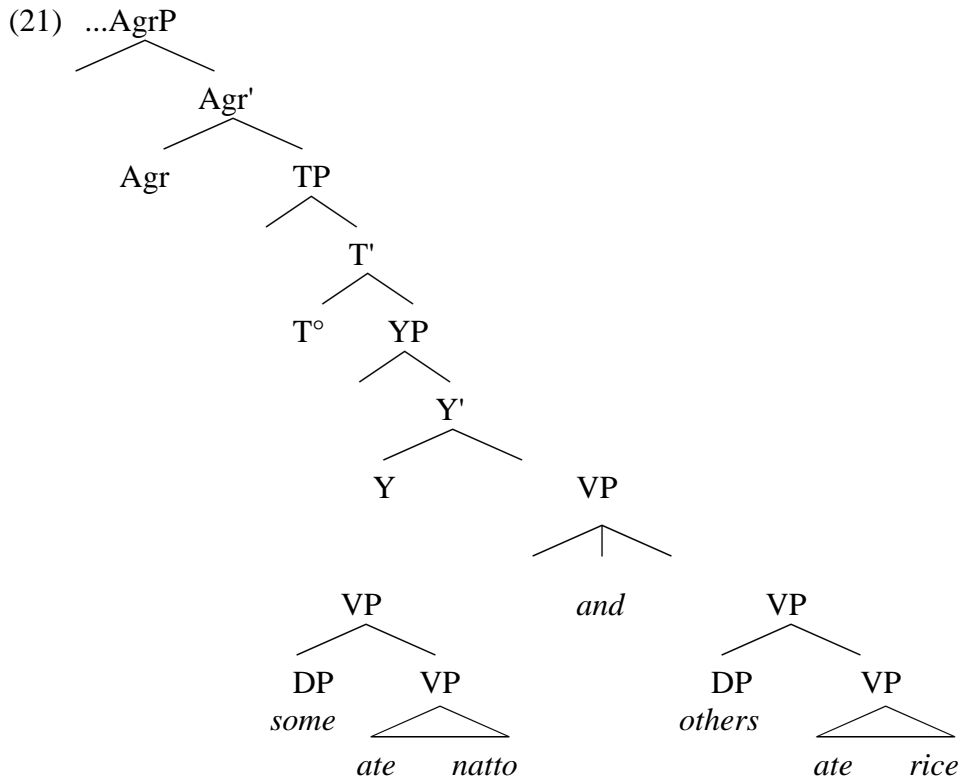
Local gaps (= Johnson's 1996: 37, (101))

(i)   a. Some ate the natto hungrily, and others   ~~ate the natto~~   timidly.

         b. Some gave albums to their spouses, and others ~~gave~~ tapes ~~to their spouses~~

         c. Some talked to Mittie on Tuesday, and others ~~talked~~ to Betsy ~~on Tuesday~~

Long-distance gaps (= Johnson's 1996: 15, (41))

(ii)   a. Some try to never eat MSG, and others ~~try to never eat~~ natto

         b. Some   wanted to talk to Liz   in order to get recommendations, and

           others   ~~wanted to talk~~ to Betsy ~~in order to get recommendations~~

[12] For our account of simple gaps in Chinese, we will mainly draw on Johnson(1994) because Johnson(1996) introduces some major changes in the analysis of verb gapping which cannot be carried over to verb gapping in Chinese. In particular, the constituents which undergo ATB-movement now are not the verbs themselves anymore, but rather the *Polarity Phrases* (comparable to Laka's(1990) ΣP) which dominate the extended VPs and out of which the remnants have scrambled prior to movement. It is the scrambling of the remnants to a position higher than the verb which is the crucial point for Johnson here because it provides evidence for the existence of a "middle field" in English and accordingly for its basic similarity with Dutch, a similarity which is obscured except in gapping contexts.

Unlike Johnson(1996), Johnson's (1994) analysis is compatible with current assumptions about Chinese syntax. Since the basic tenets of Johnson's approach have remained the same, viz. verb gapping as ATB movement rather than as deletion, and since the 1994 approach equally captures the constraints observed for simple gaps, we consider it justified to adopt the 1994 analysis which is more appropriate for Chinese.

(21) ...AgrP

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               AgrP
                |
               Agr'
              /    \
           Agr      TP
                    |
                    T'
                   /  \
                 T°    YP
                       |
                       Y'
                      /  \
                    Y     VP
                          /\
                         /  \
                    VP    and    VP
                   /  \         /  \
                 DP    VP     DP    VP
                some  /\     others /\
                     ate natto    ate rice
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Both verbs then raise overtly in an ATB fashion to to the functional head *Tense* and the subject of the first conjunct moves to the specifier of *Agreement Phrase*.[13] The constituents that "gap", i.e. the constituents which the verbs leave when raising in an ATB fashion and which then are elided, are V-bars. Accordingly, for constituents other than the verb (in (b) *natto* and *rice*, respectively) not to be deleted together with the V-bars, they also have to raise. As for the subject NP in the second conjunct, it remains in its base-generated VP-internal position:

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[13] The overt movement of the verbs to *Tense* is one example illustrating Johnson's(1994: 25) observation that Gapping licenses movement operations otherwise restricted to *Logical Form* (Verb-to-Tense movement in English normally occurring at LF only).

