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CHAPTER 5

Causality, comitativity, contrastivity, and selfhood

A view from the left periphery and the *v*P periphery

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When people talk about reflexives, they often think of two arguments in an anaphoric or coargumental relationship. This paper sets out to show that reflexive adverbials also participate in such kind of relationship, but with a far greater range of interpretative possibilities closely associated with their syntactic distributions. The syntax-semantics correspondence strictly observes an inner-outer dichotomy of adverbials observed across languages, i.e., inner Self expresses comitativity, whereas outer Self express causality. Our finding thus lends a substantial support to the cartographic approach advocated by Rizzi (1997) and Cinque (1999). It is also argued that this behavior can be accommodated by a general theory of reflexivity along the line of Reinhart & Reuland (1993), given that a contrastive focus is introduced in accordance with the phase edges (Chomsky 2000, 2001). The "selfhood" can then be understood in a new light, not only in terms of the general theory of syntax-semantics mapping, but also in terms of the "topography" of adverbials, which is by and large determined by their morphological makeups in particular languages.

> Human beings model themselves on the earth. The earth models itself
> on the heaven. The heaven models itself on the Way.
> And the Way models itself on selfhood.
> (Lao Tze, *Tao Te Ching*)

0. Introduction

In the past, the literature on how to construe *ziji* 'self' as an argument is abundant, including a number of heated debates (cf. Tang 1989; Huang & Tang 1991; Cole, Hermon & Sung 1990; Cole & Sung 1994; Xu 1993, 1994; Pan 1997; Huang & Liu 2000, among others). On the other hand, the discussion on the adverbial usage of

ziji is relatively rare (cf. Lü 1980; Tang 1990), let alone a systematic investigation of its nature and origin. Take (1a) for example:[1]

(1) a. Akiu zuotian   ziji qu Taibei.
       Akiu yesterday self go Taipei
       'Akiu went to Taipei by himself yesterday.'
    b. Akiu went to Taipei himself yesterday.
    c. Akiu himself went to Taipei yesterday.

Since *ziji* is separated from the subject *Akiu* by a temporal adverbial, it has to be an adverbial of some sort, just like its English counterpart in (1b), rather than an adnominal intensifier as in (1c) (cf. Bickerton 1987; Browning 1993; Siemund 2000; König 2001; Gast 2002; Hole 2002; Gast & Siemund 2004, among others). Semantics wise, its anti-comitative reading is akin to *alone* or *by oneself* in English, further differing from the individual identity functional reading associated with adnominal *himself* (cf. Eckardt 2001; Gast 2002; Hole 2005). In fact, Chinese does have a counterpart of the adnominal intensifier, i.e, *ta-ziji* 'him-self' in (2a), which cannot be separated from the subject *Akiu*, as evidenced by (2b,c):

(2) a. Akiu ta-ziji   changchang hui qu Taibei.
       Akiu him-self often   will go Taipei
       'Akiu himself went to Taipei yesterday.'
    b. *Akiu changchang ta-ziji   hui qu Taibei.
       Akiu often   him-self will go Taipei
    c. *Akiu changchang hui ta-ziji   qu Taibei.
       Akiu often   will him-self go Taipei

Moreover, while the focus marker *shi* may scope over adverbial *ziji*, as in (3a), it can never intervene between the subject and adnominal *ta-ziji*, as in (3b):

(3) a. Akiu shi ziji hui qu Taibei.
       Akiu Foc self will go Taipei
       'It is on his own initiative that Akiu will go to Taipei.'
    b. *Akiu shi ta-ziji   hui qu Taibei.
       Akiu Foc him-self will go Taipei
       'It is Akiu himself that will go to Taipei.'

In the following discussion, we will call the type of *ziji* in (1a) a reflexive adverbial, and focus on investigating its syntax and semantics.

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1.   The abbreviations used in this paper are glossed as follows: CL: classifier; Foc: focus-marker INC: inchoative aspect; PAST: past tense; PRF: perfective aspect; Prg: progressive aspect; Top: topic marker.

Furthermore, once we look deeper into the distributional properties of adverbial *ziji*, it becomes clear that its interpretation varies with respect to the type of syntactic projections it modifies (cf. Tsai 2002). First compare (4) with (5):

(4)   Akiu **ziji** ken   chuli   zhe-jian shi.
      Akiu self willing handle this-CL   matter
      'Akiu is willing to handle this matter on his own initiative.'

(5)   Akiu ken   **ziji** chuli   zhe-jian shi.
      Akiu willing self handle this-CL   matter
      'Akiu is willing to handle this matter by himself.'

The reflexive adverbial in front of the modal *ken* 'willing' is interpreted as 'on his own initiative', whereas the one following *ken* still means 'by himself'. As a matter of fact, the two sentences have distinct semantics: (4) is true if Akiu is willing to handle this matter without others' persuasion. (5) is true if Akiu is willing to handle this matter without others' company or help. So (4) can be true when (5) is false, as in the scenario where Akiu is willing to handle this matter voluntarily, but he asked for a helping hand. Equally, (5) can be true when (4) is false, as in the scenario where Akiu is willing to handle this matter alone only after someone persuaded him to do so. We will pursue the above intuition as far as we can to account for the contrast between (4) and (5) in both syntactic and semantic terms: In the following discussion, we will call premodal *ziji* an outer reflexive adverbial, and postmodal *ziji* an inner reflexive adverbial. Outer Self thus has the semantic effect of excluding all possible causes or causers except for Akiu himself, resulting in the anti-causal reading of (4), whereas inner Self has the semantic effect of excluding all the possible comitants or benefactors except for Akiu himself, resulting in the anti-comitative reading of (5).

