Mutually Dependent Markers in Clause Pairs

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Abstract

This paper investigates the morphosyntactic properties of the mutually dependent markers in three representative constructions in Mandarin: the disjunctive *yaome… yaome* 'or…or' construction, the metalinguistic comparative *yuqi…buru* 'than… rather' construction, and the simultaneous temporal *yibian…yibian* 'when…when' construction. It argues that the two mutually dependent markers in each of these constructions originate from the morphological split of a functional element that unifies coordinate and modification constructions.

Keywords

mutually dependent marker, coordination, modification, split, J-set

1 Introduction

The empirical issue of this paper is the morphosyntactic properties of the underlined formatives of the three Mandarin Chinese constructions in (1). (1a) represents a disjunctive coordinate construction.[1] (1b) exemplifies a metalinguistic comparative construction (cf. Giannakidou & Yoon 2011). In this construction, each formative is followed by the complementizer *shuo* 'say'. (1c) can be interpreted as a conjunctive coordinate construction.[2]

(1)   a. Kefei <u>yaome</u> zai kan dianying, <u>yaome</u> zai guang gongyuan.
          Kefei or   PRG see movie   or   PRG stroll   park
          'Kefei is either seeing a movie or strolling in a park.'
       b. <u>Yuqi</u>-shuo Kefei zai   guang gongyuan, <u>buru</u>-shuo ta zai kan dianying.
          than-C   Kefei PRG stroll   park   rather-C   he PRG see movie
          'Kefei is seeing a movie rather than strolling in a park.'
       c. Kefei <u>yibian</u> zai   guang gongyuan, <u>yibian</u> zai kan dianying.
          Kefei when PRG stroll   park   when PRG see movie
          'Kefei is seeing a movie and he is strolling in a park at the same time.'

Removing one of the two underlined formatives in these constructions will render the sentence unacceptable. For example, compared with (1b), neither (2a) nor (2b) is acceptable.

(2)   a. *Kefei zai guang gongyuan, <u>buru</u>-shuo ta zai   kan dianying.
            Kefei PRG stroll   park   rather-C   he PRG see movie
       b. *<u>Yuqi</u>-shuo Kefei zai guang gongyuan, ta zai   kan dianying.
            than-C   Kefei PRG stroll   park   he PRG see movie

I thus call the paired formatives in such constructions Mutually Dependent Markers (MDMs). Such constructions differ from the *(either)...or* and *(both)... and* constructions in English, the *(et)...et* 'and...and' construction in French, and the *(huozhe)...huozhe* 'or...or' and *(you)...you* 'and...and' constructions in Mandarin. In this latter group of constructions, the first formative is optional, as seen in (3).

(3)   a. (either) sour or salty   b. (both) sour and salty
       c. (huozhe) suan huozhe xian   d. (you) suan you xian
          or   sour or   salty   and   sour and salty
          'sour or salty'   'both sour and salty'

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[1] If *yaome* 'or' appears exclusively with the second clause, as in (i), it expresses the speaker's willing (Lü et al. 1999: 594). Unlike in (5), the positions of the two clauses in (i) cannot be interchanged. (i) is not a mutually dependent marker construction.
     (i) Dajia   dou han   lei,   <u>yaome</u> xiuxi liang tian ba.
         everyone all   claim tired or   rest two   day   IMP
         'Since everyone feels tired, let's rest for two days.'
[2] Abbreviations in the gloss: C: complementizer; CL: classifier; IMP: imperative; MOD: modification; PRF: perfective; PRG: progressive.

In such constructions, the occurrence of the first one is contingent upon the occurrence of the second one, but not vice versa. Moreover, when the optional one occurs, it imparts a semantic contribution. For example, *both* marks a coordinate nominal to be exclusively distributive (Kayne 1994: 146, n. 16; Zoerner 1999: 330; Progovac 1999, 2002; De Vries 2005; among others), and *either* restricts the disjunctive to be exclusive disjunctive. Some scholars argue that the optional one in the constructions are focus markers (e.g., Hendriks 2004; Zhang 2008; Wu 2022).

MDMs are not focus markers, since if they do not occur in pairs, the construction is unacceptable, instead of unfocused. Consequently, their distribution must be decided by morphosyntactic factors rather than information structure considerations. This paper does not delve into constructions like those in (3).

The research questions of this paper are as follows: What are the morphosyntactic status of such MDMs? Why must they occur in pairs?

In Section 2, I elaborate on the mutual dependencies of MDMs, asserting that each pair of MDMs is base-generated as components of a single functional element. In Section 3, adopting Zhang's (2022a, 2022b, 2023) unified theory of coordination and modification, I consider the single functional element as a categoryless and key building element in both coordinate and modification constructions. Subsequently, in Section 4, I demonstrate how the components of this categoryless functional element are divided into the two clauses of a construction in externalization. Section 5 concludes the paper.

2 The basic properties of mutually dependent markers

2.1 The mutually dependent relation

In an MDM construction, each of the two clauses is introduced by a functional formative (the underlined parts in (1)). The two formatives exhibit mutual dependency in their occurrence and forms. First, the two formatives must occur in pairs. The absence of either of them leads to unacceptability, as discussed in Section 1. Unlike a normal functional element, neither part of an MDM pair can select any element alone. In other words, each of them is intrinsically incapable of functioning without the other, but their combination can mark the semantic relation of the two clauses (to be elaborated in Section 2.2). Second, although the two formatives can be either in the same form, such as *yaome…yaome* and *yibian…yibian*, or in different forms, such as *yuqi…buru*, *yaome…buran* 'or…or', *yaome…fouze* 'or…or' (see note 3), the forms of the pair are fixed. The following pairs are all unacceptable: **yaome…huozhe* 'or…or', **yibian…tongshi* 'when… while', **yuqi…yinggai* 'than…should'. Essentially, each formative on its own is incomplete, but their combination results in a well-formed expression.

