

CHINESE COVERBS AND ARGUMENT STRUCTURE

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ABSTRACT

*This paper provides an analysis of a set of verbs that are licensed either as main verbs or in a more preposition-like use as 'coverbs'. The aim of the paper is to address the lexical representation of these verbs and avoid redundant multiple lexical entries. The analysis accounts for the different structures that the verbs are licensed under by exploiting the lexical / functional distinction and the level of argument structure. The paper shares with Baker's (1989) approach to serial verb constructions the insight that such constructions are doubly headed, but implements it without having to make the same radical changes to X-bar theory and projection. The analysis predicts that the argument structure of the main verb appearing with the coverb will have consequences for the interpretation of the coverb. This provides an unexpected explanation for an additional use of the coverb *gei*. The theoretical implications of the data and analysis presented here are that a percolation approach to argument structure and a prominence based notion of external argument provide better explanation of the data than a configurational approach which cannot account for the data involving trivalent *gei*.*

1. THE COVERB CONSTRUCTION

The data of concern in this paper are the set of verbal expressions traditionally labelled 'coverbs', as in the example in (1), which can be loosely described as having the surface form given in (2) in which the coverb is identified as V1.¹

- (1) a. Lisi yong kuaizi chi fan.
Lisi use chopsticks eat rice
'Lisi eats with chopsticks.'
- b. Lisi cong Beijing lai le.
Lisi from Beijing come SFP
'Lisi has come from Beijing.'
- (2) NP V1 NP1 V2 (NP2)

¹ The following abbreviations are used in the glosses: AP=aspectual particle; SFP=sentence final particle; CL=classifier; PT=particle.

The coverb construction thus looks like a serial verb construction, in which two distinct verbs are licensed in a single clause sharing arguments and denoting a single event. For ease of reference, I will henceforth refer to the coverb plus its object as the coverb phrase, but this should not be taken as commitment to a single constituent analysis of the phrase structure of the construction.

Coverb phrases are restricted to the preverbal position in the clause.² Based on relative ordering with time NPs, Ernst (1994a) argues that they are not just VP internal, but more accurately V' internal.³ There is an adjacency requirement such that nothing can appear between the coverb and its object, and extraction is not possible of either the whole coverb phrase or any part of it.

An important feature of the coverb construction is that a subset of the coverbs can also function as main verbs. The examples in (3) show the two coverbs from the examples in (1) used as main verbs. While main verb use of *yong* 'use' is well formed, main verb use of *cong* 'from' is not:

- (3) a. Lisi *yong* kuaizi.
 Lisi use; chopsticks
- b. * Lisi *cong* Beijing
 Lisi from Beijing

In fact, in the absence of a detailed understanding of the syntax of the coverb construction, there is some debate as to exactly which items are coverbs. Hence Li & Thompson (1981) argue that 'yong' is a main verb and not a coverb, where Matthews & Yip (1994) treat it as a coverb. On the other hand, Waltraud Paul in a personal communication, contends that 'cong' is 'one of the very clear prepositions in Chinese'. However, a treatment of 'cong' as a preposition cannot account for the ungrammaticality of either (3b) or (9).

² A subset of the verbs that can be used as coverbs can also appear postverbally, licensing an internal argument of the main verb:

- (i) ta qu dao Beijing.
 he go arrive Beijing.
 'He's gone to Beijing.'

Many of the same issues of lexical representation arise, so that the same lexical representation in conjunction with the syntactic properties of the postverbal structure should account for the postverbal occurrences of these verbs. However, these constructions are not investigated here.

³ See Ernst (1994a) for the exact details of ordering in the preverbal field.

Lastly, it is not only transitives that have possible coverb uses. Example (4) illustrates the use of ditransitive *gei* 'give' as main verb (a) and as coverb (b):

- (4) a. ta gei wo shu
 she give me book
 'She's giving me a book.'
- b. ta gei wo mai shu
 she give me buy book
 'She's buying a book for me.'

Thus, an important theoretical concern of this paper is the nature of the lexical representation of these coverbs. We want to avoid the highly redundant and counter-intuitive option of simply specifying two distinct homophonous lexical entries, one for the main verb use, and the other for the coverb use. However, to retain a single lexical entry, we need to provide an explanation for the apparent reduction in number of arguments of a bi-valent or trivalent main verb to the preposition-like coverb and for any shifts in meaning between main verb and coverb use. In other words, we need to explain how, for example, *gei* 'give' in (4) licenses three argument positions as a main verb, but only one as a coverb, and shifts in meaning from 'give' to benefactive marking.