(22) ...AgrP

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        ...AgrP
         /\
      DP₁    Agr'
      some    /\
           Agr    TP
                   /\
                 T°     YP
                 /\     /\
              V₂  T°   Y    VP
              like          /\
                       VP    and    VP
                      /\           /\
                    DP   VP      DP    VP
                    t₁   /\     others /\
                      DP₃  VP       DP₃   VP
                     natto /\       rice  /\
                         V    DP        V    DP
                         t₂   t₃        t₂   t₃
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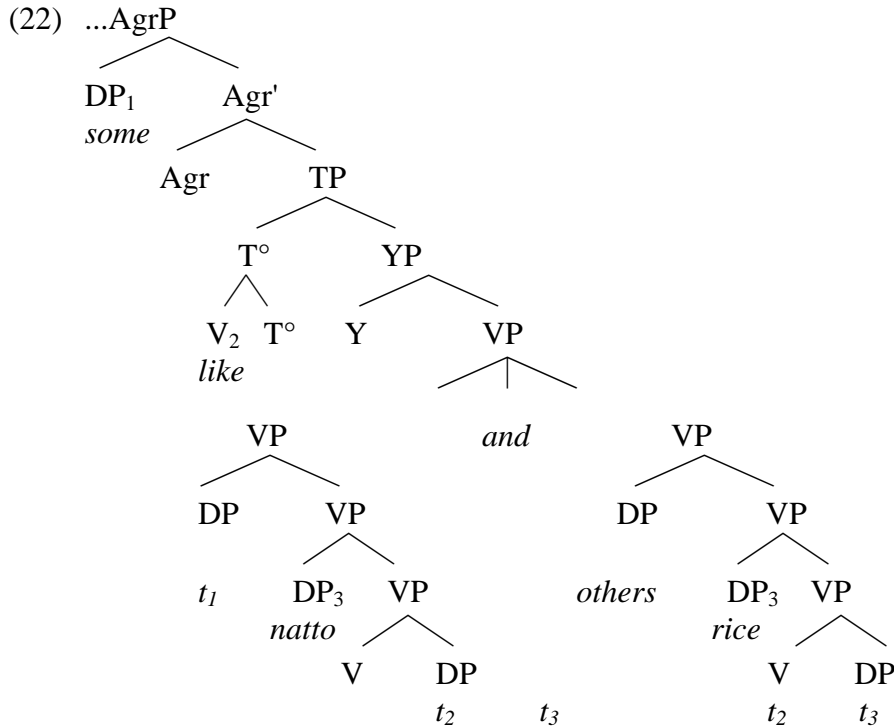
The movement of the subject from the first conjunct to Spec, AgrP does not violate the *Coordinate Structure Constraint* (CSC), for the CSC only excludes <u>A-bar</u> movement of a constituent from one of the two conjuncts, but not the <u>A</u>-movement of a constituent out of the first conjunct. Concerning the question of how the subject in the second conjunct can satisfy the Case filter, Johnson(1994: 39-40) points out that it will have to be licensed by the same mechanism as the subjects in sentences like (23) and (24) which show up in the default accusative instead of the nominative and in that respect resemble the subject in the gapping structure (24b):

(23a) John eat caviar?   (I thought he hated the stuff.)
(23b) Him eat caviar?
(23c) *He eat caviar

(24a) *We can't eat caviar and he   ~~can't~~ eat beans
(24b) We can't eat caviar and him ~~can't~~ eat beans

<div align="right">(examples from Siegel 1987: 59; 61-62)</div>

2.4. *Chinese verb gapping and the ATB movement analysis*

Let us now apply Johnson's analysis to simple gaps in Chinese as illustrated by (5) *Ta chi-le liang-wan fan, wo liang-wan zhou* 'He ate two bowls of rice, and I two bowls of gruel.'

As in English, in order to avoid being deleted with the V-bars, the parallel terms, i.e. the object or temporal complement of each conjunct must raise from V-bar to a landing site within or adjoined to the VP, the constituents conjoined being VPs. We will provide evidence for short movement of that sort in Chinese in section 2.6 below.

The licensing of the subject in the second conjunct the will have to be accounted for along the lines proposed for English, the Chinese subject - like the English subject - in general not remaining in its VP-internal base position. [14]

The question of where the first subject moves to is linked to that of the landing site for the ATB-moved verbs. It is generally accepted that Chinese has no Agreement-projection and that at least one functional projection is needed above VP to host the subject, though the exact nature of this functional head is still under discussion.[15] For our purpose here, we adopt Ernst's(1994) view that this functional category is *Inflection* bearing the features [± finite].

As for the ATB-moved verbs, there are in principle two possibilities. Either their landing site is *Infl* and in that case Ernst's(1994) claim is not correct that *Infl* is always phonologically empty [16] (though it remains true that there is no particular morphological manifestation of *Infl* in the sense that e.g. *-ed* is considered to be the realization of *Tense* in English). Or the ATB-moved verbs raise to a separate functional projection intermediate between IP and VP. Since there is no agreement at all about the functional categories to be postulated above VP in Chinese, we will leave this issue open here;[17] as far as we can see, this will not affect the essence of our proposal. (The two analyses make, however, different predictions for the position of adverbs; cf. section 2.5 below.) Accordingly, if in the following we talk about V-to-Infl movement, this should be understood as an abbreviation for the movement of the verb beyond the VP-shell to a functional category whose identity remains to be determined and which we provisionally suppose to be *Infl*.