It is unlikely for the mutual dependency to be a morphological agreement dependency, since each marker of the latter kind of dependency should have morphological features, such as person, gender, number, case, or negative features.

The multiple markers in such a dependency should be compatible with each other in such features. However, this is not the case for MDMs. Therefore, neither part is an agreement marker of the other in each MDM pair.

The mutual dependencies in their functions and forms between the two formatives in an MDM construction motivate me to propose the following claim:

(4)   Claim A: The two MDMs in a construction are base-generated as components of a single functional element in the syntactic structure.

The nature of this functional element is further explored in the subsequent subsection.

2.2 Coordinators or modification markers?

In this subsection, we discuss the semantic relation between the two clauses in each of the three representative MDM constructions mentioned in (1). In the disjunctive *yaome...yaome* construction, the basic meanings of the two clauses can be expressed in either order without altering the basic meaning of the whole construction. (5a) and (5b) are synonymous.

(5)   a. Kefei <u>yaome</u> zai kan dianying, <u>yaome</u> zai   guang gongyuan.
          Kefei or   PRG see movie   or   PRG stroll   park
          'Kefei is either seeing a movie or strolling in a park.'
       b. Kefei <u>yaome</u> zai guang gongyuan, <u>yaome</u> zai kan dianying.
          Kefei or   PRG stroll   park   or   PRG see movie
          'Kefei is either seeing a movie or strolling in a park.'

Such a phenomenon is exclusive to symmetrical coordination, indicating that the *yaome...yaome* construction is a type of coordinate construction. Accordingly, the complex functional element identified in (4) is a coordinator (the disjunctive type).[3]

In the metalinguistic comparative *yuqi...buru* construction, it is not possible to interchange the positions of the two clauses. (6a) and (6b) do not convey the same meaning.

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[3] In the other two varieties of the *yaome* constructions (I thank an anonymous reviewer for such examples), the basic meanings of the two clauses can also be expressed in either order without affecting the basic meaning of the whole construction.
   (i) a. Ni   yaome jieshou, buran jiu   likai.
            you   or   accept   or   then leave
            'You either accept it, or leave.'
        b. Ni   yaome likai, buran jiu   jieshou.
            you   or   leave or   then accept
            'You either leave, or accept it.'
   (ii) a. Shiwu yaome shi haode, fouze jiu   shi huaide.
            thing   or   be good or   then be bad
            'Things are either good or they are bad.'
        b. Shiwu yaome shi huaide, fouze jiu   shi haode.
            thing   or   be bad   or   then be goods
            'Things are either bad or they are good.'

(6)   a. <u>Yuqi</u>-shuo ta zai guang gongyuan, <u>buru</u>-shuo ta zai kan dianying.
      than-C   he PRG stroll park   rather-C   he PRG see movie
      'He is seeing a movie rather than strolling in a park.'
   b. <u>Yuqi</u>-shuo ta zai kan dianying, <u>buru</u>-shuo ta zai guang gongyuan.
      than-C   he PRG see movie   rather-C   he PRG stroll park
      'He is strolling in a park rather than seeing a movie.'

Giannakidou & Yoon (2011) claim that in a metalinguistic comparative construction, syntactically, the THAN clause adjoins to the other clause. Building upon their claim, I propose that the first clause in the two examples in (6) functions as an adjunct of the second clause. Consequently, the entire construction is a modification construction. Accordingly, the complex functional element identified in (4) is a modification marker.

In the simultaneous temporal *yibian…yibian* construction, both clauses encode durative events. Also, the meanings of the two clauses can be expressed in either order without altering the overall meaning of the whole construction. The two examples in (7) are synonymous, showing that the construction can be a symmetrical coordinate construction.

(7)   a. Kefei <u>yibian</u> zai guang gongyuan, <u>yibian</u> zai kan dianying.
      Kefei when PRG stroll park   when PRG see movie
      'Kefei is seeing a movie and is strolling in a park at the same time.'
   b. Kefei <u>yibian</u> zai kan dianying, <u>yibian</u> zai guang gongyuan.
      Kefei when PRG see movie   when PRG stroll park
      'Kefei is strolling in a park and is seeing a movie at the same time.'

However, if we add *de-shihou* 'MOD-time → when' to the end of the first clause, which appears in temporal adverbials only (cf. Lu 2023), the basic meanings of the two clauses can also be expressed in either order, without affecting the basic meaning of the whole construction, as illustrated in (8). The two examples in (8) have the same entailment, albeit with different information structures. Note that in Mandarin, an adverbial clause precedes the matrix clause in general. Therefore, in both (8a) and (8b), the first clause should function as an adverbial of the second clause. But unlike the usual pattern, the basic meanings of the two clauses can be expressed in either order, and their modifier-modified status can be interchanged, indicating that the *yibian…yibian* construction represents a symmetrical modification relation. This kind of construction is understudied to the best of my knowledge.

