Asymmetry in Grammar
Volume I: Syntax and semantics

Edited by Anna Maria Di Sciullo
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Volume 57
Asymmetry in Grammar: Volume 1: Syntax and semantics
Edited by Anna Maria Di Sciullo
Asymmetry in Grammar
Volume 1: Syntax and semantics

Edited by

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The asymmetry between depictives and resultatives in Chinese*

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ZAS-Berlin

This paper studies the syntactic structures of secondary predication constructions in Chinese. Three issues are discussed. First, in order to account for the alternation between the de and V-V constructions, I claim that a functional head is realized by either the functional word de or head-raising in secondary predication constructions. Second, in order to account for the subject-orientation and the nonspecific subjects of resultatives in the V-V constructions, I claim that they are the effects of head-raising in syntax. Third, secondary predicates in Chinese can occur either to the left or to the right of the primary predicate (Vpri, hence), and the choice is decided by two factors: the semantic type of Vpri (for instance, change of property, creation, transference) and the specificity of the argument which is shared between the Vpri and the secondary predicate.

1. The functional projection in secondary predication

1.1 An alternation between de and V-V

In Chinese, depictives precede whereas resultatives follow the verb of primary predication (Vpri hence), respectively. In (1), the resultatives follow the Vpri da 'beat', whereas in (2), the depictives precede the Vpris zhuo 'catch' and he 'drink'. Both resultative and depictive constructions are represented in either the de-construction, where the functional word de occurs, or the V-V construction, where the lexical head of the secondary predicate is adjacent to Vpri. The a-sentences in (1) and (2) are in the V-V construction, whereas the b-sentences are in the de-construction. We can also see that in the resultative de-construction, de is right-adjacent to the Vpri, as in (1b); whereas in the depictive de-construction, de is right-adjacent to the depictive, as in (2b).
These data are in contrast to complex prediction constructions headed by epidemic verbs (see Moro’s 2000 rich SC construction, see Williams 1997 for a relevant discussion on English data) and constructions containing a purpose expression (see Baker 1997:25 for the contrasts between purposive and other complex predication constructions in Mohawk). The latter two constructions allow neither de nor V-V forms, as shown in (3) and (4), respectively.

(3) a. Wusong renwei Akiu hen lan.
   Wusong consider Akiu very lazy
   ‘Wusong considers Akiu very lazy.’

b. *Wusong renwei de Akiu hen lan. (de)
c. *Wusong renwei lan Akiu. (V-V)

(4) a. Wusong ao le yi guo tang he.
   Wusong cook PRF one pot soup drink
   ‘Wusong cooked a pot of soup to drink.’

b. *Wusong ao de yi guo tang he. (de)
c. *Wusong ao he le yi guo tang. (V-V)

1.2 My proposal

I propose that predication is encoded by xP, an extended projection of XP which is headed by a lexical X. It can be vP, nP, aP, pP, projected on VP, NP, AP, and PP, respectively. In Chinese secondary predication constructions, this x is realized in two ways (cf. Sybesma 1999:19 ExtP): it is realized by either de or a head-raising.

(5) a. \[ xP \rightarrow x' \rightarrow \text{de} [XP] \] 
   b. \[ xP \rightarrow x' \rightarrow X \rightarrow \text{de} [XP] \rightarrow [X \rightarrow t_i] \]
I do not adopt Bower’s (1993, 2000) PrP for the reason that predication is a structural relation found in all types of categories. PrP cannot be in contrast to other extended projections such as vP. In primary prediction, we have no evidence that both v and Pr can co-occur. In addition, what Pr does in primary predication can be covered by v, which is motivated independently anyway.

As for the question why de occurs to the left of a resultative and to the right of a depictive, in Zhang (2001) I argue that the surface position of de is decided at PF: it is always right-adjacent to the leftmost verbal element of the current phase of the construction.

One might wonder why there is no de-V-V alternation in the vP which encodes primary predication. The situation may be similar to the realization of the functional head related to a yes-no question in English. According to Chomsky (1995), if realizes the functional head. However, it never occurs in a root yes-no question. I will show the semantic consequences of this alternation in Section 2.

1.3 The last resort effect

Unlike the alternation between expletive-merge and subject-raising, auxiliary-merge is not cheaper than verb-raising. The Do-support is not cheaper than verb-raising in the sense that it occurs only when the latter fails and that the do is a formative not included in the Array (Arnold 1995; Hornstein 2001:184; also see Chomsky 1957). Similarly, in the secondary predication constructions, compared to the V-V construction, the de-construction is the last resort: it occurs when the former fails. De, like do of the do-support in English, is a formative not present in the Array, and is used only when head-raising is impossible. A typical case where head-raising is impossible is when the XP selected by v contains a degree word hen ‘very’, as in (6).