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[14] Since in Chinese VPs and sentences are coordinated by simple juxtaposition without any overt conjunction 'and', it is excluded for the subject in the second conjunct to receive its Case from the conjunction, as Johnson(1996: 25) proposes for English following Zoerner(1995). Incidentally, this explanation does not work for English in cases like (23) where no conjunction is present, either. What is clear though, as pointed out by Johnson(ibid.), is "that the method by which the subject of a Gapped clause gets its case is different from that in unGapped clauses [...]".

[15] One of the more recent papers on this issue is Cheng/Tang(1996). They argue that there is no evidence for *Tense Phrase* in Chinese and they propose *Inflection* as the licensing head for the subject. Furthermore, they claim that *Infl* in Chinese is more lexical than e.g. *Infl* in English and that mood indications like modals make up the content of *Infl*. The possibility to stack modals in Chinese is taken as evidence for a kind of IP-shell, another difference with respect to English. There remain, however, several issues to be worked out in detail (e.g. whether the *Infl*-position is supposed to remain empty in the absence of modals etc.) and the proposal is therefore yet too incomplete to be taken into account.

[16] In fact, the *Infl*-position is also filled by the raised verb in VP ellipsis which thus represents another piece of evidence for overt Verb-to-Infl movement in Chinese:

(i)   Zhangsan pa   ta -de baba , Lisi ye [Infl pa   ] [VP e]
        Zhangsan be:afraid 3SG-SUB father Lisi also   be:afraid
        'Zhangsan$_i$ is afraid of his father, and Lisi$_j$ is, too.'   [= Lisi is also afraid of his$_{i/j}$ father]

The elided VP results from raising the verb from the VP that contains the object EC to the (otherwise empty) Infl-node which - being lexicalized - can now properly govern the empty VP. This analysis goes back to Huang(1991) who observes that in the second conjunct of sentences like (i), a "sloppy identity" reading is available in addition to the "strict identity" reading, a phenomenon typical of VP-ellipsis sentences. The lack of a second sloppy reading confirms this analysis: only the subject of the empty VP can serve as the binder of the pronoun, not another (higher) subject:

(ii)   John kanjian-le   ta -de   mama , Mary zhidao Bill ye kanjian-le
        John see   -PERF 3SG-SUB mother Mary know Bill also see   -PERF
        'John saw his mother, and Mary knew that Bill did, too.'
        [= 'John$_i$ saw his mother, and Mary knew that Bill$_j$ saw his$_{i/j}$ mother, too.']
        [≠ 'John saw his mother, and Mary knew that Bill saw her mother, too.']   (Huang 1991: 65)

Due to limitations of space, we cannot develop this point here (cf. Paul 1996 for more details). As to evidence for VP ellipsis in Chinese from acquisition studies, cf. Guo et al.(1996).

[17] For an overview of the different proposals concerning functional categories in Chinese, cf. Huang/Li(1996: 56ff.).

The structure of a Chinese gapped sentence like (5) *Ta chi-le liang-wan fan, wo liang-wan zhou* 'He ate two bowls of rice, and I two bowls of gruel' is illustrated in (25): for the sake of clarity, we indicate both options discussed above, i.e. the verbs may either raise in an ATB fashion to *Infl* (cf. (25a)) or to an intermediate functional head *F* (cf. (25b):

(25a)

```
                    IP
                  /    \
               DP₁      I'
               ta      /  \
                     I°      VP
                    /  \    /  \
                  V₂  I°  VP        VP
                 chi-le  /  \      /  \
                       DP    VP   DP    VP
                       t₁   /  \  wo   /  \
                         DP₃   VP    DP₃   VP
                      2-wan fan /\  2-wan zhou /\
                              V   DP         V   DP
                              t₂  t₃         t₂  t₃
```