(8)   a. Kefei <u>yibian</u> zai guang gongyuan de-shihou, <u>yibian</u> zai kan dianying.
      Kefei when PRG stroll park   MOD-time when PRG see movie
      'When Kefei is strolling in a park, he is seeing a movie.'
   b. Kefei <u>yibian</u> zai kan dianying de-shihou, <u>yibian</u> zai guang gongyuan.
      Kefei when PRG see movie   MOD-time when PRG stroll park
      'When Kefei is seeing a movie, he is strolling in a park.'

The *yibian...yibian* construction poses a challenge to the absolute distinction between coordination and modification. The possibility for the basic meanings of the two clauses to be expressed in either order suggests a symmetrical coordinate construction, but the possible occurrence of a temporal expression such as *de-shihou* 'when' implies a modification construction. Then, the *yibian...yibian* construction can either be a symmetrical coordinate or a modification construction.

     The situation bears resemblance to Haegeman's (2022: 5) observation that an adverbial clause introduced by the temporal use of the complementizer *while* can get a conjunctive reading in examples like (9b) and (10b), similar to the coordinate constructions in (9a) and (10a), respectively.

(9)   a. John is doing a Ph.D. in Oxford <u>but</u> Bill did his first degree in Cambridge.
      b. John is doing a Ph.D. in Oxford <u>while</u> Bill did his first degree in Cambridge.

(10) a. John reads the Guardian <u>and</u> Mary reads the Times.
      b. John reads the Guardian <u>while</u> Mary reads the Times.

It is well-known that coordination can be asymmetrical, in the sense that one conjunct can function as an adverbial (e.g., Culicover & Jackendoff 1997). For example, the first conjunct in (11) denotes a condition, like a conditional modifier. See Freidin (2020: 48ff) for more examples of non-conjunctive uses of *and*.

(11) You drink one more can of beer <u>and</u> I'm leaving.
        (= <u>If</u> you drink another can of beer, I'm leaving.)

On the other hand, Progovac (1999) discusses the fact that certain modification constructions may have a conjunctive reading of two eventualities in English (e.g., *I read his paper quickly* may mean 'There is an event of me reading the paper, and the event was quick', in addition to the obvious manner modification reading).

     Given the examples in (7) through (11), it is apparent that coordination relation and modification relation are not always contrastive.

     The preceding discussion leads us to the following conclusion:

(12) a. The clauses in the *yaome ... yaome* construction have a coordinate relation.
      b. The clauses in the *yuqi ... buru* construction have a modification relation.
      c. The clauses in the *yibian ... yibian* construction have either a coordinate or
   a modification relation.

Based on the conclusion, I put forth the following claim:

(13) Claim B: The single complex functional element identified in Claim A can be
        either a coordinator or a modification marker.

What is the syntactic position of this functional element? Why do its components surface in different positions? These two issues will be addressed in Section 3 and Section 4, respectively.

3 The syntactic position of coordinators and modification markers

Zhang (2022a, 2022b, 2023) proposes a unified syntactic analysis of coordinate and modification constructions. In this novel analysis, one conjunct is merged with a categoryless functional element J (for *Junct*), acting as J's complement. Since the combination (called J-set) has no category, it must be merged with another conjunct, and it is this integrated conjunct that decides the category of the whole coordinate complex. Similarly, a modifier is also merged with J as its complement. Since the combination (i.e., the J-set) lacks a category, it must be merged with the modified expression, and it is the modified expression that decides the category of the whole complex. The structure is illustrated in (14).

(14)

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                    XP
                  /    \
            J-set       XP
            /   \
          YP     J
              coordinator/modification marker
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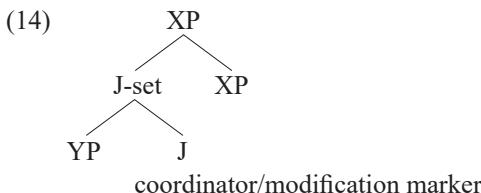
The lineal order of the sisters of each merge holds no significance. The sister of J is either a conjunct in a coordinate construction, or a modifier in a modification construction. The sister of J-set is either the other conjunct in a coordinate construction, or the modified expression in a modification construction (see Zhang 2023 for further discussions on the constructions involving more conjuncts and modifiers). The two levels of the merger in (14) capture several observations: Firstly, a modifier must occur with a modified element. Secondly, one conjunct must occur with another conjunct. Thirdly, the category of the sister of J cannot label the category of the whole construction.

In a coordinate construction, J is realized as a coordinator; and in a modification construction, J is realized as a modification marker, which is not overt in languages such as English, but is overt in some constructions in some other languages (Rubin 2003). For example, it can be the Mandarin enclitic *de* in certain types of modification constructions, and the Tagalog enclitic *-ng*, seen in (20) later. The null form of J for modification in a language, e.g., the absence of a modification marker in English, does not affect the existence of a modification relation in the language.

Both conjuncts and modifiers have been noted to exhibit island effects under certain conditions. Bošković (2020) tries to give a unified syntactic account, while some other scholars (e.g., Kehler 2002; Zhang 2010; Oda 2021; Altshuler & Truswell 2022) try to give an interface account. In any case, an island effect itself is unable to differentiate between coordination and modification.

Moreover, on the one hand, as a functional element, the J element can be semantically vacuous. In certain constructions, a coordinator is an expletive.

Consider (15). Bošković (2022: 28) highlights that the coordinator in such an example is an expletive. The interpretation of (15) is simply 'who saw whom', and thus "there is no coordination of the wh-phrases in the interpretation of this construction". Consequently, the coordinator in this context is a pure structure-builder without any semantic function.