This paper is organized as follows: Section 1 carries out a survey of the distribution and interpretations of Chinese reflexive adverbials, showing that a number of sentential elements may serve to delimit the two types of adverbial *ziji*. In Section 2, we point out a thematic-semantic restriction on the usage of inner reflexive adverbials: Namely, they must have an agentive subject. Section 3 explores the possibility of treating adverbial *ziji* as a special kind of reflexive-marker à la Reinhart & Reuland (1993), which combines the properties from both adnominal intensifiers and anaphors. Specifically, we provide a straightforward account of the subject agentivity by associating inner reflexive adverbials with contrastive foci, which effectively introduces negation over the alternative set of a comitative argument. The "inner selfhood" can thus be decomposed into contrastivity plus comitativity in the *v*P phase. In Section 4, we argue that an implicit causative predicate plays a major role in licensing outer reflexive adverbials, and it is a cause/causer argument that is subject to a variety of construals. Accordingly, the "outer selfhood" is decomposed

into contrastivity plus causality in the IP/CP layer. Section 5 continues to explore some consequences of our proposals in terms of restructuring and grammatical- ization, and Section 6 concludes this paper.

1. The delimiting factors

1.1   Modals

There are four groups of sentential elements which may serve to mark the bound- ary for inner and outer reflexive adverbials. The first group, as mentioned above, consists of all sorts of modals: Premodal *ziji* and postmodal *ziji* behaves rather differently in terms of their semantics and pragmatics. For example, the reflexive adverbial appears before *yinggai* 'should' in (6a), and the reading is 'on one's own initiative'. By contrast, it appears after *yinggai* in (6b), and the reading is 'in person':

(6) a.   tamen **ziji** yinggai/bixu chuli   zhe-jian shi.
          they   self should/must handle this-CL   matter
          'They should/must handle this matter on their own initiative.'
     b.   tamen yinggai/bixu **ziji** chuli   zhe-jian shi.
          they   should/must self handle this-CL   matter
          'They should/must handle this matter in person.'

Likewise, when *ziji* precedes the volition modal *yao* 'want', as in (7a), the reading is 'exclusively'; when it follows *yao*, as in (7b), the reading is 'alone':

(7) a.   Akiu **ziji** yao   shui na-zhang chuang.
          Akiu self want sleep that-CL   bed
          'Akiu wants to sleep on that bed exclusively.'
     b.   Akiu yao   **ziji** shui na-zhang chuang.
          Akiu want self sleep that-CL   bed
          'Akiu wants to sleep on that bed alone.'

To sharpen our intuition, we may attempt to paraphrase (6)–(7) in truth-conditional terms, as given in (8a–d) respectively:

(8) a.   (6a) is true if they should/must handle this matter without others'
          persuasion.
     b.   (6b) is true if they should/must handle this matter without asking others
          to do it instead.
     c.   (7a) is true if Akiu doesn't want others to sleep on that bed.
     d.   (7b) is true if Akiu doesn't want others to share that bed.

It should be clear at this stage that inner Self and outer Self have distinct domains of modification, which have a profound impact on the way they are interpreted, and strongly recalls Cinque's (1999) view on adverbial projections.

1.2   Negation

The second group comprises negative morphemes such as *bu* 'not' and *mei* 'have not'. Here an emphatic construal becomes available for outer Self (cf. Tang 1990). The emphasis is placed upon oneself vs. others, as in (9a) and (10a). Inner Self, on the other hand, still keeps its anti-comitative reading, as in (9b) and (10b):

(9) a. Akiu ziji bu kai   zhe-bu che, ta dou jiegei bieren kai.
         Akiu self not drive this-CL car he all lend others drive
         'Akiu himself does not drive this car, and always lends it to others.'
     b. Akiu bu ziji kai   zhe-bu che, you yi-ge   siji   bang
         Akiu not self drive this-CL car have one-CL chauffeur help
         ta   kai.
         him   drive
         'Akiu does not drive this car personally; there is a chauffeur driving for him.'

(10) a. Akiu zuotian   ziji mei   jiao qian,   you jiao bieren ye
         Akiu yesterday self have.not pay money also ask others also
         bu yao   jiao.
         not want   pay
         'Not only did Akiu himself not pay the money yesterday, but he also asked others not to pay.'
     b. Akiu zuotian   mei   ziji jiao qian,   shi jiao biern.
         Akiu yesterday have.not self pay money be ask others
         dai-jiao   de
         acting-pay   DE
         'Yesterday Akiu did not pay the money in person, but asked others to do that for him.'

