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Verb gapping in Chinese: A case of verb raising[☆]

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Abstract

In the current literature, verb gapping is commonly 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). The present article argues against these claims and provides evidence for the existence of verb gapping – though restricted – in Chinese. Furthermore, it shows that Johnson'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 and raise to a functional category in overt syntax. © 1999 Elsevier Science B.V. All rights reserved.

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1. Introduction

In Johnson (1994, 1996) 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

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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 accordingly derived from the putative lack of verb movement beyond the VP shell (cf. Tsai, 1994).

We will provide extensive evidence against this view and argue in favour of verb movement to a functional category above VP. In particular we will show that the examples cited to illustrate 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 verb gapping in English, German or Dutch, for example. 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.

The present article is organized as follows: Section 2 very briefly presents the standard assumptions underlying the issue of verb raising since the work by Pollock (1989) and discusses in some more detail the current view about verb raising in Chinese according to which Chinese has no verb movement beyond the VP(-shell). The relevant data establishing the existence of verb gapping are presented in section 3.1. In Section 3.2 the constraints governing verb gapping in Chinese are closely examined 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, 1996) analysis of English verb gapping structures is summarized in Section 3.3 and its predictions for Chinese checked in the subsequent sections. Among the issues discussed are the nature of the landing site for the ATB-moved verbs (Section 3.4) and the distribution and interpretation of adverbs in gapping structures (Section 3.5). Section 3.6 offers some possible reasons for the lack of complex gaps in Chinese. We conclude our article in Section 4.

2. The issue of verb raising

2.1. General assumptions

Since the work of Pollock (1989), languages are distinguished *inter alia* in terms of whether the verb raises to a functional category above VP in overt syntax or not. Given the assumption that adverbs indicate the left periphery of the VP, French can be shown to involve overt movement of the verb to a functional category left of an adverb like *souvent* ‘often’, whereas in English the verb remains within the VP, as witnessed by its position to the right of an adverb like *often*:

- (1) a. Jean embrasse souvent Marie
- b. *Jean souvent embrasse Marie
- (2) a. John often kisses Mary
- b. *John kisses often Mary

Infinitives in French as well as sentences with auxiliaries like *be* in English furthermore indicate that more than one functional category is needed above VP, thus evidencing the need to ‘split up’ Infl (cf. Hoekstra, 1995):

- (3) a. Jean ne (lit) pas (*lit) souvent (*lit) un livre
 b. ne (*lire) pas (lire) souvent (lire) un livre
 (4) John most probably is not ill

The French example (3b) illustrates that a non-finite verb can either remain in its base position within the VP or raise to a functional category which, however, is lower than the landing site for a finite verb like *lit* ‘(he) reads’ in (3a). Likewise, in the English example, two functional projections must be postulated, a lower one which accommodates the raised auxiliary *is* to the left of *not* (and therefore clearly outside of VP) and which also serves as an adjunction site for the adverb *most probably*, and a higher one whose specifier position hosts the subject *John*. Pollock (1989) identified these two functional categories as Agr and Tense, respectively, which since then has been subject to modification. That is, however, not the important point, what counts here is the type of evidence needed to motivate a functional projection.

2.2. Verb raising in Chinese

2.2.1. The standard account (Huang, 1991a, 1992, 1994)

Like English, Chinese does not allow any adverbials between the verb and the object. To be more precise, adverbials (sentential as well as VP-level) are precluded from the postverbal position altogether, be it before or after the object, a point where Chinese crucially differs from English. Furthermore, equally in contrast to English, Chinese auxiliaries – like main verbs – always occur to the right of the negation *bu*. Consequently, both main verbs and auxiliaries are said to remain within the VP in overt syntax:

- (5) a. Zhangsan changchang/mei tian pian tongxue
 Zhangsan often /every day cheat class-mate
 ‘Zhangsan often/every day cheats his class-mates.’
 b. *Zhangsan pian (changchang/mei tian) tongxue (changchang/mei tian)
 Zhangsan cheat often /every day class-mate often /every day
 c. Tamen guyi /bai lai -le (*guyi /bai)¹
 3PL on:purpose/in:vain come-PERF on:purpose/in:vain
 ‘They came on purpose/in vain.’ (Ernst, 1994: 201)
 (6) Zhangsan bu pian tongxue
 Zhangsan NEG cheat class-mate
 ‘Zhangsan doesn’t cheat his class-mates.’