(15) Kto   i   kogo   videl?   [Russian]
    who   and   whom   saw
    'Who saw somebody and who was it?'

On the other hand, certain semantic features can be bundled with the element that realizes J. This is seen in the contrasts among the conjunctive *and*, the disjunctive *or*, and the adversive coordinator *but*. It is also seen in the metalinguistic comparative and clausal comparison constructions in general. Semantically, all these constructions have an operator that must be associated with two clauses (e.g., Heim 1985). Although the THAN clause (or the standard-denoting AS clause in equatives) is classically treated as a modifier or adjunct, it is an argument semantically. Such a syntax-semantics mismatch has been recognized in the literature (e.g., Giannakidou & Yoon 2011: 641, and the references therein). In Zhang's J-theory, such an argument in semantics is syntactically represented as the complement of J, while the apparent matrix clause integrates and categorizes the J-set. We can specify that in the *yuqi...buru* construction, the J element there is bundled with the semantic features of a comparison operator.

Furthermore, it is crucial to note that the same J element can be used either as a conjunctive coordinator or a modification marker. For example, the classical Chinese word *er* is used as a conjunction in (16a), but a modification marker in (16b). Also, the linker *ru'* in Mayarinax acts as a coordinator in (17a) but a modification marker to introduce a purpose expression in (17b) (Tsai & Wu 2012: 167).

(16) a. xia   liang   **er**   dong   wen   [夏涼而冬溫]
      summer   cool   and   winter   warm
      'summer is cool and winter is warm'
   b. Zilu   shuai'er   **er**   dui   [子路率爾而對]
      Zilu   carelessly   MOD   answer
      'Zilu answered carelessly'

(17) a. S<um>'an eu' bauwak 'i' Tapas [**ru'** hab-un=nia'].   [Mayarinax]
      breed<AV> ACC wild.hog NOM Tapas   LK kill-PV=3.SL.OBL
      'Tapas bred hogs and then killed them.'
   b. S<um>'an [**ru'** pahab] cu' bauwak 'i'   Tapas.
      breed<AV> LK kill   ACC wild.hog NOM Tapas
      'Tapas bred hogs to kill.'

The unified analysis of coordination and modification captures the close relation between them observed in various constructions.

Drawing upon the above theoretical background and Claim B in (13), I put forth the following claim:

(18) Claim C: The single complex functional element identified in Claim B is J, which can be realized by a coordinator or a modification marker.

More specifically, J is realized as a disjunctive coordinator in the *yaome...yaome* construction, a metalinguistic comparative modification marker in the *yuqi...buru* construction, and either a coordinator or a modification marker in the *yibian...yibian* construction.

Next, why do the components of such a coordinator or modification marker surface in two positions in such constructions? This question is independent of Claim C. Identifying a functional head in syntactic computation does not provide insights into its realization. The answer to this question will be addressed in the next section.

4 Complex functional elements and their splitting

4.1 The dependency marking patterns

If element A depends on element B (e.g., a modifier depends on the modified element semantically and syntactically), a dependency marker can occur either with A or B (Nichols 1986). In (19a), the dependency marker *d-* occurs with the dependent element (the modifier), *ovxa* 'hot', and in (19b), the dependency marker *-i* occurs with the Head element *kůh* 'mountain' (Nichols 1986: 61, 58; the superscript M denotes a dependent element whereas the superscript H marks the Head element).

(19) a. ^{M}**d**-ovxa ^{H}xi   [Chechen]   b. ^{H}kůh-^{M}**i**   baland   [Tadzhik]
           hot   water(d-)   mountain high
        'hot water'   'high mountain'

In addition, a dependency marker can occur between A and B regardless of their order. For example, the enclitic *-ng* occurs between a modifier and its modified nominal in the Tagalog examples in (20a) and (20b).

(20) a. nasa mesa-^{M}**ng** ^{H}libro   b. ^{H}libro^M-**ng** nasa mesa   [Tagalog]
           on   table-L   book   book-L   on   table
        Both a and b: 'the book on the table'

In this case, the dependency marker is referred to as a linker (L). Zhang (2022a, 2022b, 2023) argues that if a single coordinator or modification marker occurs in a construction, it occurs in a linker position, although the coordinator can be either an enclitic or proclitic. This means that it is morphologically grouped with the expression to its right or left. Thus, the surface position of a modification marker and a coordinator might not be its syntactic position.

In addition to the three possible patterns of dependency marking mentioned above, there is a fourth pattern where a dependency marker occurs with both A and B, known as a double-marking pattern. Obviously, the dependency does not need to be marked twice, and thus one of the two markers is redundant. Nichols (1986: 72) provides the following example:

(21) hwan-^M**pa**   ^Hhana-^M**n**-chaw   [Huallaga (Huánuco) Quechua]
      John-GEN   above-3-LOC
      'above John'

Now, in the case of an MDM construction, it appears that both clauses are marked by a coordinator or a modification marker to indicate their dependency relation. This marking pattern falls under Nichols's double-marking pattern of dependency marking.

We have identified a complex functional element in MDM constructions in Section 2 (i.e., a coordinator or a modification marker) and determined its syntactic position in Section 3.1 (i.e., J). In this subsection, we have observed that the coordinate or modification dependency in the constructions is marked in the double-marking pattern found in other constructions cross-linguistically. In the next subsection, we will explain how this double-marking pattern is achieved morphosyntactically.