Also note that outer Self in (9a) cannot be an adnominal intensifier, because it can be easily separated from the subject by a sentential adverbial such as *zuotian* 'yesterday' in (10a).

1.3   Adverbs of quantification

Adverbs of quantification also serve to separate inner *ziji* from outer *ziji*: When *ziji* precedes *changchang* 'often', *henshao* 'seldom', and *congbu* 'never', it gets interpreted as 'on one's own initiative', as evidenced by (11). When *ziji* follows the adverbs of quantification, its reading again shifts to 'in person', as in (12):

(11) tamen ziji changchang/henshao/congbu chuli   zhe-zhong shi.
      they   self often/seldom/never   handle this-kind   matter
      'They often/seldom/never handled this kind of matter on their own initiative.'

(12) tamen changchang/henshao/congbu ziji chuli   zhe-zhong shi.
      they   often/seldom/never   self handle this-kind   matter
      'They often/seldom/never handled this kind of matter in person.'

1.4   Control verbs

The last group has to do with the control structures headed by verbs like *jihua* 'plan', *dasuan* 'intend'. Again, it is 'on one's own initiative' vs. 'alone' in (13), and 'of one's own accord' vs. 'alone' in (14):

(13) a. Akiu ziji jihua qu Taibei.
          Akiu self plan go Taipei
          'Akiu plans to go to Taipei on his own initiative.'
      b. Akiu jihua ziji qu Taibei.
          Akiu plan self go Taipei
          'Akiu plans to go to Taipei alone.'

(14) a. Akiu ziji dasuan qu Taibei.
          Akiu self intend go Taipei
          'Akiu intends to go to Taipei of his own accord.'
      b. Akiu dasuan ziji qu Taibei.
          Akiu intend self go Taipei
          'Akiu intends to go to Taipei alone.'

This suggests that the interpretive alternation between the two types of adverbial *ziji* is not restricted to clausemates, but may involve a bi-causal construal.[2]

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2.   Another way to look at (13) and (14) is to treat inner Self here as something belonging to a control complement. Questions, however, remain as to why *ziji* in the control clause can only be interpreted as anti-comitative, while its counterpart in the main clause can only be interpreted as anti-causal.

All in all, a systematic distinction does exist between the two types of reflexive adverbials both in terms of syntactic distributions and semantic interpretations. In the following discussion, we will focus on an agentivity requirement on inner *ziji*, which will further set them apart.

2.   Subject agentivity

Predicate types have a close bearing on the distribution of Chinese reflexive adverbials: Inner *ziji* is consistently blocked when the subject is not an agent. Take passive and unaccusative sentences for example: Both (15) and (16) lack the inner reflexive readings, i.e., not being able to be interpreted as either 'alone' or 'by oneself':[3]

(15)   *passives:*
　　　na-ge xuesheng ziji bei pian-le,   hai xiang pian bieren.
　　　that-CL student   self BEI cheat-INC still want cheat others
　　　a.　'That student himself was cheated, and he still wants to cheat others.'
　　　b.　#'That student alone was cheated, and he still wants to cheat others.'

(16)   *unaccusatives:*
　　　wo hai mei   zhao, na-ben shu jiu ziji chu-xian le.
　　　I   still have.not search that-CL book then self show-up INC
　　　a.　'I have not looked for it yet. Then the book showed up spontaneously.'
　　　b.　#'I have not looked for it yet. Then the book showed up alone.'

Likewise, inner *ziji* is also blocked in locative-existential constructions such as (17): The subject is a locative PP, and the reflexive adverbial does not allow the "inner" reading:

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3.   An anonymous reviewer points out that inner reflexive adverbial construals can still be spotted in the following passive and unaccusative constructions:

(i)　na-ge   qiangdao zhi you ziji bei zhua, ta-de   tonghuo dou taozou le.
　　　that-CL bandit   only have self BEI arrest, his-DE gang   all   escape INC
　　　'That bandit got arrested alone, and other members of his gang have fled the scene'

(ii)　Guole henduo nian, na-ge   shizong   de shaonian ziji chuxian
　　　After many   year, that-CL disappear DE youngster self appear
　　　zai cheng-li.
　　　in   city-inside
　　　'After many year, the young man who disappeared long time ago appeared along in the city.'

(17)   *locative-existential predicates:*
   cong faguo   ziji lai-le   san-ge   gongchengshi.
   from France self come-PRF three-CL engineer
   a.   'From France came three engineers without invitation.'
   b.   #'From France came three engineers by themselves.'

Finally, sentient verbs such as *xihuan* 'like' and *ku* 'cry' are incompatible with inner *ziji*, as their subjects are typically sentient beings,[4] as evidenced by the lack of ambiguity in (18) and (19):

(18)   *transitive sentient verbs:*
   Akiu ziji xihuan hua,   jiu guli   dajia   zhong.
   Akiu self like   flower then encourage people plant
   a.   'Akiu likes flowers out of his own liking. He then encouraged people to plant them.'
   b.   #'Akiu alone likes flowers. He then encouraged people to plant them.'