¹ 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.

- (7) a. Zhangsan shi xuesheng
 Zhangsan be student
 ‘Zhangsan is a student.’
 b. Zhangsan (*shi) bu shi xuesheng
 Zhangsan be NEG be student
 ‘Zhangsan is not a student.’
- (8) Zhangsan (*hui) bu hui shuo zhongwen
 Zhangsan can NEG can speak Chinese
 ‘Zhangsan cannot speak Chinese.’

A functional projection is, however, required to host the subject which occurs to the left of sentential adverbs like *changchang* ‘often’ and negation. This functional category has been analysed as Infl bearing the features [\pm finite], for Chinese lacks agreement morphemes or morphemes indicating tense (temporal notions being expressed by adjuncts) (cf. Ernst, 1994). Since the verb apparently never leaves the VP, Infl always remains empty. This has become the standard account within Chinese linguistics, based on work by Huang (1991a, 1992, 1994).

2.2.2. VP-ellipsis

VP-ellipsis is of interest here insofar as it seems to involve overt verb-to-Infl movement. Like verb gapping to be examined in detail below, it thus questions the absolute impossibility of verb movement beyond the VP in overt syntax

The claim that VP-ellipsis exists in Chinese and that it provides evidence for overt V-to-Infl movement and therefore a lexically filled Infl-position in Chinese was made by Huang (1987, 1991b), but not taken up since. Huang (1991b: 64) proposes to analyse a sentence like (9) as a case of VP-ellipsis which involves raising of the verb from the VP that contains the null object:

- (9) 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]

He motivates this analysis with the availability of both a strict and a sloppy identity reading, a feature typical of VP-ellipsis sentences (cf. English: John saw his mother, and Peter did, too). Assuming that the sloppy identity reading for a null-object in Chinese obtains in a context which is structurally identical to that of VP-ellipsis in English, the verb must have raised from the VP that contains the null object, thus giving rise to an empty VP. Since the verb has moved to the (otherwise empty) functional head Infl, Infl can now L-mark and properly govern this empty VP. What at first sight looks like a structure with an empty object only in fact turns out to be an instance of VP-ellipsis, i.e. a VP where both the verb and the object position are empty.

Additional evidence for an analysis of (9) in terms of VP-ellipsis is provided by the lack of a *second* sloppy reading, a phenomenon which would be difficult to

explain under the assumption of an empty object. As Huang (1991b: 65) points out only the subject of the empty VP can serve as a binder of the pronoun in the sloppy reading, not another (higher) subject like e.g. *Mary* in (10) and (11):

- (10) John saw his mother, and Mary knew that Bill did, too. (=Huang's (33))
 [=‘John_i saw his mother, and Mary knew that Bill_j saw his_{i/j} mother, too.’]
 Excluded: ‘John saw his mother, and Mary knew that Bill saw her mother.’]
- (11) 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.’
 [same readings as in (10)] (=Huang's (34))

This analysis gets additional support from the findings of Guo et al. (1996) who show that Chinese speaking children demonstrate the competence for both the strict and the sloppy identity reading from age 3,5 years on.

Furthermore, the elided VP may take as antecedent a conjunction of VPs which represents another characteristic of VP-ellipsis (cf. Johnson, 1994: 32–37):

- (12) Wendy is eager to sail around the world and Bruce is eager to climb the
 Kilimanjaro, but neither of them can [_{VP} Δ] because money is too tight.
 Δ = ‘sail around the world and climb the Kilimanjaro’ (Johnson, 1994: 33)
- (13) Xiaoli yao pa Fushishan, Xiaowang yao shang silu keshi
 Xiaoli want climb Mount:Fuji Xiaowang want go:on Silk:Road but
 yinwei qian bu gou tamen dou bu neng [_{VP} Δ] le
 because money NEG enough 3PL all NEG can PART
 ‘Xiaoli wants to climb the Mount Fuji, and Xiaowang wants to travel on the
 Silk Road, but since money is too tight, neither of them can.’
 Δ = ‘pa Fushishan, shang silu’ (Paul, 1997)