2. PROPERTIES OF THE COVERB CONSTRUCTION

2.1 Adjunct or argument?

The coverb phrase is standardly assumed to be a VP or PP adverbial adjoined to VP/V' (e.g., Law 1996, Ernst 1994a & b), because the coverb phrase appears to behave as a single constituent that is entirely optional.

Given the optionality of the coverb phrase, and the range of semantic roles expressed by coverb phrases, the adverbial constituent analysis appears very plausible. However, there is no distributional evidence for constituenthood other than optionality. Furthermore, on closer inspection the adverbial status of the coverb phrase is not without problems.

Firstly, in relation to word order, the coverb phrase is restricted to appearing between the subject and the main verb, and cannot be fronted to sentence initial position.⁴ This is in contrast with ordinary adverbial expressions such as *mingtian* 'yesterday':

⁴ As indicated by a reviewer, while (6) is ungrammatical, (i) appears to be a counterexample to this distributional constraint:

- (5) mingtian wo qu Beijing
 tomorrow I go Beijing
 'Tomorrow I go to Beijing.'
- (6) * yong kuaizi tamen chi fan
 use chopsticks they eat rice

Not only does the coverb phrase not behave entirely as an adverbial, it has also been shown by Ernst (1994b) to pattern with arguments in not blocking the A-not-A question form:

- (7) a. ni zai nar chi-bu-chi rou?
 you at there eat-not-eat meat
 'Do you eat meat there?'
- b. ni yong kuaizi chi-bu-chi fan?
 you use chopsticks eat-not-eat rice
 'Do you eat with chopsticks?'
- c. ni gei ta mai-bu-mai xianglian?
 you give him buy-not-buy necklace
 'Are you buying him a necklace?'

Ernst looks for explanation of the argument-like behaviour of the coverb phrases in the observation that the set of expressions identified by these coverbs are theta marked by the main verb. This suggests that coverb phrases fall into the class of expressions identified by Speas (1990) as *theta marked adjuncts* (locative, instrumental, benefactive) (See also Baker 1988 and 1989, Grimshaw 1988). In other words, the semantic role identified by the coverb phrases is represented on the thematic structure of the main verb but is not part of the predicate argument structure (PAS) of the main verb. Hence, it cannot be directly licensed by the main verb.

2.2 Semantic content of the coverb

There are two possible conclusions to be drawn from this with respect to the semantic properties of the coverb: either the coverb itself has no se-

- (i) tamen chi fan yong kuazi
 they eat rice use chopsticks
 'They eat with chopsticks.'

However, this sentence is more plausibly analysed as a TOPIC COMMENT structure in which 'yong' (use) is the main verb, as evidenced by the fact that negation is only licensed on *yong* 'use' and not on *chi* 'eat':

- (ii) * tamen bu chi fan yong kuazi (iii) tamen chi fan bu yong kuazi
 they not eat rice use chopsticks they eat rice not use chopsticks
 'They don't eat with chopsticks.'

mantic role to assign to its object, i.e., it is thematically empty, or it is somehow a defective thematic role assignor. Given that each coverb identifies a specific thematic role, we can assume that the coverbs do have residual semantic content, and hence conclude that they are defective thematic role assignors and must identify their thematic role with a role in the lexical conceptual structure of the main verb.

Further evidence for coverbs as defective role assignors comes from the licensing of coverbs in NP. The examples in (8–10) show that coverbs are only licensed in NP under two conditions; either the head N has a thematic structure which it identifies with the defective thematic structure of the coverb; or the coverb is licensed by a main verb in a relative clause structure. Thus, in (8), the head N *xingqu* 'interest' has the thematic structure <Experiencer, Theme> and assigns the Theme to the object of the coverb *dui* 'to/against'.

- (8) ta dui zhejian shi de xingqu
 her to this matter PT interest
 'her interest in this matter'

In contrast, the head N in (9) has no thematic structure, so the coverb *cong* 'from' must appear in a relative clause structure with an appropriate verb as in (10), in order to be licensed.