(19)   *unergative sentient verbs:*
   bu zhi   zenme de, Akiu ziji ku-le   qilai.
   not know how   DE Akiu self cry-INC up
   a.   '(I) don't know how (that happened). Akiu started to cry without cause.'
   b.   #'(I) don't know how (that happened). Akiu started to cry alone.'

By contrast, predicates with an agentive subject allows both the outer *ziji* and inner *ziji* freely, as indicated by the two readings of (20a,b):

(20)   bu zhi   zenme de, Akiu ziji pao-le   chuqu.
   not know how   DE Akiu self run-INC out
   a.   '(I) don't know how (that happened). Akiu ran out on his own initiative.'
   b.   '(I) don't know how (that happened). Akiu ran out by himself.'

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4.   Within Reinhart's (2000, 2002) theta system, the subject of sentient verbs is classified as [+m] (m: mental state), but underspecified for the c feature (c: cause change). The verbs we pick here do not involve agentivity or a causal relation with their arguments, and their external θ-roles should therefore be specified as [−c, +m], in line with an experiencer.

3. Reflexives of nature

An even more interesting case can be found in unaccusatives with transitive alternates (a.k.a. ergative predicates):[5] Here we need an external force, as in (21), or an physical condition, as in (22), in the context to license outer reflexive adverbials:

(21) feng da-le,   men **ziji** hui kai.   (outer Self)
wind big-INC door self will open
'When wind becomes stronger, the door naturally will open.'

(22) shijian dao-le,   hua   **ziji** hui kai.   (outer Self)
time   due-INC flower self will open
'When the time is due, flowers will blossom by nature.'

The reading shifts to 'by nature' or 'naturally' instead of 'voluntarily' or 'without cause', as illustrated in (21). On the other hand, the inner reflexive construals of (23a,b) are marginal, presumably due to a conflict with the force/condition in the context:

(23) a. ??feng da-le,   men hui **ziji** kai.   (inner Self)
wind big-INC door will self open
'??When wind becomes stronger, the door will open automatically.'
b. ??shijian dao-le, hua   hui **ziji** kai.   (inner Self)
time   due-INC flower will self open
'??When the time is due, flowers will blossom spontaneously.'

In cases where there is no salient force/condition at work, two things may happen. Firstly, outer Self may bring out spontaneousness, as in the locative-existential construction (24a). By contrast, inner Self is ruled out in the same environment, as evidenced by (24b):[6]

(24) a. meige chitang-li **ziji** dou zhang-chulai   yi-zhu   liahua.
every pond-in   self all   grow-come.out one-CL water.lily
'In the pond grew a water lily spontaneously.'   (outer Self)

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5.   The fact that adverbial *ziji* may take an inanimate subject is first pointed out by Tang (1989), which serves an argument for distinguishing it from genuine anaphors with respect to its "intensifying" function.

6.   Here an anonymous reviewer raises an interesting observation that, for some Mandarin speakers, (24b) is valid when interpreted as 'without (extra) care', which is arguably an instance of comitative construals. As far as I can see, this seems to fall under the gray area of grammaticalization from inner Self to outer Self. Namely, the reading actually stands in-between 'without help' and 'without (external) cause'. We may link this spectrum effect further to the "de-agentivization" of the locative subject, which leads to the non-agentive usage of 'without (external) care'.

b. *meige chitang-li dou **ziji** zhang-chulai   yi-zhu   liahua.
    every pond-in   all self grow-come.out one-CL water.lily
    'In the pond grew a water lily alone.'   (inner Self)

Secondly, inner Self may become compatible, producing either an automatic or supernatural reading. The point should be clear by comparing (21) with the following examples:

(25) a. men hui   **ziji** kai.   (inner Self)
       door capable self open
       'The door is capable of opening automatically.'
    b. men hui   **ziji** kai,   you gui!   (inner Self)
       door capable self open have ghost
       'The door is capable of opening by itself. There must be a ghost!'

Here the interpretation has shifted from 'by nature' to something related to a built-in mechanism, as in (26a), or to a supernatural cause, as in (26b). Also note that the future modal has changed into one of its cognates, i.e., the capability modal *hui*. One way to look at this puzzle is to say that some sort of agentivity has been ascribed to the inanimate subject, hence the changing of modality. The supernatural reading comes out whenever we cannot provide a reasonable explanation based on our understanding of the nature of the world.

4.   A working hypothesis

4.1   Inner self as a focus adverb

A natural question along our line of research concerns what makes reflexive adverbials standing out between adnominal intensifiers and anaphors. Tang (1989) points out that emphatic *ziji* is an adverbial, and should be separated from genuine anaphors in sporting only the "intensifying" function. From an opposing point of view, Jayaseelan (1997) suggests that there is no distinction between anaphoric Self and emphatic Self. The adverbial-like behavior of emphatic Self is attributed to a process akin to quantifier floating, where it is left behind as a focus marker. As a result, there is essentially no semantic distinction between, say, *John himself went to Taipei* and *John went to Taipei himself*. For Jayaseelan, even an anaphor is decomposed into [$_{DP}$ *pro* [$_{D'}$ *himself*]], where the empty pronoun is "protected" from Binding Principle B by its head *himself*. In other words, all anaphors are pronouns in disguise.