Though this analysis might at first sight seem surprising, Otani and Whitman (1991) provide further typological evidence for it. They show that the same analysis can be applied to Japanese and Korean, both languages where verb-to-Inf movement is generally thought to occur in LF only. They examine in some detail the properties of the nominals in such VP-ellipsis contexts and come up with a significant correlation which contrasts null-objects in languages like Chinese, Japanese and Korean, on the one hand, with the null objects in Romance languages. V-raising and VP-ellipsis will lead to the sloppy identity interpretation only in the case of VPs that are empty in the strictest sense, i.e. VPs containing exclusively non-indexed empty categories. This is the case in Chinese, Japanese and Korean where null objects lack phi-features, but not in numerous Romance languages where null-objects are coindexed with Agreement or clitic morphology (Otani and Whitman, 1991: 356).

In the light of the preceding discussion, we propose to re-examine the positions the verb can occupy in Chinese. Verb gapping plays a crucial role here because in Johnson's approach the (non-)existence of verb gapping can serve as a clue to the (im-)possibility of verb raising to a functional category in overt syntax. By taking

into account data which have so far been neglected we will establish the existence of verb gapping in Chinese and accordingly provide evidence for the possibility of overt V-to-Infl movement in this language.

3. Verb gapping

3.1. *The data*

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

- (14) Wo xihuan mao/meiguoren, ni *(xihuan) gou/deguoren
 1SG like cat /American 2SG like dog/German
 'I like cats/Americans, and you (like) dogs/Germans.'
- (15) Nanren chi mi, beiren *(chi) mian
 southerner eat rice northerner eat noodles
 'Southerners eat rice, and northerners (eat) noodles.' (Tsai, 1994: 220)
- (16) 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.'
- (17) Ta jintian pengdao-le Zhangsang, wo *(pengdao-le) Lisi
 3SG today meet -PERF Zhangsang 1SG meet -PERF Lisi
 'He saw Zhangsang today, and I (saw) Lisi.'

But to conclude from the unacceptability of sentences like (14)–(17) to the statement that Chinese disallows verb gapping (a conclusion with rather far-reaching theoretical consequences) as Tsai (1994: 220–221) does on the basis of the unacceptability illustrated in (15), is much too hasty and does not do justice to the situation in Chinese. For 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:

- (18) 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.'
- (19) 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)
- (20) 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.'
- (21) 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.'

- (22) Wo qing -le shi-ge pengyou lai;
 1SG invite -PERF 10-CL friend come
 (a) ni fuze si-ge, wo liu-ge
 2SG be:responsible 4-CL 1SG 6 -CL
 (b) Lisi renshi san-ge, Zh. yi-ge
 Lisi know 3 -CL Zh. 1-CL
 ‘I invited ten friends; (a) you take care of four, and I of six.
 (b) Lisi knows three of them, and Zhangsan one.’
- (23) Women xi zhao san-ge yuyanxuejia, tamen xi san-ge
 1PL department seek 3 -CL linguist 3CL dept. 3 -CL
 wulixuejia
 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:

- (24) 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.’
- (25) 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.’
- (26) 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.’

3.2. 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 Ø 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 where rejection is quasi-unanimous (bare nouns in Li (1988) subsuming generic NPs like *mao* ‘cats’ in (14) as well as proper names like *Amei* in (16)), 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):²

² The impossibility of verb gapping with modified object NPs clearly invalidates the suggestion made by an anonymous reviewer that unacceptable cases of verb gapping in Chinese can be excluded by a ban on ‘stranded’ *monosyllabic* object NPs. Examples (14), (16) and (17) above illustrate the same point because they are all unacceptable ‘in spite of’ containing *polysyllabic* object NPs.

- (27) * Wo xihuan/mai -le hongse-de hua, ta lanse-de
 1SG like /buy -PERF red -SUB flower 3SG blue -SUB
 ‘I like/bought red flowers, and he blue flowers.’
- (28) ??Zhangsan xihuan gao-de /hong toufa-de nühai, Lisi ai -de /hei
 Zhangsan like tall-SUB/red hair -SUB girl Lisi short-SUB/black
 toufa -de nühai
 hair -SUB girl
 Zh. likes tall girls/girls with red hair, and Lisi short girls/ girls with black
 hair.’
- (29) ??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 class-mates.’