- (9) * cong Beijing de ren
 from Beijing PT person
 'a person from Beijing'
- (10) cong Beijing lai de ren
 from Beijing come PY person
 'a person from Beijing'

The data in (11) and (12) appear to provide counterexamples to the generalisation outlined above, in that the coverbs *zai* 'at' and *gei* 'give' appear to be licensed with neither a theta marking head noun, nor an additional verb in a relative clause structure. However, these particular coverbs also have main verb use, so these examples can be treated as relative clauses with *gei* and *zai* as the main verbs in the relative clause. Indeed, closer attention to the interpretation of (12) reveals that only the main verb interpretation of *gei* is available and not the coverb benefactive interpretation:

- (11) zai zhuozi shang de shu
 at table on PT book
 'the book on the table'

- (12) *gei ni ce shu*
 give you PT book
 'the book given to you' (not 'the book for you')

Thus, we can conclude that coverbs are defective theta markers and need to be licensed by a theta marking lexical head.

If the semantic role of the coverb object is part of the lexical conceptual structure of the main verb, but cannot be directly licensed by the main verb, then we can assume that the coverb is there to formally license the role. The question that remains is what sort of formal licensing is the coverb required for?

2.3 Licensing behaviour of coverbs

Insight into the licensing behaviour of the coverbs is afforded by closer inspection of the interaction between benefactive marking and transitivity. A common benefactive coverb is the verb *gei*, illustrated in (14a) and (14b), which also has a main verb use meaning 'give', as in (13).

- (13) *wo gei ni san ben shu*
 I give you three CL books
 'I'll give you three books.'
- (14) a. *ta gei wo mai le san ben shu.*
 she give me buy three CL books
 'She bought three books for me.'
- b. *ta gei wo ban le xuduo shiqing*
 she give me deal with AP many situations
 'She has dealt with a lot for me.'

As a main verb, *gei* is a 3-place predicate. Note that the main verbs in (14a) and (14b) are both transitive. If we turn now to benefactive marking with intransitive verbs, we find an interesting result. It is no longer possible to license the benefactive with *gei*; instead the alternative benefactive marker *wei* must be used:

- (15) a. * *qing gei wo xiao.*
 please give me smile
- b. *qing wei wo xiao*
 please for me smile
 'Please smile for me.'

It might be argued that this suggests that there are different types of benefactives—in other words, that the distinction is semantic. However, the following example points to a more formal explanation:

- (16) a. qing gei wo xiao yixia.
 please give me smile one bit
 'Please smile a bit for me.'

In this example, the same verb is used, but this time with the temporal/aspectual complement *yixia* which indicates that the event is brief. The important point about *yixia* in this context is that it is a nominal expression appearing in complement position and hence renders the verb superficially transitive. With *xiao* now superficially transitive, we find that *gei* is again acceptable as benefactive marker. These facts can be explained by looking again at the main verb use of *gei*.

As a main verb, *gei* is ditransitive; hence at the level of predicate argument structure, it is a 3-place predicate. Since positions on the PAS of a head must be saturated for the resulting expression to be well-formed, this provides us with an explanation for the contrast in (15a) and (16a). If we assume that a verb used in the coverb position retains the full PAS of its main verb use, then the example in (15a) is ill-formed because a position in the PAS of *gei* remains unsaturated.⁵ The example in (16a), on the other

⁵ It was pointed out by participants at ICCL 6 (International Conference on Chinese Linguistics) that with strong imperative intonation intransitive *xiao* is licensed with *gei* :

- (i) gei wo xiao!
 give me smile
 'smile!'

This reflects a general pattern that *gei* is licensed with intransitive verbs in strong imperatives, hence (ii) is ungrammatical, but (iii) is fine:

- (ii) * ta gei wo si le (iii) ni gei wo si ba!
 he for me die AP you for me die SFP
 'he died for me.' 'Go to hell!'

However, it would seem to be a general property of strong imperatives that they can involve at least an apparent reduction in argument structure. This can be seen with verbs like *chang* 'sing', which is obligatorily transitive. For the equivalent of the English intransitive use of *sing*, Chinese *chang* combines with a cognate object *ge* (lit. 'song'). Hence the contrast in (iv). Despite this strong requirement of transitivity, we find that in (v) the imperative *chang* is well formed without *ge*:

- (iv) ta chang * (ge) (v) chang!
 he sing * (song) 'Sing!'
 'he's singing.'

Thus the example in (i) does not pose a problem for the analysis of *gei* given here, but rather raises an interesting puzzle for the analysis of strong imperatives and the distinction between strong and weak imperatives. An anonymous reviewer points out that cognate objects can also be omitted

hand, is well-formed, because the aspectual complement *yixia* saturates the remaining argument position of *gei*.