(6) a. Lao Wang pao de hen lei.
   Lao Wang run de very tired
   ‘Lao Wang run so that he got very tired.’

c. *Lao Wang pao hen lei.

The choice of the de-construction rather than the V-V construction in (6) follows the constraint on head movement that no modifier can be stranded (Hoekstra 1988; see Sybesma 1999:21).
2. Two contrasts between the de and the V-V TRC

In this research, I adopt the assumption that resultatives are hosted in the complement of Vpri, and that object-oriented resultatives have a PRO subject, which is controlled by the object of the Vpri (Hornstein & Lightfoot 1987; Huang 1992; Bowers 1993, 2000; and Zhang 2001).

I claim that the derivations of the V-V resultative constructions are as follows:

(7) a. the element in X raises to x
b. The element right-adoins to Vpri

I will discuss two contrasts between the de and the V-V TRC in this section. The contrasts are captured by the derivation proposed in (7).

2.1 The orientation of resultatives

As noted by Li (1990), in the presence of an overt object of the Vpri, the V-V construction allows a subject-orientation reading, whereas the de-construction does not. The contrast is shown in (8) and (9). In the second reading of (8a), the resultative is subject-oriented:

(8) a. Baoyu zhui le Daiyu.
Baoyu chase tired PRF Daiyu
‘Baoyu chased Daiyu and as a result Daiyu got tired.’
‘Baoyu chased Daiyu and as a result Baoyu got tired.’
b. Baoyu zhui de Daiyu qichuanxuxu.
Baoyu chase de Daiyu gasp
‘Baoyu chased Daiyu and as a result Daiyu gasped.’

(9) a. Baoyu kan ni le na pan luxiang.
Baoyu watch fed.up PRF that cl video
‘Baoyu watched that video and as a result he got fed up with it.’
b. *Baoyu kan de na pan luxiang dou ni le.
Baoyu watch de that cl video even fed.up PRF

In the V-V construction (8a), the subject of the resultative predicate is co-referential with either the subject or the object of Vpri, i.e., either Baoyu or Daiyu got tired. However, in the de-construction (8b), the subject of the resultative predicate can only be co-referential with the object of Vpri, i.e., only Daiyu gasped, not Baoyu. In the V-V construction (9a), the subject of the resultative predicate is co-referential with the subject of Vpri, i.e., Baoyu got fed up. It cannot be co-referential with the object of Vpri, since semantically, na pan luxiang ’that video’ cannot be the subject of the predicate ni ‘get fed up’. In the de-construction (9b), the subject
of the resultative predicate cannot be co-referential with the subject of Vpri. It can only be co-referential with the object of Vpri. However, since the semantic clash mentioned above rules out the co-indexing, the secondary predication fails and the sentence is unacceptable.

Notice that it is not true that every V-V construction can have subject-oriented reading. The absence of subject-oriented reading in data like (1a) may be covered by pragmatics.

Huang (92:126) claims that between the V-V and the de-construction, “whereas the former is a lexical category, the latter is a phrase”. Then the reading contrast is simply acknowledged by the claim that “the internal structures of compounds are not accessible to rules or principles that apply in syntax, in particular the MDP” (the Minimal Distance Principle of control).

We however pursue a syntactic account for the contrast. We claim that the head movement in the V-V construction has the effect of restructuring, and the regular object-oriented reading of resultatives is an effect of the syntactic locality constraint on the non-restructuring constructions. Specifically, in the absence of a restructuring, as in the Chinese de-construction and other chain-type constructions, including the resultative constructions in English, the PRO subject of the resultatives is controlled by the nearest overt argument of the primary predicate, i.e., the direct object, rather than the subject. The Chinese V-V constructions, however, have undergone restructuring and thus the control domain is changed. Consequently, either the overt direct object or the subject of the primary predicate can control the PRO subject of the nonprimary predicate. We conclude that head-raising in syntax may allow some control cases to escape from the constraint of MDP, and the subject orientation reading of the V-V resultative construction is derived by this restructuring effect.

2.2 The specificity of the subject of resultatives

Preverbal subjects in Chinese generally cannot be nonspecific. Nor can a subject of a secondary predicate, as in the de-construction (10a). However, the V-V construction does not show this constraint (10b).