(25b)

```
                    IP
                  /    \
               DP₁      I'
               ta      /  \
                     I°     FP
                           /  \
                         F°      VP
                        /  \    /  \
                      V₂  F°  VP        VP
                     chi-le  /  \      /  \
                           DP    VP   DP    VP
                           t₁   /  \  wo   /  \
                             DP₃   VP    DP₃   VP
                          2-wan fan /\  2-wan zhou /\
                                  V   DP         V   DP
                                  t₂  t₃         t₂  t₃
```
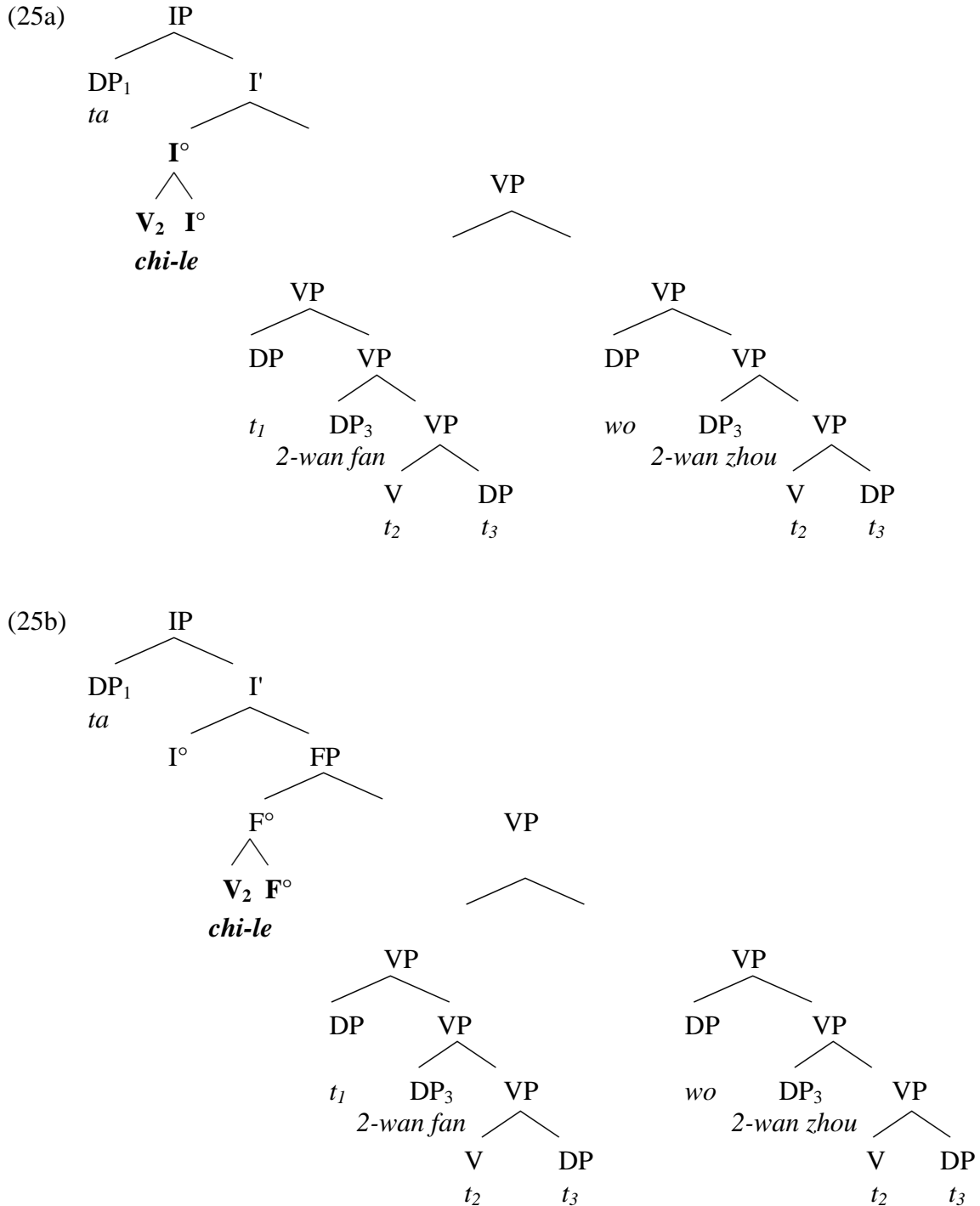
In this context, it is interesting to note that ATB verb movement in Chinese was already proposed by Huang(1994) for VP coordination of the kind illustrated in (26) and (27)

(26) Wo ma -le$_i$ [$_{VP}$[$_{VP}$ Zhangsan [$_{V'}$ t$_i$ liang-ci], [$_{VP}$ Lisi [$_{V'}$ t$_i$ san-ci]]]
      1SG scold-PERF   Zhangsan   2 -time   Lisi   3 -time
      'I scolded Zhangsan twice and Lisi three times.'

(27) Zhangsan mai-le$_i$ [$_{VP}$[$_{VP}$ yi-ben shu   [$_{V'}$ t$_i$ gei wo kan]],
      Zhangsan buy-PERF   1 -CL book   for 1SG read
      [$_{VP}$ liang-zhi bi [$_{V'}$ t$_i$ gei ta   xie]]]
          2 -CL pen   for 3SG write
      'Zhangsan bought a book for me to read and two pens for him to write with.'

                           (= Huang's(1994: 31) examples (31) and (32))

Unfortunately, Huang does not discuss at all the landing site of the ATB-moved verb, though his adoption of Larson's VP-shell analysis throughout the article suggests that he might consider an empty verb position within the VP-shell as a possible landing site. This, however, is in a clear contradiction with Burton/Grimshaw(1992) who argue that ATB movement is always movement to a functional category. In fact, the "light" verbs *CAUSE*, *DO,* etc. which Huang postulates as empty heads of the VP shell in the case of certain constructions also look more like functional categories rather than empty verb positions postulated in order to indicate the theta-hierachy, the more so because they are obligatory landing sites for the verb.

2.5. *The distribution of adverbs in the gapping structure*

       An important consequence of the ATB-analysis of verb gapping is that "the conjuncts involved are lower than both the construction-initial verb and subject" (Johnson 1994: 47). This makes the following two predictions which are shown to be born out by the Chinese data. First, the construction-initial subject and verb and anything standing between them have scope over the entire VP coordination. In the case of adverbs, this has the effect that the adverb in the first conjunct is interpreted as if it were part of the gapped material in the second conjunct (see (28)). Second, no constituent supposed to be in a position higher than VP should be able to occur in the second conjunct, i.e. sentence-level adverbs should be excluded from the conjunct housing the gap (see (29)). As Johnson(1994: 47) indicates, Jackendoff's(1971) observations concerning the interpretation and distribution of adverbs in gapping structures are thus accounted for:

(28) Simon *quickly* dropped the gold, and Jack (*suddenly*) the diamonds.

(29) Max *sometimes* beats his wife, and Ted his dog.
                                             (Jackendoff 1971: 23)

       The same phenomenona can be observed in Chinese:

(30) Laowang *jianjiande* tuoxia   yi-jian yifu   Laoli (*turande*)   yi-ge xiezi
      Laowang gradually   take:off 1 -CL clothes Laoli   suddenly   1 -CL shoe
      'Laowang gradually took off one garment, and Laoli (*suddenly) a shoe.'