Though the judgements are not quite as clear-cut as for examples with bare nouns, most speakers reject this kind of sentences.³ In combination with the unacceptability of verb gapping observed in sentences with generic NPs like *mao* ‘cats’, *deguoren* ‘Germans’ etc. illustrated in (14) and (15) 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.⁴

Insufficiency of contrast invoked by the same reviewer as another factor responsible for illicit cases of verb gapping does not hold up to further scrutiny, either. The unacceptable examples (27)–(29) for instance all involve a very clear contrast: *hongse-de hua* ‘red flowers’ vs. *lanse-de hua* ‘blue flowers’ etc. In fact, as pointed out by Johnson (1996: 2; see further below in this section) the existence of a contrast is a kind of *sine qua non* condition for verb gapping in general. Consequently, contrastiveness is not the key to the Chinese data.

³ Sentences like (27) and (28) 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.

⁴ Why verb gapping is unacceptable with proper names as objects must be left for further research. It might be that in Chinese proper names as objects pattern with bare nouns as suggested by Cheng and Huang (1995: 218–219), who in their discussion of sentences (i)–(iii) observe that “for the object to be interpreted in the part-of-an activity reading, it can be a bare noun, or a proper noun, but not a quantificational NP”:

That verb gapping may be sensitive to the [\pm 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:

- (30) a. ?Max writes plays in the bedroom, and Harvey in the basement.
 b. ??Max is writing a play in the bedroom, and Harvey in the basement.
 c. ???Max is memorizing the play in the bedroom, and Harvey in the basement.

In fact, the data illustrated in (30a–c) represent one of the few exceptions to Hankamer's *No-Ambiguity Condition* (NAC).⁵ 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.⁶ 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:

- (31) *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, a fact which

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- (i) Zhangsan zhui -lei -le xiaotou le
 Zhangsan chase -tired -PERF thief PART
 'Zhangsan got tired from thief-chasing.'
 (ii) Zhangsan zhui -lei -le Hufei le
 Zhangsan chase -tired -PERF Hufei PART
 a. 'Zhangsan got tired from chasing Hufei.'
 b. 'Zhangsan chased Hufei tired.'
 (iii) Zhangsan zhui -lei -le san -ge xiaotou le
 Zhangsan chase -tired -PERF 3 -CL thief PART
 'Zhangsan chased three thieves tired.'

⁵ "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).

⁶ 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."

can be easily deduced from the examples cited so far.⁷ But as in English, in Chinese as well the parallelism in itself is not sufficient to assure the acceptability of verb gapping (cf. for instance the unacceptable (14)–(17)); additional constraints must be satisfied as well.⁸

Johnson (1996: 2) observes 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 contrastive focus 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 parallelism 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)

Accordingly, a clear contrast between the remnants and the correlates in verb gapping is the normal case, even if the degree of parallelism required seems to be higher in Chinese than for example in English. As Hankamer’s discussion of English gapping examples has shown, it is also not uncommon for verb gapping to be dependent on the nature of the VP, nor is it unexpected that pronouns behave differently from orthodox NPs 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.

In the preceding sections, we have established the existence of verb gapping in Chinese by taking into account a richer sample of data. Contrary to the standard

⁷ 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 (18) and (19)).

⁸ There exists a particular context which – short of a better term – I will call the ‘restaurant context’ where apparently the parallelism alone is sufficient and additional constraints do not seem to apply i.e., where verb gapping appears to be marginally acceptable in a generic VP:

(i) ?Ta he kafei, wo cha (ii) ?Wo chi niurou, ta zhurou
3SG drink coffee 1SG tea 1SG eat beef 3SG pork

‘He drinks coffee, and I tea.’ ‘I eat beef, and he pork.’

But among those native speakers who fully accept gapping with quantified NPs many reject examples like (i) and (ii). This clearly shows that they do not represent the core cases and heavily depend on the context.

view, verb gapping is possible in Chinese even though it is heavily restricted and therefore a more marked phenomenon than 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 requires a maximum of structural and semantic parallelism and a clear contrast between the remnants and their correlates.

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 (24)–(26) with temporal complements, while speakers from regions further south (Jiangsu province and Taiwan) in addition judge sentences like (18)–(23) grammatical as well.⁹

Though the data are somewhat heterogeneous, we think that they are nevertheless too important to be dismissed.