(10) a. Akiu da de {na/*yi} ge xiaohair haotaodaku.  
    Akiu beat DE that/one CL child  cry.loudly  
    ‘Akiu beat that child and as a result the child cried loudly.’  

b. Akiu da ku le yi ge xiaohair.  
    Akiu beat cry PRF one CL child  
    ‘Akiu beat a child and as a result the child cried loudly.’
Assume that head-raising out of the projection where a subject is base-generated can license a non-specific reading of the subject (mapping cycle is enlarged) (Tsai 2001a). In (5b), the resultative predicate moves out of the xP where the subject of the predicate, a PRO, is base-generated. In contrast, in the de resultative construction, the resultative predicate never moves out of the lower xP, where its subject, a PRO, is base-generated, and thus no nonspecific reading of the subject is licensed in data like (10a).

3. Adjunct xP vs. complement xP

We will present four arguments to show that the xP in (5) is an adjunct if it is merged to the left of Vpri, as in depictive constructions, and is a complement of Vpri if it is merged to the right of Vpri, as in resultative constructions.

3.1 The position of a secondary predicate with respect to Vpri

In English, a VO language, secondary predicates are to the right of Vpri, as shown in (11). The resultative predicate flat is to the right of the Vpri watered in (11a), and the depictive predicate raw is to the right of the Vpri ate in (11b). In German as well as Japanese, an OV language, both types of predicates precede Vpri (abstracting away from V2). The German data in (12) show this point.

(11) a. John watered the tulip flat. (Vpri – resultative)  
   b. John ate the fish raw. (Vpri – depictive)

(12) a. Frank hat den Tisch sauber gewischt. (resultative – Vpri)  
   Frank has the table clean wiped  
   b. Frank hat das Fleisch roh geschnitten. (depictive – Vpri)  
   Frank has the meat raw cut

In Chinese, however, depictives precede, while resultatives follow, Vpri, as shown in the contrast between (2) and (1). In the de-construction, the former also precede de, while the latter also follow de. The surface positions of de will be argued to be decided at PF (Section 4.2). Here I only consider the position of a secondary predicate with respect to Vpri.

The positions of secondary predicates are strict with respect to Vpri in Chinese, and may provide information of the integration of the xP argued for in Section 2 into the structure of primary predication. In Chinese, complements of a verb occur to the right of the verb in unmarked cases, whereas adverbials of a verb occur to the left of the verb, as illustrated in (13a) and shown in (14). Similarly, as illustrated
The asymmetry between depictives and resultatives in Chinese

in (13b) and shown in the data in (15) as well as other Chinese data in this paper, resultatives occur to the right of Vpri while depictives occur to the left of Vpri.

(13) a. adverbial V complement
    b. depictive V resultative

(14) a. Akiu \{zuotian/like\}  xi le na jian chenshan.
    Akiu yesterday/immediately wash PRF that CL shirt
    'Akiu washed that shirt \{yesterday/immediately\}.'
    b. *Akiu xi le na jian chenshan \{zuotian/like\}.
    Akiu wash PRF that CL shirt yesterday/immediately

(15) a. Akiu qihuhu de ti de men zhi yaohuang.
    Akiu angry DE kick DE door continuously shake
    'Akiu kicked the door shaky angry.'
    b. *Akiu zhi yaohuang de ti de men qihuhu.
    Akiu continuously shake DE kick DE door angry

These data show that depictives occur in a typical adverbial position, and resultatives occur in a typical complement position. The syntactic positions of depictives and resultatives with respect to Vpri in Chinese suggest that in the integration of a secondary predication into a primary one, depictives are hosted by an xP which is an adjunct of primary predicate, whereas resultatives are hosted by an xP which is a complement of Vpri.

3.2 The co-occurrence restriction

Resultatives do not co-occur with resultatives, while depictives can co-occur with depictives, as shown in (16). The restriction in English is discussed in Simpson (1983) and Rothstein (1985). The same contrast is observed in Chinese, as shown in (17).

(16) a. *John kicked the door open to pieces. (resultative)
    b. They ate the meat raw tender. (depictive)

(17) a. *Akiu da de Baoyu haotaodaku shou le shang. (resultative)
    Akiu hit DE Baoyu cry.loudly suffer PRF wound
    b. Akiu huoshengsheng de xinglixingqi de chi le na tiao yu. (depictive)
    Akiu alive DE stinky DE eat PRF that CL fish

    'Akiu ate that fish alive stinky.'

According to Winkler's (1997:7) semantic account, (16a) is unacceptable because resultatives are delimiting expressions and an event can only be delimited once in a
sentence, whereas (16b) is acceptable because depictives are not delimiting expressions, and thus the restriction does not apply. The contrast can also be accounted for structurally. It is generally assumed that an element cannot have two or more complements of the same type. The two complements, direct and indirect objects, of a ditransitive verb, bear different thematic roles. However, an element can have two or more adjuncts of the same type. The above co-occurrence contrast between resultatives and depictives in English and Chinese provides another argument for the distinctions between complement and adjunct phrases which host secondary predicates.