(31)   Laowang *zixide*   tiaoxuan-le   yi-jian yifu , Laoli yi-shuang xiezi
        Laowang carefully choose -PERF 1-CL clothes Laoli 1 -pair   shoe
        'Laowang carefully chose a garment, and Laoli a shoe.'

                                                              (slightly modified examples from Li 1988: 72)

        Johnson furthermore points out that if an adverb may survive in the gapped
conjunct, it must be a VP-level adverb. This prediction is born out in Chinese by the
acceptability of VP-level adverbs like *cai* 'only', *zhenghao* 'just' in the second (gapped)
conjunct:[18]

(32)   Ni   chi-le   san-wan fan , wo cai   yi-wan
        2SG eat-PERF 3 -bowl rice 1SG only 1 -bowl
        'You have eaten three bowls of rice, and I only one.'

(33)   Ni   lai   -guo wu-ci ,   wo zhenghao yi-ci
        2SG come-EXP 5 -time 1SG just   1 -time
        'You have come five times, and I just once.'

(34)   Wo you   yi-dong fangzi, Lisi liang-bu qiche, Wangwu cai   yi-liang zixingche
        1SG have 1-CL   house Lisi 2 -CL car Wangwu only 1-CL   bicycle
        'I have a house, Lisi two cars, and Wangwu only one bicycle.'

        If we adopt *Infl* as the landing site for the ATB-moved verbs (cf. (25a)), the adverb
in a sentence like (30) will have to occupy a position adjoined to *Infl-bar*. The opinions
whether this is desirable or not diverge: Ernst(1994) rejects adjunction of adverbs to X-bar
levels, but Tang(1990) (for Chinese) and Johnson(1994) (for English) both allow for it. It
thus seems that adverbs cannot help us to decide whether the verb raises to *Infl* or rather to
a functional category F below *Infl*; in the latter case, adverbs would be able to adjoin to
the(maximal projection FP rather than to *Infl*-bar (cf. (25b)).

2.6. *Movability of the parallel terms*

        As mentioned in the section 2.3 above, the postverbal constituent has to leave the
verbal projection which will be elided after the ATB-movement of the verbs, i.e. in the
case of simple gaps in Chinese the object or temporal complement. Consequently, "there
should be a correlation between the ease with which material can escape VP and the ease
with which that material can remain after gapping" (Johnson 1994: 9). Whereas for English
it can be shown convincingly that the parallel object terms actually leave the verbal
projections that gap (cf. Johnson 1994), it is extremely hard to devise a test providing
evidence for a similar NP movement in Chinese simple gaps; the fact that the ATB
movement of the verb makes the effects of this movement invisible increases the difficulty.

        Such a test would have to show that the objects in both conjuncts of a verb gapping
structure have raised from their normal postverbal position to the left of the verb (but still
within VP) and that this extremely short movement is subject to constraints. The only

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[18] Since verb gapping works best with quantified NPs, the range of adverbs allowed in verb gapping is
limited to adverbs referring to quantity. For an extensive analysis of adverbs in Chinese, cf. Tsai Mei-
chih(1995).

movement of this kind to a VP-landing site which comes to mind is *object preposing* where the normally postverbal object is raised to a preverbal position and adjoined to VP (cf. Ernst/Wang 1995). It should be possible here to obtain at least indirect evidence (in the form of similar, if not identical constraints) in so far as object preposing is known to be more restricted than the much longer movement to sentence-initial position, i.e. topicalisation (cf. Xu Shu 1988: 52; Ernst/Wang 1995). As Ernst/Wang(1995: 242) observe "[...] for SOV sentences some combination of stress, appropriate context and emphatic markers (or <u>overt contrasting conjuncts</u>) is necessary for full acceptability." (emphasis mine):

(35a)   Wo   [*zhe-pian lunwen*] xihuan
        1SG   this-CL   paper   like
        'This paper, I like.'

(35b)   Wo   [zhe-pian lunwen] xihuan, *(na -pian bu   xihuan)
        1SG   this-CL   paper   like   that-CL   NEG like
        'This paper, I like (but that paper, I don't).'

(36)   Wo   [yi-pian lunwen] keyi yingfu, *(liang-pian jiu   bu   xing   le)
        1SG   1-CL   paper   can handle   2 -CL   then NEG possible PART
        'A paper, I can handle (but two papers, I can't).'

                                                           (= Ernst/Wang's (16) and (17))

Evidently, the condition of "overt contrasting conjuncts" is especially interesting for us, because this is similar to the picture in verb gapping where we also have pairs of contrasting NPs with the internal structure 'Quantifier/Determiner - Classifier N', e.g. *Ni jin zhei-jian, wo nei-jian* 'You go into here and I in there' and *Ta deng-le yi-ge xiaoshi, wo liang-ge xiaoshi* 'He waited for one hour, and I for two hours' (cf. (8) and (13) above).

     As for bare nouns, they may be preposed, but in order to be fully acceptable, the presence of what Ernst/Wang(1995) call "emphatic markers", i.e. adverbs, negation, etc. is necessary, these items helping to "facilitate the contrastive reading" (cf. Ernst/Wang 1995: 241):[19]

(37)   Shujuan shuanghuangguan ye hui chui
        Shujuan oboe   also can blow
        'Shujuan can also play the oboe.'

(38)   Wo   jiu   ye /bu he
        1SG liquor also/NEG drink
        'Liquor, I also/don't drink.'