    Our position is somewhere in-between: We would like to propose that reflexive adverbials combine properties from both adnominal intensifiers and anaphors.

In a nut shell, reflexive adverbials pattern with adnominal intensifiers in sporting a contrastive focus, which may well lead to an emphatic construal on semantic/ pragmatic grounds. On the other hand, we believe that there is a strong connection between reflexive adverbials and anaphors, in that they both involve coargumental relations of some sort.

Furthermore, there is a morpho-syntactic distinction between adnominal intensifiers and adverbial reflexives in Chinese. As discussed above, the complex reflexive *ta-ziji* 'him-self' heads an argument DP, specializing in contrasting an individual (i.e., the agentive subject) against possible alternatives, whereas the simplex reflexive *ziji* functions as an adverbial, hence contrasting an eventuality against possible alternatives (cf. Rooth 1985, 1992, among others). For one thing, it is not uncommon for languages to distinguish adnominal intensifiers from reflexive adverbials: As reported by Gast & Siemund (2004), Tetelcingo Nahuatl provides just such an example: *Sie* plus a pronoun serves as an adnominal intensifier associated with *David* in (26a), while *sa… siel* function as an adverbial expressing intensifying construals, as in (26b):

(26) a. pos **sie yaha** David kıhtoa ipa inu libro de Salmos…
　　　 well one he　 David he.says in DET book of psalms
　　　 'and David himself saith in the book of Psalms.'
　　 b. **sa　 i-siel**　　　 okıchıhchı i-kal.
　　　 only 3.POSS-INT he.built　　 3.POSS-house
　　　 'He built his house himself.'

To implement the duality of reflexive adverbials, first we would like to entertain the possibility of treating adverbial *ziji* as a special kind of reflexive-marker along the line of (27) à la Reinhart & Reuland (1993) (henceforth R & R):

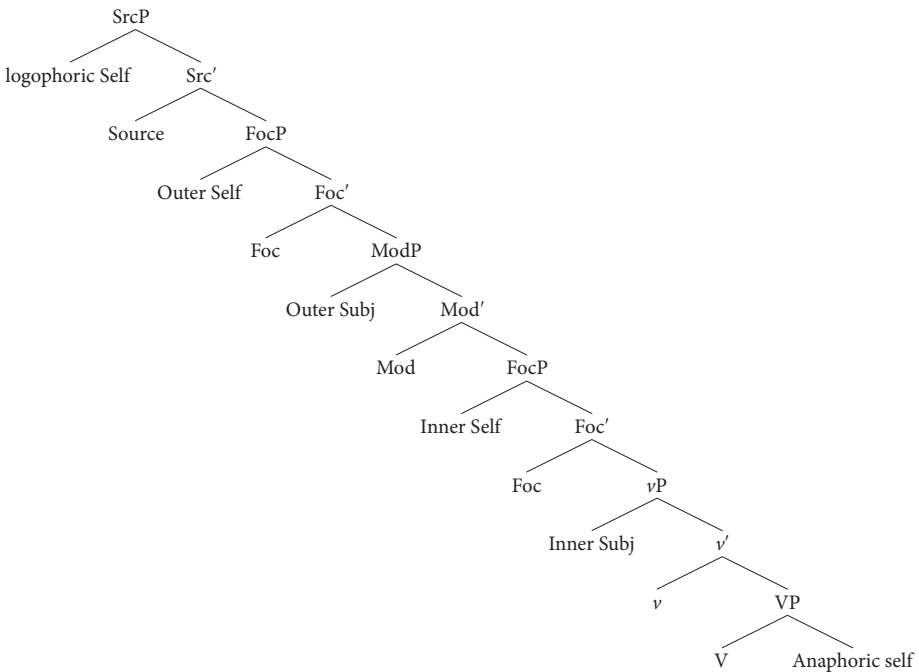(27)　 A reflexive predicate must be reflexive-marked.

The idea is to treat reflexive adverbials as a SE-anaphor operating on a syntactic level, since *ziji* is a free form rather than a clitic. In terms of syntax, we assume that it is at the edge of *v*P that inner Self serves to reflexive-mark the predicate. By scoping over *v*P instead of V, inner Self associates the subject with a comitative argument instead of the internal argument, due to its extended scope over *v*P. By the same token, the contrastive focus is operating on the *v*P projection, scoping over the alternative set of the comitative argument.

Outer Self, on the other hand, merges to ModP (or other functional projections in the left periphery) as an adjunct, and reflexive-marks the modal projection accordingly. Finally, the object position hosts *ziji* as the coargument of the subject along the line of R & R. In term of semantics, the interpretations of middle Self and outer Self are largely determined by the type of constituent they modify, ranging from 'on one's own initiative' to 'without cause' or even 'by nature'. For inner Self, it

is a *v*P-adjunct and displays the subject agentivity effects. Its interpretation is more or less predictable, i.e., either 'alone' or 'in person'.