3.3 Pre-Vpri secondary predicates show the properties of adverbials

In this subsection, we show that like adverbials, different types of depictives are structurally ordered in a hierarchy, showing the properties of adverbials.

First, multiple depictives are ordered. When multiple depictives co-occur, we see mirror images of the orders in English and Chinese. In English, the order is object-oriented depictive – subject-oriented depictive (Carrier & Randall 1992), while in Chinese the order is just opposite; however, in both languages, object-oriented depictives are closer to Vpri than subject-oriented ones, as shown in the following:

(18) a. \( V \) depictive\(_{obj1} \) depictive\(_{obj2} \)
    b. depictive\(_{obj1} \) depictive\(_{obj2} \) \( V \)

(19) a. John, sketched the model, nude, [drunk as a skunk].
    b. *John, sketched the model, nude, [drunk as a skunk].

(20) a. Akiu, yukuai, de rere, de he le [na wan cha].
    Akiu happy de hot de drink prf that bowl tea
    'Akiu drank that bowl of tea hot happy.'
    b. *Akiu, rere, de yukuai, de he le [na wan cha].
    Akiu hot de happy de drink prf that bowl tea

In (19), the depictive nude is closer to the Vpri sketched than the depictive drunk as a skunk. In the acceptable (19a), the subject of nude is co-referential with the model, which is the object of the Vpri, and the subject of drunk as a skunk is co-referential with John, which is the subject of the Vpri. (19b), with the opposite co-indexing, is unacceptable. Thus the object-oriented depictive is closer to the Vpri than the subject-oriented one. In (20), there are also two depictive predicates, rere ‘hot’ and yukuai ‘happy’. In both sentences the subject of rere is co-referential with na wan cha ‘that bowl of tea’, which is the object of the Vpri he ‘drink’, and the subject of yukuai is co-referential with Akiu, which is the subject of he. Rere is closer to he ‘drink’ than yukuai in the acceptable (20a), whereas it is the other way around in the
The asymmetry between depictives and resultatives in Chinese

unacceptable (20b). Like (19), (20) also shows that the object-oriented depictive is closer to the Vpri than the subject-oriented one.

The pattern of the orders is similar to that of adverbials. In the following data ((22) is from Hornstein 2001:116) the adjunct which has a dependency relation with the object of the matrix verb must be ordered closer to the matrix verb than the adjunct which has a dependency relation with the subject of the matrix verb.

(21) a. John_i arrested Bill_j [for PRO_j driving his car too fast] [after PRO_i leaving the party]
   b. ??John_i arrested Bill_j [after PRO_i leaving the party] [for PRO_j driving his car too fast]

(22) a. John_i bought Moby Dick_j [for Mary to review e_i] [PRO_i to annoy Sam]
   b. *John_i bought Moby Dick_j [PRO_i to annoy Sam] [for Mary to review e_i]

There is no doubt that the non-finite clauses above are adverbials. Hornstein (2001:97) claims that the adjunct which has a dependency relation with the object of the matrix verb is adjoined lower than the adjunct which has a dependency relation with the subject of the matrix verb. This difference in height indicates that the former has a closer structural relation to the matrix verb than the latter. In the linear order, the former is also closer to the matrix verb than the latter. The order restriction in (19) and (20) indicates that like the adverbials in (21)–(22), object-oriented depictives and subject-oriented depictives are ordered in a certain structural hierarchy. In Hornstein and Lightfoot (1987:27), the functional phrase hosting a subject-oriented depictive is a VP-adjunct, whereas the functional phrase hosting an object-oriented depictive is a V'-adjunct. The Chinese data in (19) and (20) are compatible with this distinction.

Second, the interactions with adverbs show the structural order of different types of depictives. For instance, subject-oriented depictives can occur to the left of the adverb like 'immediately', while object-oriented depictives cannot, as shown in (23):

(23) a. Akiu (like) gaoxing de (like) chang le yi Akiu immediately glad DE immediately sing prf one shou ge.
   cl song
   'Akiu sang a song glad (immediately).'

b. Akiu (like) rere de (*like) he le yi bei cha. Akiu immediately hot DE immediately drink prf one cup tea
   'Akiu drank a cup of tea hot (immediately).’
This restriction shows that the xP hosting the object-oriented depictive may be ordered lower than both the adverb and the xP hosting the subject-oriented depictive on the adverbial hierarchy, and thus has a closer structural relation with the Vpri.