---

[19] Teng(1995: 9-10) observes that in Taiwanese a preposed object like e.g. *pochoa* 'paper' in (i) "is not contrasted with any other noun, implicit or explicit." On the contrary, the Mandarin example of object preposing in (ii) is downright unacceptable for him unless followed by a contrasting clause:
(i)   Li   pochoa khuaN-liao boe ?
        2SG paper   read -PERF yet
        'Did you finish with the paper yet?'
(ii)   Wo   chaofan yijing chi-le   *(keshi chaomian   mei peng)
        1SG fried:rice already eat-PERF   but fried:noodles NEG touch
        'I've eaten the fried rice already, but I didn't touch the fried noodles.'

(Ernst/Wang's examples (18) and (22))

Proper names (of persons) and pronouns, however, cannot be preposed (even when followed by a contrasting conjunct) a phenomenon which in the Chinese literature is commonly reduced to the unacceptability of the resulting sequence of two [+human] NPs in preverbal position (the subject NP being [+human] as well in most cases):[20]

(39) *Wo Zhangsan xihuan, Lisi bu xihuan
      1SG Zhangsan like   Lisi NEG like
      (intended meaning: 'I like Zhangsan, I don't like Lisi.')

(40) *Wo-de pengyou ta renshi, ni bu renshi
      1SG-SUB friend   3SG know 2SG NEG know
      ('intended meaning: 'My friends know him, they don't know you.')

Last, but not least, let us look at NPs of the form 'modifier *de* N'. Strangely enough, there are hardly any examples of object preposing with this type of NPs in the literature. In principle, object preposing should be acceptable:

(41) ??Wo lanse-de hua   yijing zhong-le , hongse-de hai mei zhong
      1SG blue -SUB flower already plant -PERF red   -SUB still NEG plant
      ('I have already planted the blue flowers, but not yet the red ones.')

(42) ??Wo/Zhangsan gao-de nühair xihuan, ai -de (nühair) bu xihuan
      1SG/Zhangsan tall-SUB girl   like   short-SUB girl   NEG like
      ('I/Zhangsan like(s) tall girls, I don't/he doesn't like short girls.')

(43) ??Zhang laoshi   ta -de xuesheng yijing qing -le   haoji-ci   le,
      Zhang teacher 3SG-SUB student   already invite-PERF many-time PART
      ta -de   tongshi hai mei qing
      3SG-SUB colleague still NEG invite
      ('Teacher Zhang has already invited his students many times, (but) he has not yet
       invited his colleagues.')

But two problems arise immediately. In the case of a [-human] object NP, the subject NP and the preposed object NP are easily misinterpreted as a single NP, e.g. *wo lanse-de hua* as 'my blue flowers' in (41). In the case of a [+human] object NP, the resulting sequence 'NP NP VP' is assigned the structure: 'topic, subject VP'. In other words, as soon as it is possible to interpret the second NP in the sequence 'NP NP VP' as the subject of the

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[20] Descriptively speaking, this seems to be on the right track, because preposing of a place name is acceptable:
(i)   Wo Shanghai ye dao-guo, Tianjin ye dao-guo
         1SG Shanghai also go -EXP Tianjin also go -EXP
         'I have been in Shanghai, too, and also in Tianjin.'   (Wu Weizhang 1995: 431)
But the fact that (39) and (40) are acceptable when the second NP is interpreted as a subject (rather than as a preposed object) i.e. 'Me, Zhangsan likes, (but) Lisi doesn't' for (39) and 'My friends, he knows, (but) you 'don't' for (40), shows that more is involved than a simple ban on the juxtaposition of two [+human] NPs. Concerning this structural ambiguity, see our discussion of examples (41) - (43) below. In the light of these complications, it is not surprising that Ernst/Wang(1995) only discuss preposing with inanimate NPs.

sentence (which is quasi-automatically the case when it is [+human]) this interpretation is chosen.[21] This is in accordance with the judgement encountered in the Chinese literature (cf. Li Linding 1986, Xu Shu 1988 among others) that to topicalise an object is more natural than preposing it, resulting in 'NP(topic)$_i$ NP(subject) V t$_i$' as the structure preferred to 'NP(subject) NP$_i$ V t$_i$'.

To summarize, we have seen that the constraints governing the extra-short NP-movement in verb gapping structures and those governing object preposing coincide in the case of quantified and definite NPs as well as proper names and pronouns.

The situation is somewhat less clear for modified NPs (with *de*), but in general object preposing does not seem to work for this type of NP, even if the reasons for this unacceptability are different from one case to the other. The same kind of uncertainty and variation is observed in verb gapping examples with modified NPs, which in most cases are rejected.

Bare nouns, however, may be preposed which contrasts with their behaviour in verb gapping. But this may be due to several reasons. First of all, preposing for bare nouns is only fully acceptable when the contrastive reading is enforced by negation, adverbs etc. This is different from the situation in verb gapping in so far as there is no way to enhance the contrast by e.g. negation in the second conjunct. Furthermore, and this applies to object preposing vs. the short NP-movement in verb gapping in general, verb gapping introduces a two-way contrast between the two subjects and the two objects, respectively, whereas in object preposing only the objects are contrasted (with respect to the same subject).