The ungrammaticality of (15a) can also be resolved by verb reduplication:

- (16) b. qing gei wo xiao xiao.
 please give me smile smile
 'Please smile.'

Clearly, here we need to argue that the copy of the verb saturates the extra argument position in the same way as the aspectual complement *yixia* is argued to. The idea that the verb copy is a separate syntactic unit which may fill an argument position is supported by the observation that the second verb in verb reduplication may be quantified:

- (16) c. qing gei wo xiao yi xiao
 please give me smile one smile
 'Please smile for me'. (Please give me a smile.)

Like 'yixia', the verb copy is also an aspect marker.

Support for such an approach comes from the *ba*-construction. In the *ba* construction, the VP following the *ba* phrase cannot be a simple V but must consist of more than one grammatical unit (Rhys 1992, Wang 1987). This requirement can be met in a number of ways including an internal object, or an aspectual complement such as *yixia* or verb reduplication (data adapted from Wang 1987):

- (17) a. * Ni ba zhe shi shuo.
 you PT this matter speak
 b. Ni ba zhe shi shuo yixia.
 you PT this matter speak one bit
 'You say something about this matter.'

when conjoined with another verb in 'you x you y' (both x and y) constructions:

- (vi) ta you chang you tiao.
 she both sing and dance.
 'She both sang and danced.'

The reviewer suggests that the reduction in argument structure in (v) may therefore not be due to the strong imperative. However, what is important here is not how we account for the reduction in argument structure in these two constructions (I leave that for future research), but rather more straightforwardly to show that strong imperatives do license a reduction in argument structure. Hence, the grammaticality of (i) does not undermine the argument structure analysis of (16) given above.

- c. Ni ba zhe shi shuo shuo.
 you PT this matter speak speak
 'You say something about this matter.'

Thus we can conclude that *gei* is a 3-place predicate both in its main verb use and in its coverb use. This account of the facts in (15) and (16) based on argument structure brings us a step closer to our goal of a single lexical representation for both coverb and main verb uses of those heads that appear in both structural positions. The apparent reduction in argument structure originally associated with the coverb use of a main verb turns out not to happen.

3. ARGUMENT STRUCTURE ANALYSIS OF COVERBS

In this analysis, then, I assume a level of predicate argument structure that mediates between thematic information in lexical conceptual structure and syntactic structure. I adopt Higginbotham's (1985) system in which arguments are projected into the syntax to be saturated (discharged) by an XP. In addition, thematic roles, under this system, must be assigned to XP via an argument position. This requires an extension of the Theta Criterion to ensure that all argument positions on the PAS are saturated by an XP and *mediate* the assignment of a thematic role to that XP (Adger & Rhys 2000). Note that under this approach it is the PAS of a head and not the thematic structure that indicates the number of elements obligatorily selected by the head in the syntax, since the thematic structure will also indicate the range of 'theta marked adjuncts' that are optionally licensed via another argument-bearing head. Hence, there is no clause requiring that all thematic roles be assigned to an argument position.

Extended Theta Criterion:⁶

- A. Every discharged argument position must be assigned a thematic role.
- B. Thematic roles are only assigned to discharged argument positions.
- C. Every argument position must be discharged.

How do these assumptions allow an explanation of the coverb facts mentioned above, and at the same time avoid redundancy in the lexical representation of coverbs? Firstly the a-adjunct status of the coverb

⁶ Note that under minimalism, an argument with no theta-role is not a legitimate object and hence violates the principle of Full Interpretation and causes a derivation to crash (Chomsky 1995: 347). Thus clause (A) of the Theta Criterion at least is reducible to Full Interpretation.

phrase—a consequence of the licensing of positions from the thematic structure of the main verb via the mediation of the PAS of the coverb. In other words, since the thematic role of the coverb object is indirectly assigned by the main verb, we would expect it to share some behaviours with arguments of the main verb. Assuming a version of Higginbotham's system of argument percolation and saturation, this mediation of the thematic role by the coverb comes about through identification of the predicate argument structure of coverb and main verb as they project in syntax. This is an extension of Higginbotham's system which only envisaged identification of individual arguments, rather than complete argument structures. It is proposed that unification would allow for predicate argument structures of different varieties to merge to form a single predicate argument structure.