3.3. 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 of the verb is able to capture the constraints observed in verb gapping structures.¹⁰ For unlike deletion or elision, only ATB-movement is a mechanism of sentence grammar that shows the properties characteristic of verb gapping, i.e., ATB-movement is restricted to coordinations, it respects constituency and the moved term is understood as absolutely identical to its trace, as is the case in gapping (cf. Johnson, 1996: 21).

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

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.

¹⁰ For further discussion of ATB movement first illustrated for *wh* movement as in (i), cf. Williams (1977, 1978), Burton/Grimshaw (1992) and McNally (1992), among others.

(i) Who_i did you say that Carrie likes t_i and Sarah hates t_i ? (Johnson, 1996: 21, (63))

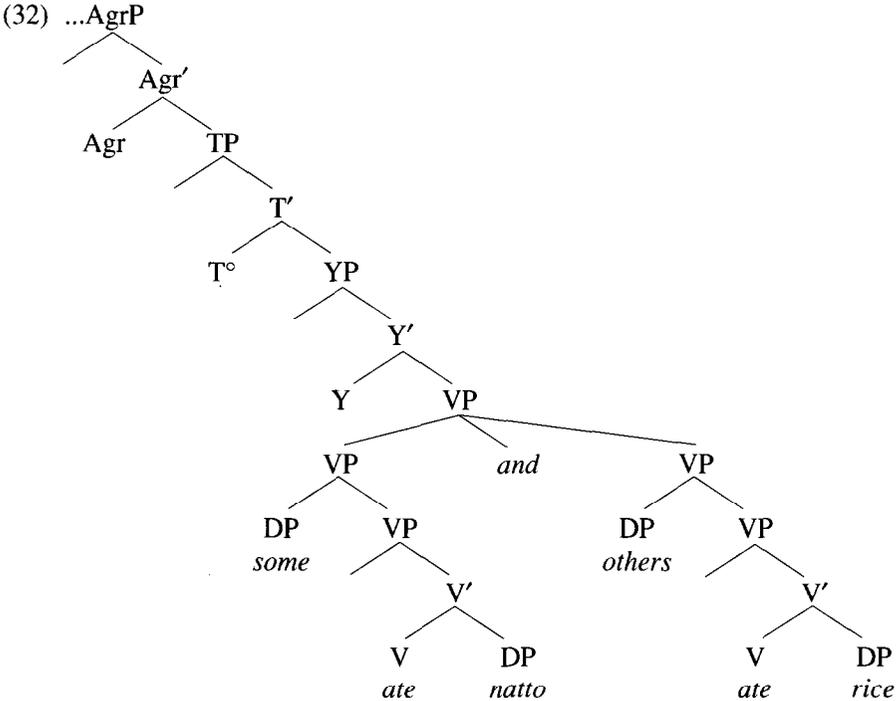
¹¹ The following sentences illustrate *complex gaps* in English:

(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~~
 (= Johnson’s, 1996: 37, (101))

(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~~
 (= Johnson’s, 1996: 15, (41))

We will discuss possible reasons for the lack of complex gaps in Chinese in Section 3.6 below.