4.2 MDMs and the J component-splitting

A preposition can consist of multiple expressions, as demonstrated in (22a) and the Mandarin examples in (22b); a focus marker can be composed of two identical morphemes, as seen in the Mandarin examples in (23); and a complementizer can also be constructed using multiple expressions, as evident from the underlined part in each Mandarin example in (24).

(22) a. instead of, for the sake of, in spite of, with respect to, except for, by dint of, next to, in lieu of

b. chu-le,	wei-le,	wei-zhe,	gen-ju
except-PRF	for-PRF	for-PRG	root-evidence
'except'	'for'	'for'	'according to'

(23) a. dan-dan   b. jin-jin
      single-single   only-only
      'only'   'only'

(24) a. Wo jintian hen   zao   qilai   yi-bian gan   huoche.
         I   today very early get.up with-to catch train
         'I got up very early today so that I can catch the train.'
      b. Wo jintian hen   zao   qilai   yi-mian wu-le   huoche.
         I   today very early get.up with-not miss-PRF train
         'I got up very early today so as not to miss the train.'
      c. Wo jintian hen   wan qilai   yi-zhi-yu wu-le   huoche.
         I   today very late get.up with-to-to miss-PRF train
   'I got up very late today such that I missed the train.'

All these complex forms have evolved from the grammaticalization of certain lexical items throughout history. In their modern use, they are treated as a single unit. However, it is also possible for a disyllabic part to be separated from the other part of a complex form, to surface in another position to form its prosodic unit. In such cases, double-marking occurs.

If the internal components of a complex form do not surface next to each other in the modern use, the morphosyntactic position of each of these components needs to be identified in the system from the synchronic viewpoint of the modern language system. I assert the following claim:

(25) Claim D: Due to the morphosyntactic properties of the components within a complex functional element, the components can surface in different positions in externalization.

Specifically, it is possible for the two disyllabic components of a J element both to be proclitics, and each of them needs to precede a verbal or clausal expression. This explains why the MDMs are distributed in the two clauses in (1) although they are components of a single J element. Therefore, the fourth pattern of dependency marking introduced in Section 4.1 is observed. The rough morphosyntactic structure of (26a) is (26b). In (26b), J is realized as a <u>modification marker</u> composed of two proclitics, *yuqi* and *buru*. The two proclitics take the first and second clause as their morphological hosts, respectively.

(26) a. Yuqi-shuo Kefei zai guang gongyuan, buru-shuo ta zai kan dianying.
　　　 than-C　　 Kefei PRG stroll　park　　　 rather-C　 he PRG see　dianying.
　　　 'Kefei is seeing a movie rather than strolling in a park.'
　　 b.
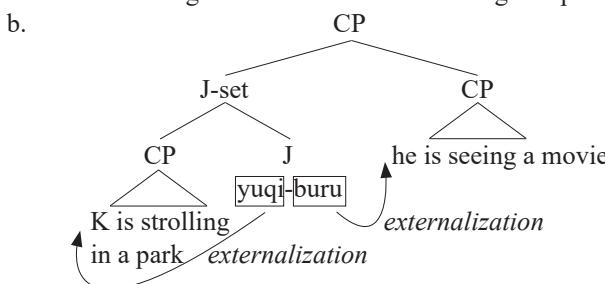
In a *yaome...yaome* construction, J is realized as a <u>coordinator</u> that is composed of two *yaome*s and both are proclitics taking a verbal or clausal expression as their morphological host. Since it is a symmetrical coordinate construction, either conjunct can be merged with J first. The rough structure of (27a) is (27b), and that of (28a) is (28b).

(27) a. Kefei <u>yaome</u> zai kan dianying, <u>yaome</u> zai guang gongyuan.
　　　 Kefei or　　 PRG see movie　　　 or　　 PRG stroll　park
　　　 'Kefei is either seeing a movie or strolling in a park.'

b.

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                        CP
              ┌─────────┴─────────┐
            CP                   J-set
        ┌────┴────┐         ┌──────┴──────┐
     K is seeing        J                  CP
     a movie      yaome─yaome         pro is strolling in a park
```

externalization   *externalization*
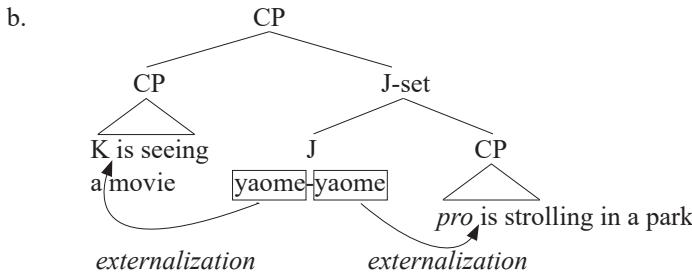
(28) a. Kefei <u>yaome</u> zai   guang gongyuan, <u>yaome</u> zai   kan dianying.
      Kefei or   PRG stroll   park   or   PRG see   movie
      'Kefei is either strolling in a park or seeing a movie.'

b.