The question that remains is why the predicate argument structures of the two verbal heads should be forced to merge. The answer lies with the thematic properties of the coverbs. Recall that although each coverb identifies a specific thematic role, they were shown to be defective thematic role assigners. Since they cannot independently assign a thematic role, the Theta Criterion requires that the object of the coverb is assigned a thematic role by identification with a non-defective thematic role assigner. This requirement of identification, combined with the fact that the coverb retains the full argument structure of its main verb use, leads to a merging of predicate argument structure with the main verb, since the argument positions of the coverbs must be discharged and assigned a thematic role to be well formed.⁷

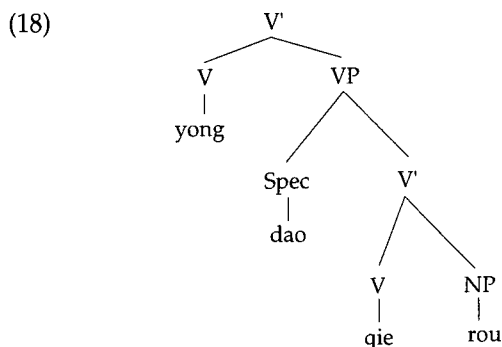
However, such a solution leads to lexical redundancy in the case of those coverbs that can independently license their objects as main verbs, since it requires one entry for main verb use with independent thematic role assignment, and a separate entry with defective thematic role assignment for coverb use. For a thematic account of the unification of the

⁷ There are some obvious parallels here with Larson's account of the semantic redundancy of *to* in the English double object construction. Larson assumes that the lexical representation of *to* is uniformly contentful and the semantic redundancy in the double object construction results from the subsumption of the thematic role of *to* by the main verb. Implicit in Larson's account is the assumption that this subsumption is a consequence of the Case marking requirements of *V*. Note that in the case of the coverbs, the nominal data in (8–12) show clearly that they are not merely redundant but actually defective, so a subsumption account alone would not account for either the ill-formedness of (9) or the restriction on the interpretation of (12).

two predicate argument structures, we need first to explain what happens to the thematic structure of coverbs that can also appear as main verbs. For this, we turn to the phrase structure of the coverb construction.

4. PHRASE STRUCTURE

In order to account for the defective role assigning properties of the coverb, this analysis exploits the lexical/functional distinction and the basic insight that thematic roles can only be assigned by lexical heads and never by functional heads (Grimshaw 1991, Radford 1997). Given this distinction, the proposal here is that coverbs are defective theta markers because they appear as functional heads in the verbal projection of the main verb, and functional heads cannot theta mark. In other words, the coverb construction has a VP-shell type of structure in which the coverb heads a higher (functional) VP and licenses its 'object' in the Spec of the lower (lexical) VP:



This structure captures the fact that the coverbs in this construction function as purely grammatical items involved in formal licensing and provides a legitimate structure for theta marking of the coverb object by the main verb.⁸

This is a fairly radical departure from the standard assumption that the coverb construction involves adjunction of an adverbial constituent headed by the coverb. However, binding data involving the reflexive *ziji* suggest that it is, nonetheless, the correct structure. As a long distance

⁸ It seems plausible that the unification of the argument structures of the coverb and the main verb could be treated as a consequence of covert raising of the main verb to the higher functional V parallel to overt raising of V to *v* where *v* is an empty light verb, providing further support for this structure.

anaphor, *ziji* can be bound locally or remotely, but crucially, it is argued that a potential binder must be a *c-commanding* subject, and cannot be an object (Huang & Tang 1989, Sung 1989):

- (19) wo_i ga x_ssu Lisi_j ziji_{i/*j} de fenshu.
 I tell Lisi self's grade
 'I told Lisi my own grade.'

Interestingly, when we turn to the coverb construction we find ambiguity in the interpretation of *ziji*, which can be bound either by the subject or by the coverb object:

- (20) ta_i gei Zhangsan_j mai-le ziji_{i/j} de qiche.
 He give Zhangsan sell-AP self's car
 eithe:: 'He sold Zhangsan's car for him.'
 or: 'He sold his own car for Zhangsan.'

From this data, we can conclude that adjunction of a coverb phrase (to either V' or VP) is not the correct approach since the coverb object (here *Zhangsan*) would be too deeply embedded to act as a potential *c-commanding* binder for the reflexive *ziji*. Instead, the data points to an analysis in which the 'object' of the coverb is not embedded in a constituent headed by the coverb, but directly *c-commands* the object of the main verb. Thus the binding data provides clear support for the structure given in (18).⁹

A further advantage of the structure in (18) is that it simplifies any account of the A-not-A question form. This construction canonically involves reduplication of a matrix verbal head. Given this analysis of the coverbs, the fact that a coverb can be reduplicated in the A-not-A construction is expected. Lastly, crosslinguistic support for using a VP-shell type analysis for coverbs also comes from languages with so-called applicative constructions which allow alternations for instrumental and locative phrases parallel to the Dative Shift in English (Baker 1985).