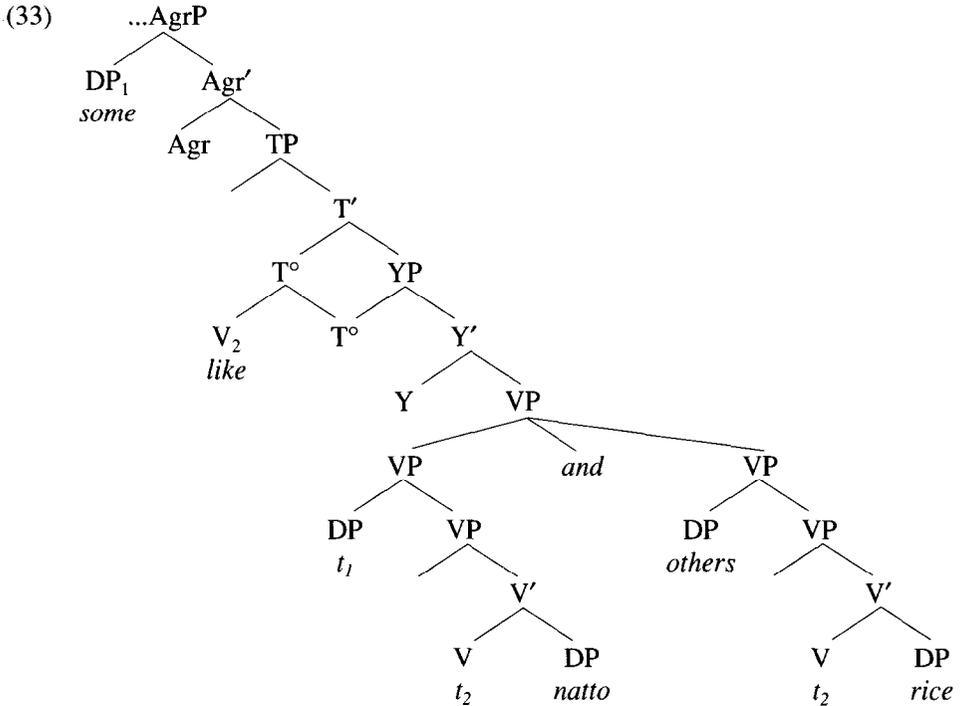
According to Johnson (1994: 38)¹² an English sentence with a gapped verb in the second conjunct like *Some ate natto and others ate rice* in fact involves the coordination of VPs rather than that of sentences, with subjects being base-generated within VP:



Both verbs 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 As for the subject NP in the second conjunct, it remains in its base-generated VP-internal position:

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 ATB movement. It is this 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.

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).



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 A-bar movement of a constituent from one of the two conjuncts, but not the A-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 (34) and (35) which show up in the default accusative instead of the nominative and in that respect resemble the subject in the gapping structure (35b):¹⁴

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

- (35) a. *We can't eat caviar and he can't eat beans
 b. We can't eat caviar and him can't eat beans

(examples from Siegel, 1987: 59; 61–62)

¹⁴ Johnson (1996: 25), proposes to follow Zoerner (1995), in that the subject in the second conjunct receives its Case from the conjunction. Whether this works in all cases still needs to be seen, but it is clear, as pointed out by Johnson (ibid.), "that the method by which the subject of a Gapped clause gets its case is different from that in unGapped clauses [...]".

3.4. Chinese verb gapping and the ATB movement analysis

Let us now apply Johnson's analysis to simple gaps in Chinese as illustrated by (18) *Ta chi-le liang-wan fan, wo liang-wan zhou* 'He ate two bowls of rice, and I two bowls of gruel'.

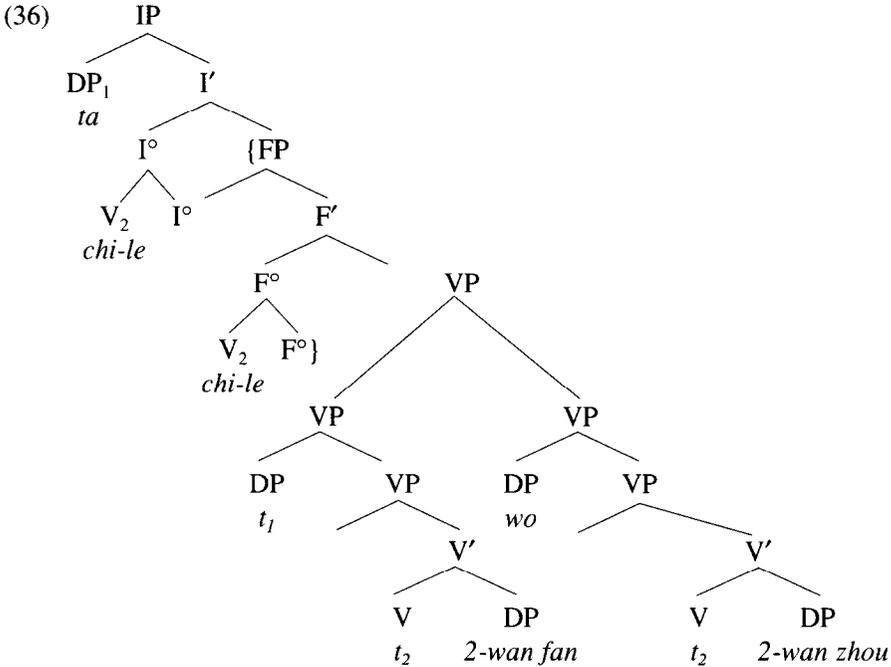
The licensing of the subject in the second conjunct will have to be accounted for along the lines proposed for English, because the Chinese subject – like the English subject – normally does not remain in its VP-internal base position.