The similarity of the order-patterns of depictives to the order-patterns of adverbials, and the interactions with other adverbs suggest that the xP hosting depictives has properties of adverbials. This order fact supports our claim that vPs which host depictives have an adjunct status in their integration into the structure of primary predication.

A remaining issue is what syntactic operation enables co-reference between the null subject of a depictive and an argument of Vpri. In other words, what are the syntactic representations of the so-called subject-orientation or object-orientation of a depictive predication. Following Hornstein and Lightfoot, I assume that depictive constructions have a control-into-adjunct structure. In other words, the null subject of a depictive is a PRO, controlled by an argument of the relevant Vpri.

3.4 Post-Vpri secondary predicates show the properties of complements of Vpri

An argument against a right-adjunct approach to post-Vpri secondary predicates is extraction. As is generally assumed, elements can be extracted from a complement but not from an adjunct. In the following sentence, kuaizi ’chopsticks’ is extracted from the resultative. Data like this show that elements can be extracted from post-Vpri resultatives and thus the resultatives are complements rather than adjuncts.

(24) lian kuaizi Akiu xunlian de Mali dou hui yong le. even chopstick Akiu train de Mary also can use prf ‘Akiu trained Mary so that she was able to use even chopsticks.’

The above four subsections show that in depictive constructions, the assumed xP, where the depictive is base-generated, is an adjunct, and an argument of the Vpri has a control relation with the adjunct. In contrast, in resultative constructions, the assumed xP, where the resultative is base-generated, is complement of Vpri.

So far, we have seen a semantic-syntax match with respect to the semantic-type of secondary predicates and their structural positions. In the next section, we discuss some mismatch cases.

4. Three types of mismatch

According to Halliday (1967:63), resultatives describe a resultant state which is caused by the action denoted in the primary predication, whereas depictives de-
scribe the state of their subject at the time when the action denoted by the primary predication occurs.

In the previous sections, we showed that resultatives are to the right of Vpri and depictives are to the left of Vpri. We will see that the division is true only when the Vpri does not belong to the following three types of verbs: property-change, creation, and transference. If we consider these three types of verbs, the distribution of secondary predicates shows a different pattern.

In the following chart, + means possible/present, – means impossible/absent, and ∃ means possible only when the shared argument is existential (weak indefinite). The feature [I] is adopted from Di Sciullo (1999:36): “The lexical feature [I] specifies that a change of state is inherent to an event denoted by a verb, and the absence of this feature in the lexical specification of verb indicates that the change of state is the effect of an external source.”

(25)

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4.1 Mismatch-I: Change-of-property Vpri

In this section we consider the complex-predicate construction where Vpri is a change of property verb. In such a case, the secondary predicate can occur either to the left or the right of the Vpri. However, the choice is not free.

If the secondary predicate is pre-Vpri, the shared argument must be ∃, as shown in the a/a’-sentences in the following three groups of data; and only the de-construction is available, as shown in the corresponding b-sentences. This pre-verbal position is obviously different from the position for the resultatives seen in the previous sections.

If the secondary predicate is post-Vpri, the shared argument can be anything, and in either the de (the c-sentences) or the V-V construction (the d-sentences). This is similar to what we have seen in the resultative constructions in the previous sections.
Note that the secondary predication headed by such Vpris cannot denote an old state of the shared argument. This is shown in the following a′-sentences. This is different from English. See Appendix for the relevant English data.

(26) a. Akiu lanlan de zhu le {yi/*na} guo miantiao. (de, pre-Vpri)
   Akiu messy de boil prf one/that pot noodle
   ‘Akiu cooked a pot of noodle messy.’ (too soft, like a paste)
   a′. 'na guo miantiao Akiu lanlan de zhu le.
   a″. ‘Akiu changchang de zhu le yi guo miantiao.
       long (i.e., long noodles)
b. *Akiu lan zhu le {yi/*na} guo miantiao. (V-V, pre-Vpri)
   Akiu messy boil prf one/that pot noodle
   c. na guo miantiao Akiu zhu de {hen lan/tai lan le}. (de, post-Vpri)
      that pot noodle Akiu boil de very messy/too messy prf
      ‘That pot of noodle, Akiu cooked {very messy/too messy}.’
d. Akiu zhu lan le {yi/*na} guo miantiao. (V-V, post-Vpri)
   Akiu boil messy prf one/that pot noodle
   ‘Akiu cooked {a/that} pot of noodle messy.’