In the event that *ziji* merges to a even higher functional projection (presumably in the CP domain), then *ziji* may have been engaged in the role as a logophor. As a matter of fact, an IP-adjunction analysis has already been proposed by Huang & Tang (1991) to deal with the long-distance construals of *ziji*, which is reinterpreted by Huang & Liu (2000) as raising to the Spec of a Source Phrase (SrcP) in the left periphery. Reflexive adverbials, therefore, serve as the missing link between logophors and anaphors in Chinese. It is therefore not surprising that, as apposed to the complex reflexive *ta-ziji* 'him-self', the simplex reflexive *ziji* enjoys a much wider range of distribution and interpretation, presumably due to the robust analyticity of Chinese (cf. Huang 2015). The whole spectrum of the diverse realization of selfhood is illustrated in the following topography of Chinese reflexives:

(28)
```
                SrcP
              /      \
    logophoric Self   Src′
                    /      \
                Source      FocP
                          /      \
                  Outer Self      Foc′
                                /      \
                             Foc        ModP
                                      /      \
                              Outer Subj      Mod′
                                            /      \
                                         Mod        FocP
                                                  /      \
                                         Inner Self       Foc′
                                                        /      \
                                                     Foc        vP
                                                              /      \
                                                      Inner Subj      v′
                                                                    /      \
                                                                   v        VP
                                                                          /      \
                                                                        V        Anaphoric self
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Given the above topography, outer Self should be able to co-occur with inner Self and/or anaphoric Self. This prediction is indeed borne out, as evidenced by the following examples:

(29) a. ˀAkiu **ziji** yinggai **ziji** chuli   **ziji**-de shi.
         Akiu self   should self   handle self-DE   business
         'Akiu should handle his own business alone on his own initiative.'

b. ˀAkiu **ziji** hui **ziji** gei   **ziji** guli.
   Akiu self will self give self encouragement
   'Akiu will willingly give himself encouragement in private.'

We thus map out the distribution Chinese Self in correspondence with its various interpretaitons along the line of Rizzi (1997) and Cinque (1999), not only in the left periphery, but also in the *v*P periphery. This move in turn presents a much clearer picture of how syntax and semantics interact to shape the topography of adverbials in general.

From a cross-linguistic perspective, the inner-outer dichotomy is also attested in German (cf. Siemund 2000; König 2001; Gast 2002; Hole 2005): As illustrated by (30a), *selbst*, an agentive intensifier in Hole's terms, is akin to inner *ziji* with regard to both its distribution and its interpretation, which construal seems to be wide-spread across languages. By contrast, *selbst* of (30b) occupies a location much higher and carries an additive meaning which can be roughly paraphrased as 'The cook, too, has picked blueberries before':

(30) a. Der Koch hat die Blaubeeren **selbst**   gepflückt.
       the cook has the blueberries himself picked
       'The cook has picked the blueberries himself.'
    b. Der Koch hat **selbst**   schon   mal Blaubeeren gepflückt.
       the cook has himself already once blueberries picked
       'The cook has himself picked blueberries before.'

Although the latter construal of *selbest* (often dubbed as an inclusive intensifier) has no counterpart in Chinese, one may still compare it to outer *ziji* in both syntactic and semantic terms: Both merge to a functional projection in the left periphery, taking a propositional scope as a result, and both involve focus construals of some sort.

4.2   Comitativity and subject agentivity

At first glance, it seems the subject agentivity puzzle may find its solution in argument reduction associated with reflexive-marking. First consider the following reduction constraint proposed by Reinhart & Siloni (2004):

(31)   Reduction can only apply to a pair of free θ-roles one of which is external.

In other words, if there is no external argument, then there will be no reduction triggered by inner reflexive adverbials.[7] The constraint thus works well in block-

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7.   In the long tradition of Marantz (1984), Bouchard (1984), Manzini (1986), Cinque (1988), Grimshaw (1990), Kayne (1988), Pesetsky (1995), and Sportiche (1998), reflexivization is viewed as a process of reducing the external argument, where an internal argument will have to raise to

ing inner Self for passives, unaccusatives, and locative-existential predicates in (15–17). However, sentient predicates of (18) and (19) still present difficulties for this approach: Namely, they do have external arguments, i.e., the Experiencer subjects, but inner Self is ruled out nonetheless. As a result, we must look elsewhere for the solution.

To that end, one may appeal to an observation made by Reinhart (2002), which goes as follows: 'In standard agent verbs….. an instrument is always allowed optionally, but it is not directly selected by the verb. (This is a general entailment licensed by the agent role, which need not be listed for each individual entry.)'. Indeed, this general entailment in presence of an agent verb provides us the basis of formulating the subject agentivity.[8]