Regarding the first subject, it moves to the specifier of IP. As outlined in Section 2 above it is generally accepted that Chinese has no Agreement nor Tense 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. For our purpose we adopt Ernst's (1994) view that this functional category is *Inflection* bearing the features [\pm finite].

For the ATB-moved verbs, there are in principle two possibilities. Either their landing site is *Infl* and in that case it is not correct that *Infl* is always phonologically empty (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 about the functional categories to be postulated above VP in Chinese, we will leave this issue open here.¹⁵ 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 3.5 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*.

The structure of a Chinese gapped sentence like (18) *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 (36) where the option of ATB verb movement to an intermediate functional head *F* rather than to *Infl* is enclosed with wavy brackets:

¹⁵ For an overview of the numerous proposals concerning functional categories in Chinese, cf. Huang and Li (1996: 56ff.)



3.5. 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. 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 (cf. (37)). 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 (cf. (38)). As Johnson (1994: 47) indicates, Jackendoff’s (1971), observations concerning the interpretation and distribution of adverbs in gapping structures are thus accounted for:

(37) Max *sometimes* beats his wife, and Ted his dog.

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

(Jackendoff, 1971: 23)

The same phenomena can be observed in Chinese:

(39) 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’.

- (40) Laowang *congcong* tiaoxuan-le yi-jian yifu, Laoli yi -shuang xiezi
 Laowang hurriedly choose -PERF 1-CL clothes Laoli 1 -pair shoe
 ‘Laowang hurriedly chose a garment, and Laoli a pair of shoes.’
 (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:

- (41) 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.’
- (42) 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.’
- (43) Wo you yi-dong fangzi, Lisi liang-bu qiche, Wangwu cai yi-liang
 1SG have 1-CL house Lisi 2 -CL car Wangwu only 1-CL
 zixingche
 bicycle
 ‘I have a house, Lisi two cars, and Wangwu only one bicycle.’

If *Infl* is the landing site for the ATB-moved verbs rather than a functional category F below *Infl* (cf. (36) above), the adverb in a sentence like (39) will have to occupy a position which is adjoined to *Infl*-bar rather than to the maximal projection FP. While the latter case seems to be uncontroversial, the opinions whether the first option 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. The options allowed basically depend on the type of theory one adopts for adverbs, a still hotly debated issue. Accordingly, adverbs cannot help us to determine whether the verb raises to *Infl* or rather to a functional category F below *Infl* and we have to leave this point open for further research.

3.6. The non-existence of complex gaps in Chinese

As mentioned in Section 3.3. above, Chinese does not allow for a phrase in construction with the verb to be gapped with the verb. There are thus no Chinese equivalents for complex gaps in English as illustrated in (44):

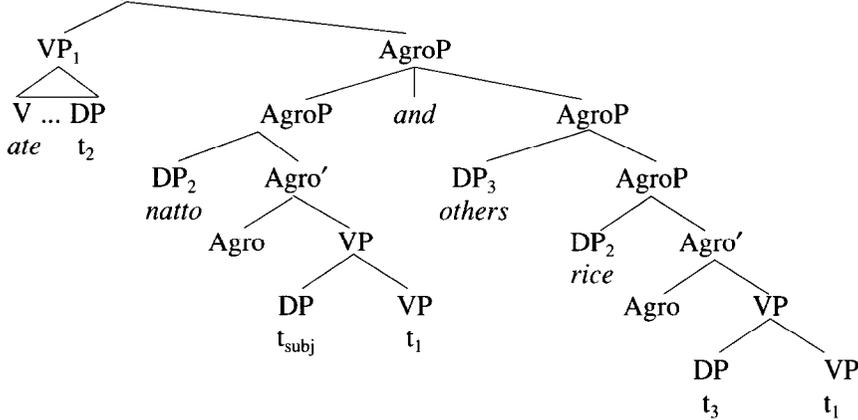
- (44) Some gave albums to their spouses, and others ~~gave tapes to their spouses~~
 (Johnson, 1996: 37; (101))
- (45) *Mama gei -le wo wu-kuai qian, baba gei -le wo shi-kuai
 mother give -PERF 1SG 5 -CL money father give -PERF 1SG 10-CL
 qian
 money

Native speakers refuse this type of sentences, notwithstanding the very strong parallelism between *mama* ‘mother’ and *baba* ‘father’ chosen to enforce a subject reading for *baba* ‘father’.