This analysis offers a very straightforward account of the defective theta marking properties of the coverbs, but replaces the original problem with a new one: how are coverbs licensed as either lexical or functional heads without specifying two lexical entries? Here again, we can adopt an assumption already extant in some versions of the theory: since category labels are actually a shorthand for feature bundles, we can assume that

⁹ Note that while the data supports a VP-shell analysis of the coverb construction, interestingly (19) would seem to provide evidence against a Larsonian analysis of double object constructions in Chinese.

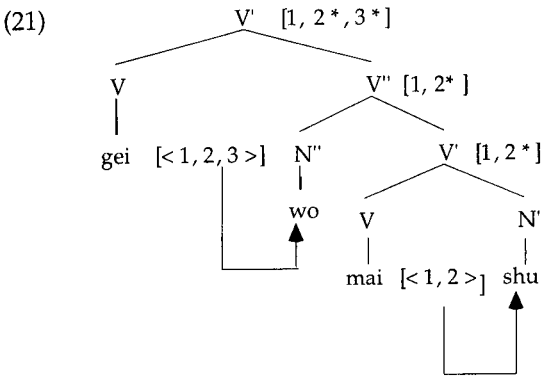
lexical and functional categories are differentiated by the feature $\pm F$, where $+F$ is functional and $-F$ lexical (Grimshaw 1991, Radford 1997). We can now account for the appearance of some coverbs as either lexical or functional without creating any new machinery simply by leaving the F value of those coverbs as unspecified.

5. ILLUSTRATION OF THE ANALYSIS

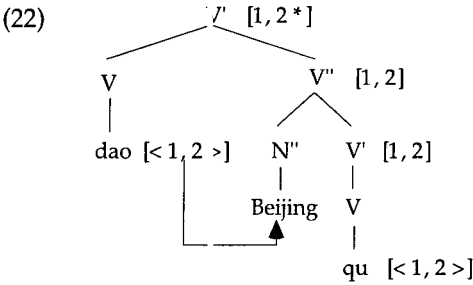
We are now in a position to develop some examples to show how the analysis actually works, and explore the consequences and predictions of this approach.

5.1 Merging internal arguments

In the following example (21), the triadic coverb *gei* unifies its predicate argument structure with the main verb *mai* 'buy', yielding a three place predicate argument structure which licenses the Agent, Theme and Benefactive from the thematic structure of the main verb:



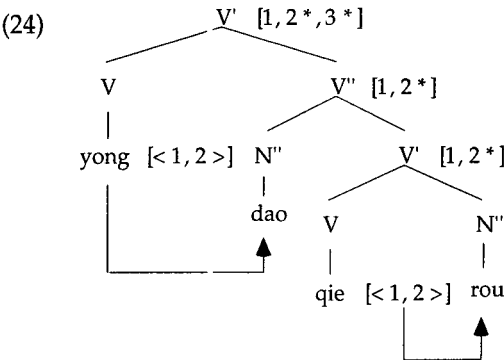
In (22) the main verb *qu* is a two place predicate with an optional internal argument. In this example, the internal argument is not discharged, but percolates up the tree to identify with the internal argument of the coverb *dao* 'arrive'. The result is the merged two place predicate argument structure with the internal argument discharged in Spec VP by the coverb object:



Note that this allows us to explain the following alternation, since in both versions *Beijing* saturates the internal argument of *qu* and is theta marked by *qu*:

- (23) a. ni dao Beijing qu.
 you arrive Beijing go
 'You go to Beijing.'
- b. ni qu Beijing
 you go Beijing
 'You go to Beijing.'

In the above example, the internal argument of the main verb identified with the internal argument of the coverb, and the unification of the two dyadic PASs resulted in a single dyadic PAS. In example (24) below, the internal argument of the main verb is discharged in VP and percolates up already saturated. Hence, it does not identify with the internal argument of the coverb which is available to license the Instrumental role from the thematic structure of the main verb:



Thus in this example, the internal arguments of the main verb and the coverb are discharged separately, so the final PAS is a three place predicate.