Another reason why the constraints are in fact expected not to be identical is the difference in landing sites for the preposed object and for the object in verb gapping: whereas the latter must be to the <u>right</u> of VP-level adverbs (cf. (32) - (34) above), the landing site for preposed objects is much higher, i.e. to the <u>left</u> of VP-level adverbs (and also to the left of manner adverbs and instrumental and benefactive PPs, cf. Zhang Ning 1996). That this might be a plausible reason for the differences between the contraints in object preposing and in verb gapping is confirmed by Ernst/Wang's(1995: 247) observation that object preposing to a position <u>right</u> to modals, i.e. to a lower landing site than usual is acceptable only with a very strong contrast: "Such sentences are clearly marked instances of object preposing and are relatively rare; they require a stronger sense of implied contrast than DO [= direct object, W.P.] + Modal order, needing either an emphatic marker or an explicit conjunctive contrast [...] to be felicitous. We will assume that this more restricted usage is due to the fact that [...] focused elements tend to require fairly wide scope (thus favoring overt preposing, as far to the left as possible) [...]"

(44) Ni   bu   keyi zheyang fan ye bu chi, shui ye bu   he
      2SG NEG can thus   food also NEG eat water also NEG drink
      'You can't just not eat and drink like this.'

(45) Xiaolan bu   hui nei -ben shu   bu   mai
      Xiaolan NEG will that-CL book NEG buy
      'Xiaolan will (won't not) buy that book.'

                                              (Ernst/Wang's (23a) and (23b))

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[21] This observation was already made by C.-T. James Huang in his M.A. thesis (Huang, p.c.).

Given this observation it should not be surprising that the even shorter NP movement in verb gapping is also more restricted, thus leading to the highly marked character of verb gapping. The severe constraints on verb gapping ("outdoing" those of object preposing) might reflect the fact already established with respect to topicalisation vs. object preposing that as the movement shortens, it is subject to more constraints.

3. Conclusion

This article has provided evidence for the existence of verb gapping in Chinese, which is limited to non-generic VPs. We have shown that Johnson's(1994) ATB-movement analysis of verb gapping can be applied to Chinese as well, leading to the important conclusion - contested in the literature - that the verb in Chinese may leave the VP and raise to a functional category (*Infl*) in overt syntax. In the light of Johnson's observation that "gapping licenses movement operations otherwise restricted to LF" (Johnson(1994: 25) referring to Chomsky 1977) this exceptionally overt movement of the verb sheds further doubt on Tsai's(1994) claim that verb raising is excluded for Chinese not only in overt syntax, but also in LF.

Given this ATB analysis of verb gapping, the variation observed in the native speakers' judgements of gapping structures (putting aside the core cases acceptable to all) might accordingly be taken to reflect an ongoing change in Chinese syntax where a covert movement process is about to become overt.

Furthermore, we have established a hierarchy of the different kinds of NP movement based on the severity of constraints involved. Topicalisation to sentence-initial position is subject to very few constraints, whereas the extra-short NP movement in verb gapping represents the most restricted type of NP movement; as for object preposing to a position between subject and verb, it lies between these two extremes.

Though we cannot offer an account for this situation, the differences in constraints clearly seem to indicate the fundamental differences between these movement types, in particular the contrast between topicalisation, on the one had, and movement to a VP-landing site (including both object preposing and short NP-movement), on the other hand. Accordingly, we do not think that Ernst/Wang (1995) are on the right track when they reduce both the availability of a base-generated topic position and that of an extra base-generated NP position within VP to the same feature [+TopC], a feature present in Chinese and Korean (hence the possibility of non-gap topics and object preposing), but absent in e.g. English (hence the lack of these two phenomena). For it does not appear very plausible to derive a position at the sentence periphery from the same feature as a position within the VP domain. Besides, in the light of Johnson's analysis(1996: 41) which claims that "Both languages [= Dutch and English; W.P.] have movement into the middle field, a similarity hidden except in Gapping contexs", it might very well turn out that English does after all have a movement comparable to object preposing, thus invalidating part of the alleged parametric difference to becaptured by the feature [+TopC] between English and Chinese. We leave this issue to future research.

Finally, we have seen that sometimes verb gapping examples are unacceptable for independent reasons (and not because verb gapping itself is ruled out). Proper names as objects are a case in point, because the sequence *NP proper name* as the second conjunct in 'NP V NP, NP NP' is interpreted as involving a nominal predicate, i.e. as 'NP = proper name', rather than as a clause with a verb missing between the two NPs.

Last, but not least, the jigsaw puzzle character of our article where the evidence must be carefully pieced together in order to constitute some tangible argument in favour of the claim made is not only due to the lack of morphology as an indicator of syntactic processes in Chinese. It rather reflects our ignorance in many areas of Chinese syntax where we even lack a pure (but complete) description of the relevant data, let alone an analysis. This leaves a wide field to explore.

References

Burton, Strang/ Grimshaw, Jane. 1992. Coordination and VP-Internal Subjects. *Linguistic Inquiry* 23,2: 305 - 313.

Chao, Yuen Ren. 1968. *A Grammar of Spoken Chinese*. Berkeley et alibi: University of California Press.

Cheng, Lisa L.-S./ Tang, C.-C. Jane. 1996. Tense and Modality in Mandarin. Paper presented at the *8th North American Conference on Chinese Linguistics*, University of Illinois, Urbana-Champaign, May 17-19, 1996.

Chomsky, Noam. 1977. *Essays on Form and Interpretation*. Amsterdam: North-Holland Publishing Company.

Ernst, Thomas. 1994. Functional Categories and the Chinese Infl. *Linguistics* 32, 2: 191 - 212.