```
                        CP
              ┌─────────┴─────────┐
            CP                   J-set
        ┌────┴────┐         ┌──────┴──────┐
     K is strolling      J                 CP
     in a park     yaome─yaome        pro is seeing a movie
```

externalization   *externalization*
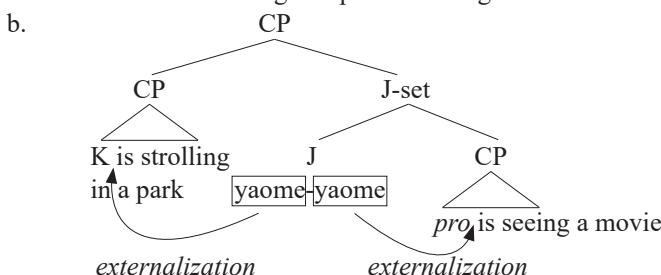
As for the *yibian...yibian* construction, J is realized as two *yibian*s, both of which are proclitics that take a verbal expression as their morphological host. It makes no difference to call this J a modification marker or a coordinator, since there is no semantic difference in this case (see Section 3). If the construction is treated as a coordinate one, since the relation between the two clauses is symmetrical, either of the two clauses can be merged with J first, resulting in two possible structures similar to those in (27b) and (28b). If the construction is treated as a modification one, since the modifier should be merged with J first and a modifier should precede the modified element in the language, the rough structure of (29a) is (29b). This left-branching structure resembles the one in (26b).

(29) a. Kefei <u>yibian</u> zai   guang gongyuan, <u>yibian</u> zai   kan dianying.
      Kefei when PRG stroll   park   when PRG see   movie
      'Kefei is seeing a movie when he is strolling in a park.'

b.