5.2. External arguments

Note that the analysis thus far has tacitly assumed some notion of external argument in the unification of the predicate argument structures of the main verb and coverb. This ensures that the Agent of the main verb surfaces as matrix subject, but does not get licensed in the coverb object position. This is not just a technical necessity, but makes some interesting predictions with respect to the argument structure of the lower (lexical) verb. More precisely, we would expect it to be possible that where the main verb does not have an external argument, its subject can be licensed in the coverb 'object' position.

This expectation is borne out by an interesting set of data involving the coverb *gei*. In the examples we have seen so far, coverb *gei* is interpreted as a benefactive marker, as in:

- (25) *ta gei wo mai shu.*
 she give me buy book
 'She is buying a book for me.'

However, we find another set of data which seem on the surface to have the same structure, but where *gei* has an interpretation close to English 'let':¹⁰

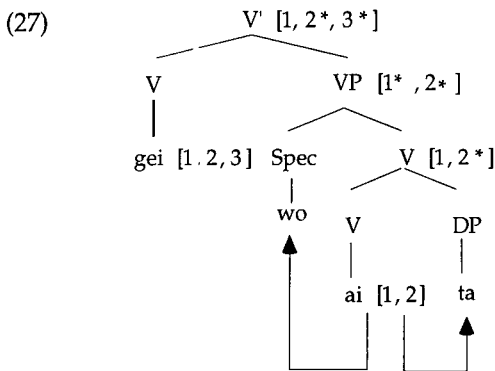
- (26) a. *gei wo kan.*
 give me see
 'Let me see!'
- b. *qing gei wo lai ni jia.*
 please give me come your home
 'Please let me come to your home.'
- c. *qing gei wo ai ta*
 please give me love her
 'Please let me love her.'

In these examples, the NP following *gei* is actually interpreted as the subject of the following main verb. There are two approaches that can be taken to this data. The first is to assume two distinct lexical entries for *gei*, but this would be an unwelcome solution with no explanatory value. The alternative is to look at the main verb appearing with *gei* to see if it provides the key to the change in interpretation. Here we immediately find an interesting result. The verbs in this set of data all crucially involve non-Agentive predicates: *kan* 'see', and *ai* 'love', both have Experiencer sub-

¹⁰ Not all speakers accept 26b & c. It is not clear to me yet if this is a matter of dialect or idiolect.

jects, and *lai* 'come' is an unaccusative verb with a Theme subject.¹¹ By contrast, all the examples above, in which *gei* marks the Benefactive, are examples involving an Agentive predicate. This points to an explanation based on argument structure for the change in interpretation of *gei*.

To account for this data, we need to adopt a relative prominence approach to the notion of external argument (Grimshaw 1990, Higginbotham 1935). This then has implications for the unification of the argument structures of the two verbs in the construction. The external argument of *gei* is an Agent, and is the most prominent on both a thematic and an aspectual hierarchy. If the main verb is also Agentive, its external argument will be equally prominent, and the two arguments will be forced to identify as the merged external argument in the overall combined argument structure. This is the case we have seen where *gei* has a benefactive interpretation. Where the external argument of the main verb is non-agentive (and equally where the main verb has no external argument as in the case of *lai* 'come', that argument will be relatively less prominent in the merged argument structure than the external argument of *gei*. Hence, we would expect the external argument of *gei* to appear as the overall subject, and the subject of the main verb to be licensed in Spec VP, exactly as we get in (26), illustrated in the tree structure in (27):



¹¹ A reviewer offers (i) as counterexample to this claim:

- (i) *gei wo chi*
give me eat
'Let me eat.'

However, my informant interprets this not as 'Let me eat' but 'Give it to me to eat'.

Thus we can see that the analysis of this superficially very different use of *gei* in fact falls out automatically from the account given of the phrase structure and argument structure of the coverbs.

6. CONCLUSION

This analysis accomplishes a number of aims, and brings with it a number of theoretical implications. Firstly, coverbs are given an analysis which captures both the a-adjunct status and the binding properties of the coverb object. The important insight here is that although the coverb object is not necessarily an argument of the main verb, it is nonetheless assigned a thematic role by the main verb, and hence must be in an appropriate configuration with the main verb. The role of the coverb itself is reduced to one of simple formal licensing. Secondly, we have avoided lexical redundancy in the case of coverbs that also function as main verbs. This is achieved by exploiting an existing distinction between lexical and functional heads; namely the distinction that only lexical heads can assign thematic roles. The properties of the verbs that can be either main verb or coverb are thus treated as a result of simple feature underspecification. Note that if this approach is correct then a consequence for the theory of categorial features is that F, the feature that distinguishes lexical categories from functional categories must be a primitive feature on a par with N and V.