Nevertheless, there is still a conceptual gap between an instrumental argument and a comitative argument. As mentioned above, inner Self constructions such as (32) actually allow two types of paraphrases: One is comitative, as in (32a); the other is instrumental, as in (32b):

(32) Akiu ken   **ziji** chuli   zhe-jian shi.
      Akiu willing self handle this-CL matter
      a. 'Akiu is willing to handle this matter without others' company.'
      b. 'Akiu is willing to handle this matter without others' help.'

One way to think of this issue is to group instrumental and comitative arguments together under a proto-comitant role, which relation is typically expressed by *with* or *by* in English with a variety of interpretations ranging from a comitant to a manner, as shown throughout (33a–c) and (34a–c):

(33) a. Akiu left with his friends.   (comitant)
      b. Akiu left with a limousine.   (instrument)
      c. Akiu left with apparent ease.   (manner)

(34) a. Akiu stands by his friends.   (comitant)
      b. Akiu came by the highway.   (path, method)
      c. Akiu was killed by a knife.   (instrument)

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the subject position, in a fashion very similar to unaccusative construals. The "internal" reductionist approach, on the other hand, take reflexivization to be a reduction process of an internal argument (cf. Grimshaw 1982; Wehrli 1986; Reinhart 1997; Chierchia 1989; Reinhart & Siloni 2004; Reinhart 2000, 2002). At this stage, it suffices to assume that the target of reduction is a quasi-argument bearing an optional θ-role (cf. Rizzi 1990).

8. Alternatively, one may follow Gast & Siemund (2004) in taking the instrumental construal to be something metonymical to the agent role, which explains why reflexive adverbials often adopt the "oblique reflexive adjunct" strategy cross-linguistically, i.e., appearing in a PP form as in *Akiu went to Taipei [by himself]*.

A comitant is defined as someone or something which is in a comitative relationship to an event, as in *Akiu went to Taipei with his father*, or *Akiu went to Taipei with his father's money*. Conceptually speaking, the comitant role can easily translate into an instrument role: For instance, *his father's money* can be something Akiu carried with him, or equally something Akiu made use of to get to Taipei. Parsons (1995) defines an instrument role as a relation between an event e and an individual x such that e is with x. We may extend his insight by claiming that a proto-comitant is someone or something in a comitative relation to an event, which can easily translate into an instrumental, path or manner relation. Consequently, there are two facets to our formulation of the agentivity restriction, as stated below:

(35)   *Subject Agentivity on Inner Self*:
       An agentive subject may license an optional comitative argument, which feeds into the focus construal of inner Self.

This move thus accounts for the incompatibility between inner Self and sentient verbs in (18) and (19) in a straightforward manner: The external argument of *xihuan* 'like' and *ku* 'cry' is not an agent ([+c, +m] in Reinhart's system), but a sentient ([+m]). As a result, they do not allow an optional comitative argument, and inner Self is blocked due to the failure to fulfill (35b).[9]

For one thing, one may wonder whether the optionality really matters here. One phenomenon worthy of investigation has to do with predicates obligatorily selecting a comitative argument, e.g., *jianmian* 'meet' in (36a,b):

(36)   a.   Akiu zuotian   he   Xiaodi jianmian.
            Akiu yesterday with Xiaodi meet
            'Akiu met with Xiaodi yesterday.'
       b.   *Akiu zuotian   jianmian.
            Akiu yesterday   meet
       c.   Akiu zuotian   **he**   **ziji** jianmian.
            Akiu yesterday with self meet
            'Akiu met with himself yesterday.'
       d.   *Akiu zuotian   **ziji** jianmian.
            Akiu yesterday self meet

Reflexivization here is only possible when *ziji* is buried in an comitative PP, as in (36c), a strategy called "oblique reflexive adjunct" by Gast & Siemund (2004). Otherwise inner reflexive adverbials are ruled out, as evidenced by (36d). This is

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9.   A noteworthy alternative to the agentivity restriction of inner reflexive adverbial has been developed by Hole (2005), where the agentive use of *selbst* 'himself' is taken to an instance of the identity function, syntactically adjoining to Agentive Voice head à la Kratzer (1996). We will not pursue this option here.

fully expected under our formulation since the comitative argument in question is not optional.

For another, one may also wonder whether the notion of "proto-comitant" is really necessary. There are two cases to consider here. Both concern constructions where the external argument is instrumental, which phenomena has been examined in depth by Reinhart (2002). First consider transitive verbs with an unaccusative alternate, as illustrated by the following data:

(37) a. The wind opened the door.   (cause)
      b. Max opened the door.   (agent)
      c. The key opened the door.   (instrument)
      d. The door opened.   (theme)

The transitive verb *open* allows four types of θ-role to be associated with its external argument, i.e., cause, agent, instrument, and theme, as shown by (37a–d) respectively.[10] Here we focus on the Chinese counterpart of (37c), as in (38a):

(38) a. zhe-ba yaoshi kai   na-dao men.
          this-CL key   open that-CL door
          'This key opens that door.'
      b. ??zhe-ba yaoshi **ziji**   kai   na-dao men.
          this-CL key   self open that-CL door
          '??This key opens that door by itself.'

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10. The subject of (37a) is reminiscent of the external force associated with the reflexives of nature. The same type of construal, unfortunately, is not fully represented in Chinese: *kai* 'open' must form a compound with another monosyllabic verb *chui* 'blow' in order to take a cause subject, as shown by the contrast of (ia,b):