```
                        CP
              ┌─────────┴─────────┐
          J-set                   CP
      ┌─────┴─────┐          pro is seeing a movie
    CP            J
 K is strolling  yibian─yibian
 in a park
```

externalization   *externalization*
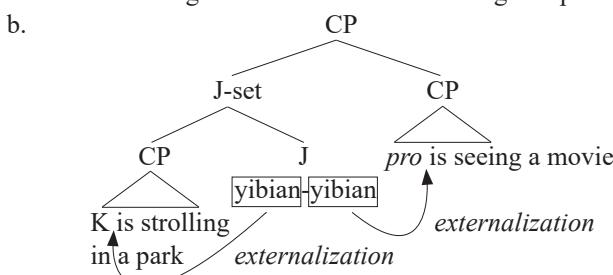
The *de-shihou* version of the *yibian...yibian* construction in (30a) has two layers of modification, and thus two Js. In the lower layer, the J is realized as the modification marker *de*, which links the clausal modifier to the modified noun *shihou* 'time'. In the higher layer, one component of J, i.e., one *yibian*, is cliticized to the left of the verbal expression to its left, and the other component of J, i.e., the other *yibian*, is cliticized to the left of the verbal expression to its right. A simplified structure of (30a) can be represented by (30b).

(30) a. Kefei <u>yibian</u> zai guang gongyuan <u>de-shihou</u>, <u>yibian</u> zai kan dianying
       Kefei when PRG stroll   park   MOD-time   when PRG see movie.
       'When Kefei is strolling in a park, he is seeing a movie.'
      b.
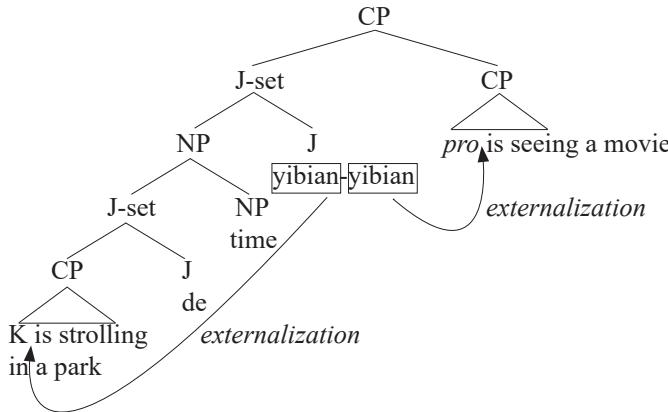
Three more descriptive points require clarification. First, the subject of the clauses can be topicalized to the left of each MDM. This is observed in the *yaome...yaome* construction in (1a), the *yibian...yibian* construction in (1c), and the *yuqi...buru* construction in (31). In this case, the host of each MDM seems to be a verbal expression instead of a full clause. In (32), as well as in (1b), the MDMs take a clause as their morphological host.

(31) Kefei yuqi-shuo zai guang gongyuan, *pro* buru shuo zai kan dianying.
      Kefei than-C   PRG stroll   park   rather-C   PRG see movie
      'Kefei is seeing a movie rather than strolling in a park.'

(32) Yaome Ali zai kan dianying, yaome Alan zai kan dianying.
      or   Ali PRG see movie   or   Alan PRG see movie
      'Either Ali is seeing a movie or Alan is seeing a movie.'

Second, there seems to be a parallelism in the hosts of the two MDMs in the same construction: they should both either take a clause or a verbal expression as their host. In the examples discussed above, this is satisfied. In contrast, in (33a), the first *yaome* takes a clause as its host and the second *yaome* takes a predicate as its host; in (33b), the first *yaome* takes a predicate as its host and the second *yaome* takes a clause as its host. Neither example is acceptable (I thank an anonymous reviewer for bringing my attention to this issue). The parallelism between conjuncts in

various aspects has long been observed in the literature (e.g., Zhang 2010 and the references therein). Thus, the one observed here is not a surprise.

(33) a. *<u>Yaome</u> ta zai kan dianying, ta <u>yaome</u> zai guang gongyuan.
      or   he PRG see movie   he or   PRG stroll park
    b. *Kefei <u>yaome</u> zai kan dianying, <u>yaome</u> Alan zai guang gongyuan.
      Kefei or   PRG see movie   or   Alan PRG stroll park

Third, both components of the J element in the three MDM constructions in (1) are proclitics that take a verbal or clausal expression as their host. Their hosts cannot be nominal (see Lü et al. 1999: 594 for this constraint on *yaome*). This is evident in the unacceptability of (34a) and (35a). (34b) and (35b) are acceptable due to backward ellipsis, as illustrated in (36a) and (36b), respectively.

(34) a. *Kefei tou-le   yaome shu   yaome zazhi.
      Kefei   steal-PRF or   book or   magazine
    b. Yaome Kefei yaome ni   tou-le   wode shu.
      or   Kefei or   you steal-PRF my   book
      'Either Kefei or you have stolen my books.'

(35) a. *Kefei tou-le   yuqi shu   buru   zazhi.
      Kefei steal-PRF than book rather magazine
    b. Yuqi Kefei buru   wo qu chuli   zhe-jian shi.
      than Kefei rather I   go deal.with this-CL   matter
      'I'll go to deal with the matter rather than Kefei.'

(36) a. Yaome Kefei ~~tou-le~~   ~~wode shu~~ yaome ni   tou-le   wode shu
      or   Kefei steal-PRF my   book or   you steal-PRF my   book.
    b. Yuqi Kefei ~~qu chuli~~   ~~zhe-jian shi~~   buru   wo qu chuli
      than Kefei go deal.with this-CL   matter rather I   go deal.with
      zhe-jian shi.
      this-CL   matter

4.3 Extensions

Not only can a J element, which can function as a coordinator or a modification marker, but also other functional elements, have split components. Also, the two parts of a split head are not required to possess the same morphological properties. This is the case of circumpositions. A circumposition consists of two parts, positioned on both sides of the complement of a P. In other words, its first part is a proclitic and its second part is an enclitic, and the two clitics take the same nominal as their morphological host. Two Mandarin examples are *dui...laishuo* (對……來說) 'to...say → for' and *jiu...eryan* (就……而言) 'on...say → regarding'. Two examples are provided in (37). The structure of (37b) can be represented as (38).

(37) a. <u>Dui</u> Kefei <u>laishuo</u>, zhe-jian shi   bu   zhongyao.
      to   Kefei say   this-CL   matter not   important
      'For Kefei, this matter is not important.'

b. <u>Jiu</u> zhe-jian shi   <u>eryan</u>, Kefei yinggai fu   zeren.
  on this-CL matter say   Kefei should carry responsibility
  'Regarding this matter, Kefei should be responsible.'

(38)
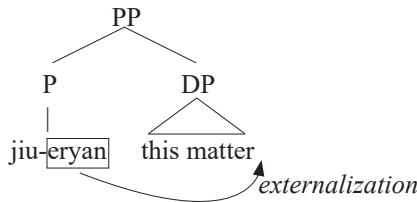
A similar situation occurs with circum-complementizers, as evidenced by the underlined parts in each example in (39) (such forms can also be used as a circumposition, taking an eventive nominal as their complement). They are all adverbial clauses. Unlike MDMs, the two formatives are not obligatorily paired. In (39a) and (39b), the second part of the pair is optional; while in (39c), the first part of the pair is optional; and in (39d), either the first or the second part is optional. However, unlike the optional one in (3), the optional one in (39) does not introduce any special semantics to the construction. Its occurrence sounds more natural in colloquial speech. I assume that the rough structure of the *zicong…yilai* construction in (39a) is (40).

(39) a. <u>Zicong</u> Kefei chi-le   na-zhong yao   (<u>yilai/yihou</u>), …
     since   Kefei eat-PRF that-kind medication since/after
     'Since Kefei took that kind of medication, …'