We think that this lack of complex gaps in Chinese is not fortuitous.¹⁶ To illustrate this point, let us compare Johnson’s (1994) analysis of verb gapping with that of Johnson (1996).

In Johnson (1994), a simple gap is derived by the ATB movement of the verbs only, whereas for complex gaps it is the entire (extended) VP which ATB moves. In the latter case the parallel terms i.e., the constituents other than the verb must move out before the VPs ATB move, because the constituents undergoing ATB movement must be identical. In Johnson (1996), however, for reasons too complex to go into here (cf. footnote 12), ATB movement of the (extended) VP is postulated both for complex and simple gaps. For simple gaps, this unified VP movement approach has two important implications. First, VP scrambling must be a phenomenon allowed in that language. Second, the parallel terms must leave the VPs before these move in an ATB fashion. For English, this results in the following analysis of simple gaps as e.g., in *Some ate natto, and others rice*:

(46) ... AgroP (Johnson, 1996: 57; (137))



(46) shows that both subjects and objects leave the VPs which will ATB move, with the result that they only contain the verb.

Whereas for English it can be shown convincingly that the parallel terms actually leave the verbal projections that gap i.e., that ATB move (cf. Johnson, 1994, 1996), a comparable movement does not exist in Chinese.¹⁷ In particular, there is no evidence for the landing site required by such a rather short movement where the object would raise from its normal postverbal position to a position left of the verb, but would still remain within VP, the phrases conjoined in gapping structures being ver-

¹⁶ We are grateful to Kyle Johnson for discussion of this point.

¹⁷ We put aside the problem of whether there is any independent evidence for VP scrambling in Chinese because next to nothing is known about it.

bal projections. For the only more or less comparable movement of the object in Chinese i.e., *object preposing* involves a landing site outside the (extended) VP:¹⁸

- (47) Wo jiu ye /bu he
 1SG liquor also/NEG drink
 ‘Liquor, I also drink / I don’t drink.’ (Ernst and Wang, 1995: 242; (22))
- (48) Wo [yi-pian lunwen] keyi yingfu, liang -pian jiu bu xing le
 1SG 1-CL paper can handle 2 -CL then NEG possible PART
 One paper, I can handle but two papers, I’m not capable (of handling).’
 (Tsai, 1994: 138; (32))
- (49) Wo [zhe-pian lunwen] cai kan-le yi-ci,
 1SG this-CL paper only read-PERF 1-time
 na -pian yijing kan -le haoji -ci le
 that-CL already read -PERF many -time PART
 ‘This paper, I have only read once, but that paper, I have already read many times.’

In sentences (47)–(49), the object has raised from its normal postverbal position to the *left* of negation, modals and adverbs. This clearly indicates that it does not remain within the VP, in contrast to verb gapping where the remnant object stays in its original position and accordingly appears to the *right* of adverbs like *cai* ‘only, just’ (cf. (41) and (43) above)).

Consequently, only the ATB movement of the individual verbs rather than that of the VPs makes the correct predictions for Chinese verb gapping, because the short movement of the parallel terms prior to ATB movement required in a VP scrambling approach does not exist in Chinese.

4. 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. This leads 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, even if this does not represent the default case and occurs in particular constructions only.

In the light of the comparison between ATB movement of the verb and ATB movement of the (extended) VP in the preceding section, it might be conceivable that languages differ with respect to which kind of movement they allow, this difference being correlated with different positions assigned to the parallel terms. Chinese only allows for ATB movement of individual verbs and has simple gaps only,

¹⁸ For object preposing in Chinese, cf. Ernst and Wang (1995), Tsai (1994: ch. 3.1.2), Wu (1995), Xu (1988: 52). It is interesting to note that object preposing is much more restricted than the longer movement to sentence-initial position i.e., topicalisation.

whereas English permits ATB movement of (extended) verbal projections and displays a rich array of gapping possibilities. Under this view, the lack of complex gaps in Chinese would not be a coincidence any more.

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