The analysis relies centrally on a level of predicate argument structure that mediates between the lexical semantic properties of a head and syntactic structure. Current approaches to argument structure can be divided into a percolation approach (e.g., Higginbotham 1985) and a configurational approach (e.g., Hale & Keyser 1993). The data and analysis presented here present serious problems however for the configurational approach to argument structure. In particular, the data involving the triadic coverb *gei* could not easily be accounted for by a strictly configurational approach. Lastly, in the debate over the definition of external argument, the data and analysis given here argue for a relative prominence approach, since a configurational approach or an absolute approach would not be able to account for the change in interpretation of *gei* with non-Agentive subjects.

REFERENCES

- ADGER, DAVID & CATRIN SIÂN RHYS. 2000. Eliminating disjunction in lexical specification. In Peter Coopmans, Martin Everaert & Jane Grimshaw (eds.), *Lexical Specification and Lexical Insertion*. Amsterdam: John Benjamins, 1-26.
- BAKER, MARK. 1935. The Mirror Principle and morphosyntactic explanation. *Linguistic Inquiry* 16: 373-415.
1988. Theta theory and the syntax of applicatives in Chichewa. *Natural Language and Linguistic Theory* 6: 353-389.
1989. Object sharing and projection in serial verb constructions. *Linguistic Inquiry* 20: 513-553.
- CHOMSKY, NOAM. 1995. *The Minimalist Program*. Cambridge, Massachusetts: M.I.T. Press.
- ERNST, THOMAS. 1994a. Adjuncts and Chinese phrase structure. *Journal of Chinese Linguistics* 22: 41-71.
- 1994b. Conditions on Chinese A-not-A questions. *Journal of East Asian Linguistics* 3 3: 241-264.
- GRIMSHAW, JANE. 1988. Adjuncts and argument structure. Occasional Paper 36, Centre for Cognitive Science, MIT, Cambridge Massachusetts.
1990. *Argument Structure*. Cambridge, Massachusetts: M.I.T. Press.
1991. Extended projection. Unpublished manuscript, Brandeis University.
- HALE, KENNETH & SAMUEL J. KEYSER. 1993. On argument structure and the lexical expression of syntactic relations. In Kenneth Hale & Samuel J. Keyser (eds.), *The View from Building 20*. Cambridge, Massachusetts: M.I.T. Press, 53-109.
- HIGGINBOTHAM, JAMES. 1985. On semantics. *Linguistic Inquiry* 16: 547-93.
- HUANG, JAMES & JANE TANG. 1989. The local nature of the long-distance reflexive. In J. Carter and Rose-Marie Déchaine (eds.), *NELS 19: Proceedings of the North East Linguistic Society*. Amherst, Massachusetts: University of Massachusetts Graduate Student Linguistic Association, 191-206.

- LARSON, RICHARD. 1988. On the double object construction. *Linguistic Inquiry* 19: 335-91.
- LAW, PAUL. 1996. A note on the serial verb construction in Chinese. *Cahiers de Linguistique—Asie orientale*. 25: 199-233.
- LI, CHARLES, & SANDRA THOMPSON. 1981. *Mandarin Chinese: a Functional Reference Grammar*. Berkley, California: University of California Press.
- MATHEWS, STEPHEN & MOIRA YIP. 1994. *Cantonese: a Comprehensive Grammar*. London: Routledge.
- RADFORD, ANDREW. 1997. *Syntax: a Minimalist Introduction*. Cambridge, UK: Cambridge University Press.
- RHYS, CATRIN SIÂN. 1992. Functional Projections and Thematic Role Assignment in Chinese. PhD dissertation, University of Edinburgh.
- SPEAS, MARGARET. 1990. *Phrase Structure in Natural Language*. Dordrecht: Kluwer.
- SUNG, LI-MAY. 1989. Long distance reflexives in Chinese. *Proceedings of the Third Ohio State University Conference on Chinese Linguistics*: 244-69.
- WANG, MINGQUAN. 1987. Transitivity and the *ba* Construction in Mandarin. PhD thesis, Boston University Graduate School, Boston, Massachusetts.