  b. <u>Yao</u> bushi Kefei chi-le   na-zhong yao   (<u>dehua</u>), …
     if   not   Kefei eat-PRF that-kind medication if
     'If it were not the case that Kefei took that kind of medication, …'
  c. (<u>Yao</u>) bu   ran <u>dehua</u>, …
     if   not so   if
     'If it is not so, …'
  d. <u>Ruguo</u> Kefei   chi-le   na-zhong yao   <u>dehua</u>, …
     if   Kefei   eat-PRF that-kind medication if
     'If Kefei takes that kind of medication, …'

(40)
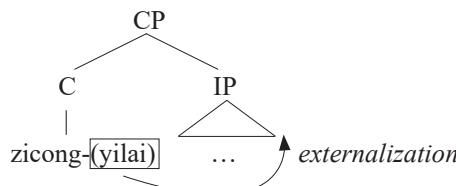
Note that a subject can be topicalized, preceding the left part of a complex complementizer. Thus, in (39a), (39b), and (39c), the subject *Kefei* can also surface at the left edge of the whole construction.

In both the discussed examples of circumpositions and circum-complementizers here, a disyllabic part of a functional complex is away from its syntactic position in externalization.

In this section, I have demonstrated that the obligatory pairing of the two formatives in each of the three representative constructions in (1) falls under the double-marking pattern of dependency marking and proposed a J-component splitting hypothesis to explain the marking pattern. I have also made a hypothesis that this analysis can be extended to circumpositions and circum-complementizers.

5 Conclusions

One empirical contribution of this research lies in the proposed structural analysis of the obligatorily paired dependency markers in the three representative constructions: the *yaome...yaome* disjunctive construction, the *yuqi...buru* metalinguistic comparative construction, and the simultaneous temporal *yibian...yibian* construction. Specifically, in all these constructions, the two disyllabic MDMs are base-generated together in the position of the functional head J but undergo splitting in externalization, as two proclitics that take a clausal or verbal expression as their morphological host. J occurs in the syntactic structures of all coordinate and modification constructions. This J-split analysis can be extended to the P-split in circumpositions and C-split in circum-complementizers. One theoretical contribution of this research is its support for Zhang's (2022a, 2022b, 2023) unified analysis of coordination and modification. I have demonstrated that the *yibian...yibian* construction can be either a symmetrical coordinate construction or a symmetrical modification construction.

Acknowledgments

References

Altshuler, Daniel & Robert Truswell. 2022. *Coordination and the syntax–discourse interface.* Oxford University Press.

Bošković, Željko. 2020. On the coordinate structure constraint and the adjunct condition. In András Bárány, Theresa Biberauer, Jamie Douglas & Sten Vikner (eds.), *Syntactic architecture and its consequences II: Between syntax and morphology*, 227–258. Berlin: Language Science Press.

Bošković, Željko. 2022. On the limit of across-the-board movement: Distributed extraction coordination. *Philosophies* 7(1), 10. https://doi.org/10.3390/philosophies7010010 (accessed 29 February 2024).

Culicover, Peter W. & Ray Jackendoff. 1997. Semantic subordination despite syntactic coordination. *Linguistic Inquiry* 28. 195–217.

Freidin, Robert. 2020. *Adventures in English syntax*. Cambridge University Press.

Giannakidou, Anastasia & Suwon Yoon. 2011. The subjective mode of comparison: Metalinguistic comparatives in Greek and Korean. *Natural Language & Linguistic Theory* 29. 621–655.

Haegeman, Liliane. 2022. Typology of adverbial clauses. Handout given at the workshop Typology of Adverbial Clauses and the Role of Discourse Syntax, Cologne, 20–21 May.

Heim, Irene. 1985. Notes on comparatives and related matters. Unpublished manuscript, University of Texas, Austin.

Hendriks, Petra. 2004. *Either*, *both* and *neither* in coordinate structures. In Alice ter Meulen & Werner Abraham (eds.), *The composition of meaning: From lexeme to discourse*, 115–138. John Benjamins.

Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.

Kehler, Andrew 2002. *Coherence, reference, and the theory of grammar.* Stanford, CA: CSLI Publications.

Lu, Ting-Shiu. 2023. *Yibian…yibian*: A case of pseudo-subordination in Mandarin Chinese. Abstract presented at the Workshop on Theoretical East Asian Linguistics 13, National Taiwan Normal University, 12–14 May.

Lü, Shuxiang, et al. 1980. *Xiandai Hanyu babai ci* [800 words in modern Chinese]. Beijing: The Commercial Press.

Nichols, Johanna. 1986. Head-marking and dependent-marking grammar. *Language* 62(1). 56–119.

Oda, Hiromune. 2021. Decomposing and deducing the coordinate structure constraint. *The Linguistic Review* 38(4). 605–644.

Progovac, Ljiljana. 1999. Events and economy of coordination. *Syntax* 2. 141–159.

Progovac, Ljiljana. 2002. Correlative conjunctions and events: A reply to a reply. *Syntax* 5. 277–283.

Rubin, Edward J. 2003. Determining pair-merge. *Linguistic Inquiry* 34(4). 660–668.

Tsai, Wei-Tien Dylan & Chun-Ming Wu. 2012. Conjunctive Reduction Revisited: Evidence from Mayrinax Atayal and Southern Paiwan. *Oceanic Linguistics* 51(1). 160–181.

Vries, Mark de. 2005. Coordination and syntactic hierarchy. *Studia Linguistica* 59. 83–105.

Wu, Danfeng. 2022. *Syntax and prosody of coordination*. Cambridge, MA: Massachusetts Institute of Technology dissertation.

Zhang, Niina Ning. 2008. Repetitive and correlative coordinators as focus particles parasitic on coordinators. *SKY Journal of Linguistics* 21. 295–342.

Zhang, Niina Ning. 2010. *Coordination in syntax*. Cambridge: Cambridge University Press.

Zhang, Niina Ning. 2022. Unifying coordination and adjunction. The 14th Workshop on Formal Syntax and Semantics, National Taiwan University, 21–22 October.

Zhang, Niina Ning. 2022. Could There Be Other Functional Elements? Workshop on Foundations of Extended Projections, Tromsø, 27–28 October.

Zhang, Ning. 2023. *Coordinate structures* [Elements in generative syntax series]. Cambridge: Cambridge University Press (in press).

Zoerner, Ed. 1999. One coordinator for all. *Linguistic Analysis* 29.3/4. 324–341.

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共現於雙句句式中的功能詞

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提要

本文研究同時出現於兩個句子的成對的功能詞的句法型態特點。這樣的功能詞出現在以下三種典型的句式中：表示選擇關係的"要麼……要麼"句，表示元語言比較關係的"與其……不如"句，以及表示同時關係的"一邊……一邊"句。每一對這樣的功能詞實際上都是某個功能性成分分裂的結果。這個功能性成分存在於所有並列式及修飾式的句法結構中，體現了並列式與修飾式在句法上的共性。

關鍵詞

互依標記，並列，修飾，分裂，J- 集合