Ernst, Thomas/ Wang, Chengchi. 1995. Object Preposing in Mandarin Chinese. *Journal of East Asian Linguistics* 4, 3: 335 - 260.

Ernst, Thomas. (1996). On Adjunct Case in Chinese. *Cahiers de Linguistique - Asie Orientale* 25, 2: 167 - 197.

Guo, F.F. / Foley, C./ Chien, Y.-C./ Chiang, C-P./ Lust, B. 1996. Operator-Variable Binding in the Initial State: a cross-linguistic Study of VP ellipsis structures in Chinese and English. *Cahiers de Linguistique - Asie Orientale* 25, 1: 3-34.

Hankamer, Jorge. 1973. Unacceptable Ambiguity. *Linguistic Inquiry* 4, 1: 17 -68.

Huang, C.-T. James. 1991. Remarks on the Status of the Null Object. in: Freidin, Robert (ed.). 1991. *Principles and Parameters in Comparative Grammar*. Cambridge, Mass: MIT Press; p. 56 - 76.

Huang, C.-T. James. 1992. On Lexical Structure and Syntactic Predication. in: Wang, Samuel H./ Tsao, Feng-Fu. (eds.). 1992. *Proceedings of the Third International Symposium on Chinese Languages and Linguistics (IsCLL3)*. Hsinchu: National Tsinghua University, p. 288 - 311.

Huang, C.-T. James. 1994. More on Chinese Word Order and Parametric Theory. in: Lust, Barbara/ Suñer, Margareta (eds.). 1994. *Syntactic Theory and First Language Acquisition: cross-linguistic Perspectives*. Hilldale, N.J.: Erlbaum, p. 15 - 35.

Huang, C.-T. James/ Li, Y.-H. Audrey. 1996. Recent Generative Studies in Chinese Syntax. in: Huang, C.-T. James/Li, Y.-H. Audrey (eds.). *New Horizons in Chinese Linguistics*. Dordrecht et alibi: Kluwer; pp. 49 - 95.

Jackendoff, Ray. 1971. Gapping and Related Rules. *Linguistic Inquiry* 2, 1: 21 - 35.

Johnson, Kyle. 1994. Bridging the Gap. Unpublished manuscript, University of Massachusetts-Amherst.

Johnson, Kyle. 1996. Gapping. Ch. 2 of: *In search of the English middle field*. Unpublished manuscript, University of Massachusetts-Amherst

Laka, I. 1990. Negation in Syntax: On the Nature of Functional Categories and their Projections. Doctoral Dissertation, MIT.

Li, Linding. 1986. *Xiandai hanyu juxing* [Sentence patterns of Modern Chinese]. Beijing: Shangwu yinshuguan.

Li, Mei-Du. 1988. *Anaphoric Structures in Chinese*. Taipei: Student Book Co.

Ma, Zhen. 1989. Hanyu jufa li de suolüe xianxiang [The phenomenon of ellipsis in Chinese syntax]. *Yuyan Yanjiu* 1989, no.1.

Mc Nally, Louise. 1992. VP coordination and the VP-Internal Subject Hypothesis. *Linguistic Inquiry* 23, 2: 336 - 341.

Paul, Waltraud. 1994. L'omission du verbe existe-t-elle en chinois? *Cahiers de Linguistique - Asie Orientale* 23: 255 - 264.

Paul, Waltraud. 1995. Prédicats nominaux et légitimation des SN en chinois. Paper presented at the *Dixièmes Journées de Linguistique d'Asie Orientale*, May 16 - 17, 1995, Paris.

Paul, Waltraud. Verb Raising in Chinese. Paper presented at the *8th North American Conference on Chinese Linguistics*, University of Illinois, Urbana-Champaign, May 17-19, 1996.

Ross, John R. 1967. *Constraints and Variables in Syntax*. Doctoral dissertation, MIT.

Siegel, Muffy E. A. 1987. Compositionality, Case, and the Scope of Auxiliaries. *Linguistics and Philosphy* 10, 1: 53 -76.

Teng, Shou-hsin. 1995. Verb Compounding in Taiwanese. *Cahiers de Linguistique - Asie Orientale* 24, 1: 3 - 28.

Tsai, Mei-chih. 1995. *La modification adverbiale et l'ordre des mots en chinois*. Doctoral dissertation, University Paris 7.

Tsai, Wei-Tian Dylan. 1994. *On Economizing the Theory of A-bar Dependencies*. Doctoral dissertation, MIT.

Williams, Edwin. 1977. Across-the-Board Application of Rules. *Linguistic Inquiry* 8, 2: 419 - 423.

Williams, Edwin. 1978. Across-the-Board Rule Application. *LI* 9, 1: 31 - 43.

Wu, Weizhang. 1995. Yuxu zhongyao [On the importance of word order]. *Zhongguo Yuwen* 1995, 6: 429 - 437.

Xu, Shu. 1988. Cong yufa, yuyi he yuyong jiaodu tan 'ming(shou) + ming(shi) + dong' jushi" [On the syntax, semantics and pragmatics of the structure 'NP(patient) + NP(agent) + verb']. *Yufa yanjiu he tansuo* 6: 50 - 63.

Zhang, Ning. 1996. Three types of object shift. Paper presented at the *8th North American Conference on Chinese Linguistics*, University of Illinois, Urbana-Champaign, May 17-19, 1996.

Zoerner, C.E.I. 1995. *Coodination: The Syntax of &P*. Doctoral Dissertion, University of California-Irvine.