(27) a. Akiu jianjian de xue le {yi/*na} zhi qianbi. (de, pre-Vpri)
   Akiu sharp de cut prf one/that cl pencil
   ‘Akiu sharpened a pencil.’
   a′. "na zhi qianbi Akiu jianjian de xue le.
   a″. ‘Akiu honghong de xue le yi zhi qianbi.
       red (i.e., a red pencil)
b. *Akiu jian xue le {yi/*na} zhi qianbi. (V-V, pre-Vpri)
   Akiu sharp cut prf one/that cl pencil
   c. na zhi qianbi Akiu xue de {hen jian/tai jian le}.
      that cl pencil Akiu cut de very sharp/too sharp prf
      (de, post-Vpri)
      ‘That pencil, Akiu sharpened very sharp/too sharp.’
d. Akiu xue jian le {yi/*na} zhi qianbi. (V-V, post-Vpri)
   Akiu cut sharp prf one/that cl pencil
   ‘Akiu sharpened {a/that} pencil.’

(28) a. Akiu feifei de yang le {yi/*na} zhi mao. (de, pre-Vpri)
   Akiu fat de raise prf one/that cl cat
   ‘Akiu raised a cat fat.’
   a′. "na zhi mao Akiu feifei de yang le.
   a″. ‘Akiu heihei de yang le yi zhi mao.
       black (i.e., a black cat)
b. *Akiu fei yang le {yi/na} zhi mao. (V-V, pre-Vpri)
   Akiu fat raise PRF one/that CL cat

An observation of the construction under discussion is that the object of the Vpri must be raised in the de-post-Vpri constructions, thus the null subject of the secondary predicate, which is controlled by the raised object, looks like a parasitic gap (pg). If there is no secondary predication, no such obligatory raising occurs. (Cf. Brody 1995:82 for discussion of pgs which are internal to a complement clause.) Note that only specific objects can be raised in Chinese (cf. Karimi 1999 for the specificity condition of pgs in Modern Persian). We will not discuss this issue in this paper.

4.2 Mismatch-II: Creation Vpris

Complex-predicate constructions where Vpri is a verb of creation is special. Wilder (2000) makes the following two observations of such constructions, with respect to their secondary predicates. First, the referent of the subject does not exist at the time of Vpri, unlike elsewhere. Second, the predicate is IL only, unlike elsewhere.

(29) a. He drew her face [square].
   b. They built the gallery [as wide as they could].

In this section, we consider the complex-predicate construction where Vpri is a verb of creation. In such a case, the secondary predicate can also occur either to the left or to the right of the Vpri. However, the choice is not free, either.

If the secondary predicate is pre-Vpri, the shared argument must be nonspecific, as shown in the contrast between the a- and a'-sentences, and only the de-construction is available. The corresponding V-V construction is not available, as seen in the b-sentences. These properties show that the construction is different from the resultative constructions we introduced in Section 1 through 3.

If the secondary predicate is post-Vpri, the shared argument can be anything, and both the de and the V-V construction are available, as shown in the c-sentences and the d-sentences, respectively. These properties show that the construction is the same as the resultative constructions we introduced in Section 1 through 3.
(30) a. Akiu dada de hua le {yi/*na} ge quan. (V-V, pre-Vpri)
Akiu big draw PRF one/that CL circle
‘Akiu drew a circle big.’

a’. ‘na ge quan, Akiu dada de hua le.
b. ‘Akiu da hua le {yi/na} ge quan. (V-V, pre-Vpri)
Akiu big draw PRF one/that CL circle
‘Akiu drew a circle big.’
c. na ge quan Akiu hua de {hen da/tai da le}.
that CL circle Akiu draw DE very big/too big PRF
‘That circle, Akiu drew very big/too big.’
d. Akiu hua da le yi ge quan. (V-V, post-Vpri)
Akiu draw big PRF one CL circle
‘Akiu drew a circle big.’

(31) a. Akiu hen duan de xie le {yi/*na} feng xin. (de, pre-Vpri)
Akiu very short DE write PRF one/that CL letter
‘Akiu wrote a letter very short.’

a’. ‘na feng xin, Akiu hen duan de xie le.
b. ‘Akiu duan xie le {yi/na} feng xin. (V-V, pre-Vpri)
Akiu short write PRF one/that CL letter
‘Akiu wrote a letter very short.’
c. na feng xin Akiu xie de {hen duan/tai duan le}.
that CL letter Akiu write DE very short/too short PRF
‘That letter, Akiu wrote very short/too short.’
d. Akiu xie chang le yi fen zaiyao. (V-V, post-Vpri)
Akiu write long PRF one CL abstract
‘Akiu wrote an abstract too long.’

(32) a. Akiu hen qian de wa le {yi/*na} ge keng. (de, pre-Vpri)
Akiu very shallow DE dig PRF one/that CL pit
‘Akiu dug a pit very shallow.’

a’. ‘na ge keng, Akiu hen qian de wa le.
b. ‘Akiu qian wa le {yi/na} ge keng. (V-V, pre-Vpri)
Akiu shallow dig PRF one/that CL pit
‘That pit, Akiu dug a pit very shallow/too shallow.’
c. na ge keng Akiu wa de {hen qian/tai qian le}.
that CL pit Akiu dig DE very shallow/too shallow PRF
‘That pit, Akiu dug a pit very shallow/too shallow.’
d. Akiu wa qian le yi ge keng. (V-V, post-Vpri)
Akiu dig shallow PRF one CL pit
‘Akiu dug a pit very shallow.’
As in the construction discussed in Section 4.1, a specific shared argument must also be raised in this construction.

4.3 Mismatch-III: Transference Vpris

In this section, we consider the complex-predicate construction where Vpri is a verb of transference. In this construction, the shared argument does not change its state or property. In this semantic aspect, it patterns with depictive constructions. However, secondary predicates in this construction must be post-Vpri, as shown in the contrast between a/b and c/d-sentences. Thus in this syntactic aspect, it patterns with resultative constructions.

(33) a. *Akiu hen [xiao/zang] de zu le yi jian fangzi.
   Akiu very small/dirty DE rent PRF one CL room
   (de, pre-Vpri)
      Akiu small/dirty rent PRF one CL room
      (V-V, pre-Vpri)
   c. na jian fangzi Akiu zu de tai [xiao/*zang] le.
      that CL room Akiu rent DE too small/dirty PRF
   (de, post-Vpri)
      ‘That room, Akiu rented, which is too small.’
   d. na jian fangzi Akiu zu [xiao/*zang] le.
      that CL room Akiu rent small/dirty PRF
      ‘That room, Akiu rented, which is too small.’

(34) a. *Akiu feifei de mai le yi kuai rou. (cf. 28a) (de, pre-Vpri)
   Akiu fat DE buy PRF one chunk meat
   a’. *na kuai rou Akiu feifei de mai le. (cf. 28a’) (de, pre-Vpri)
      that chunk meat Akiu fat DE buy PRF
   b. *na kuai rou Akiu fei mai le. (V-V, pre-Vpri)
      that chunk meat Akiu fat buy PRF
   c. na kuai rou Akiu mai de [hen fei/tai fei le].
      that chunk meat Akiu buy DE very fat/too fat PRF
      (de, post-Vpri)
      ‘That chunk of meat, Akiu bought, which is [very fat/too fat].’
   d. na kuai rou Akiu mai fei le. (V-V, post-Vpri)
      that chunk meat Akiu buy fat PRF
      ‘That chunk of meat, Akiu bought, which is too fat.’
   e. Akiu mai da le {yi/*na} jian chenshan. (V-V, post-Vpri)
      Akiu buy big PRF one/that CL shirt
      ‘Akiu bought a shirt which is too big.’
In addition, as in the previous two mismatching constructions, a specific shared argument must be raised.

5. The adjunct-complement contrasts are kept in the mismatch cases

In this section, we present data to show that when secondary predicates occur to the right of Vpri in the mismatching cases, they still show properties of complements, and when they occur to the left of Vpri, they still show properties of adjuncts. Thus the adjunct-complement contrasts are kept in the three mismatch cases.

On the one hand, the co-occurrence restriction that multiple secondary predicates can occur to the left of Vpri but not to the right of Vpri is still obeyed:

(36) a. Akiu fangfangzhengzheng de dada de qi le yi ge chizi.
   Akiu square DE big DE build PRF one CL pool
   ‘Akiu built a pool square big.’

b. *na ge chizi Akiu qi de hen fang hen da.
   that CL pool Akiu build DE very square very big
c. *na tiao qunzi Akiu mai de tai chang tai fei.
   that CL skirt Akiu buy DE too long too big

On the other hand, if post-Vpri secondary predicates are hosted by a right-adjunct, they should not interact with the complements of Vpri. However, they do. The occurrence of a post-Vpri secondary predicate makes a ditransitive construction unacceptable:

(37) a. Akiu zu le Lao Li yi jian fangzi.
   Akiu rent PRF Lao Li one CL room
   ‘Akiu rented a room from Lao Li.’
b. *na jian fangzi Akiu zu de Lao Li tai xiao le. (cf. 33c)
   that CL room Akiu rent DE Lao Li too small PRF

c. *Akiu zu de Lao Li {yi/na} jian fangzi tai xiao le.
   Akiu rent DE Lao Li one/that CL room too small PRF

This interaction shows that post-Vpri secondary predicates are complements, regardless of their semantic types.

6. Discussion

We have presented both the regular order-pattern, where resultatives and depictives are to the right and left of Vpri respectively and the three mismatching patterns, where either secondary predicates can occur at both of the two positions or secondary predicates which semantically pattern with depictives occur post-Vpri. After examining the constraints on the distributions, we see that the position of a secondary predicate with respect to Vpri is the result of an interaction between the semantic type of Vpri and the specificity of the shared argument, namely, the object of Vpri and the subject of the secondary predicate.

In the current syntax literature, the semantic types of verbs have been related to the different default specificity of their indefinite objects. For instance, Diesing (1992:109) finds that the indefinite objects of verbs of creation such as write and paint are nonspecific, whereas that of verbs of using such as read and play are specific. In the present study, we have seen that the semantic types of Vpri also decide whether an xP is merged as an adjunct or complement.

On the other hand, in the current literature, there are different approaches to the specificity of objects with respect to verbs. Diesing (1992) proposes that specific objects undergo a (c)overt raising, whereas nonspecific objects do not. In other words, the contrast is shown in different positions at LF. Karimi (1999) and Cheng et al. (1997), among others, however, assume that specific objects are base-generated at SpecVP, whereas nonspecific objects are sister of V. In other words, the contrast also occurs at different base-positions. The study of this paper tells us that the specificity of the object of Vpri can affect the choice whether an xP is merged as an adjunct or as a complement, and in certain constructions, the specific object of Vpri must raise.

7. Summary

In this study we have shown that the syntactic structures of secondary predication constructions in Chinese are sensitive to the way the functional head of xP, which
encodes a predication relation, is realized, the semantic type of a Vpri, and the specificity of the shared-argument.

Appendix

A contrast between property-change Vpris and other Vpris in English.

The secondary predicates of the former can be either subject-oriented (38) or object-oriented depictives (39), whereas the secondary predicates of (40) cannot be object-oriented depictives. Instead, (41) can only have object-oriented resultative readings (Rapoport, to appear).

(38) a. Jones cut the bread hoti.
b. Jones fried the potatoes drunki.
c. Jones froze the juice tiredi.
d. Jones boiled the lobsters sicki.
(39) a. Jones cut [the bread], hoti.
b. Jones fried [the potatoes], rawi.
c. Jones froze [the juice], freshi.
d. Jones boiled [the lobsters], alivei.
(40) a. Jones phoned Smith drunki.
b. Jones hugged Smith sweatyi.
c. Jones kicked Smith angryi.
d. Jones chased Smith drunki.
(41) a. *Jones phoned Smith, drunki.
b. *Jones hugged Smith, sweatyi.
c. *Jones kicked Smith, angryi.
d. *Jones chased Smith, drunki.

Notes

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The asymmetry between depictives and resultatives in Chinese

1. The abbreviations used in the Chinese examples are: exp: experience aspect, prf: perfect aspect, prog: progressive aspect, ba: causative particle, cl: classifier, mod: modification marker.

2. Adjectives are not morphologically different from adverbs in Chinese. Thus in many cases, if the non-primary predicate is an adjective, as *rere* ‘hot’ in (2b), its PRO subject can be controlled by either an argument of the primary verb or the event expressed by the primary predication. In the latter case, the adjective is a manner expression, and the type of control can be understood as S-control in the sense of Williams (1985:308). See Dechaine (1993) Section 3.3.3.2 ‘Manner adverbs as (derived) event depictives’ for a discussion of the semantic and syntactic relations between subject-oriented adjective depictives and the corresponding -ly adverbs in English. Also see Ernst (1996, 1999) for more discussions on resultative and manner expressions.

3. TRC = transitive resultative construction, where the Vpri is transitive.

4. The subject of the primary predicate of (8) can also be a theme causer. In that case, the reading of the sentence is ‘Chasing Baoyu, Daiyu got tired.’ See Zhang (2001) for a discussion.

5. I do not discuss the cases where there is no argument sharing, as in (i):

   (i) na jian fangzi Akiu zu de laopo dou mei qian le.
       ‘That house, Akiu rented, so that his wife had no more money.’

   Nor do I discuss intransitive Vpris in this paper (see Zhang 2001).

6. The same constraint is applied to post-verbal manner expressions. Objects of Vpri must be raised in the relevant constructions. Sentences like (ii) cannot be a manner construction, contrary to Ernst (1996:120):

   (ii) Guorong ba na bu che kai de hen kuai.
       ‘Guorong drove that car fast.’
       Not: ‘Guorong drove that car fast.’ (a manner construction)

   OK: ‘The car that Guorong drove is a very fast car.’ (a relative clause construction)

7. Zhang (1998) shows that the default reading of a ditransitive construction in Chinese, in contrast to that in English, is “deprivation” rather than “possession”.

References