(i) a. *feng kai-le   men.
          wind open-INC door
          'The wind opens the door.'
     b. feng chui-kai-le   men.
          wind blow-open-INC door
          'The wind blew the door open.'

It is then possible to attach *ziji* to the VP containing *chui-kai* 'blow-open', resulting in an inner reflexive construal, as evidenced by (ii):

(ii) feng ziji chui-kai-le   men.
     wind self blow-open-INC door
     'The wind blew the door open by itself.'

Here a reasonable explanation is that *chui* 'blow' attributes the needed agentivity to the subject, which not only licenses the inner adverbial *ziji* of (ii), but also makes *feng* 'wind' an agent to fit in with *kai* in (ib).

According to (35a), there will be no proto-comitant role for (38a), since the subject is not agentive (i.e., an instrument is [+c, −m] rather than [+c, +m]). The instrument argument, though present, is not qualified as a proto-comitant. (38b) is thus blocked due to a failure to license inner Self.

The other case comes from the so-called "manner verbs" (cf. Levin & Rappaport 1995):

(39) a. Max peeled the apple (with the knife)
      b. The knife peeled the apple.

The manner verb *peel* can appear either with an agentive subject plus an optional proto-comitant, as in (39a), or with an instrument as its external argument, as in (39b). Their Chinese counterparts are given in (40a,b) respectively:

(40) a. Akiu (yong zhe-ba dao) qie rou.
          Akiu with   this-CL knife cut meat
          'Akiu cuts meat (with this knife).'
      b. zhe-ba dao   xiao pingguo.
          this-CL knife peel apple
          'This knife peels apples.'

Again, inner Self gets along with the agentive subject of (41a), but fails in conjunction with the instrumental subject of (41b).

(41) a. Akiu **ziji** (yong zhe-ba dao) qie rou.
          Akiu self with   this-CL knife cut meat
          'Akiu cuts meat with this knife by himself.'
      b. ??zhe-ba dao   **ziji** xiao pingguo.
          this-CL knife self peel apple
          '??This knife peels apples (by) itself.'

4.3   Contrastive focus and inner self

So far we have worked out a theory of how inner reflexive adverbials should be related to anaphors in terms of argument reduction, though we have not touched upon their contrastive semantics that is shared by adnominal intensifiers. To begin with, we would like to offer an elementary semantics for a simple past sentence such as (42), where the outer reflexive reading is often suppressed for some reason:

(42) Akiu ziji chuli-guo   zhe-jian shi.
      Akiu self handle-PAST this-CL   matter
      'Akiu handled this matter by himself before.'

Here we represent the basic ingredients of (42) under the neo-Davidsonian approach advocated by Parson (1990, 1995), where θ-roles are viewed as thematic relations between arguments and an underlying event, and an adjunct is treated as a conjunct of the main predicate, both predicating upon the event argument, as illustrated in ((inner adverbial *ziji* is represented here as a Self operator taking the *v*P scope):[11]

(43) a. λx ∃e (Agent (x, e) & Self (*handling* (e) & Theme (*this matter*, e))) (*Akiu*)

b. λx ∃e (*handling* (e) & Agent (x, e) & Theme (*this matter*, e)
& Comitant (x, e) & ~∃y (y≠x & Comitant (y, e))) (*Akiu*)

c. ∃e (*handling* (e) & Agent (*Akiu*, e) & Theme (*this matter*, e)
& Comitant (*Akiu*, e) & ~∃y (y≠*Akiu* & Comitant (y, e)))

Since there is an agentive subject in the sentence, an optional comitative argument is introduced, and the contrastive focus triggers the negation over the alternative set of the comitative argument, which turns out to be a coargument of the subject *Akiu*, as in (43b). Finally, after the predication completes, the following semantic representation emerges, as in (43c). Since a proto-comitant role is defined as "e is with x", we end up with the desirable interpretation 'Akiu handled this matter without others' company/help except for himself'.

In sum, we have developed a workable semantics for inner Self. Namely, the inner selfhood should be decomposed into a contrastive focus with a *v*P scope plus the coargumental relation between an agent and a proto-comitant. In the next section, we will examine how this proposal fairs with the outer reflexive adverbials.

5.   Outer adverbial *ziji* as a focus adverb

5.1   Inner self and inner how

Our focus analysis of inner Self leaves us with a hard nut to crack. That is, exactly what θ-role is reduced in presence of outer reflexive adverbials? Could the outer Self usage follow from other independent principles? By Occam's Razor, it would be nice to have one kind of solution for both inner and outer reflexive adverbials.

Before we proceed any further, it is worthwhile to note that there is a phenomenon exactly parallel to the inner-outer dichotomy at issue here: It has been noted by

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11. One may imagine a number of ways to formulate the idea. Here we simply pick the most intuitive way to present the reduction process without the complications of the corresponding syntactic structure. Moreover, we will not concern ourselves with tense/aspect elements in the following semantic representations as long as they do not have an impact on reflexive construals.

Tsai (1999b, 2008) that *zenme*, a Chinese *how*, also has two types of interpretation depending on its syntactic distribution: Outer *how* is causal, similar to *how come* in English, while inner *how* is instrumental, as shown by the contrasts between (a) and (b) clauses below:

(44) *Modals:*
    a. tamen zenme hui chuli   zhe-jian shi?
        they   how   will handle this-CL matter
        'How come they will handle this matter?'
    b. tamen hui zenme chuli   zhe-jian shi?
        they   will how   handle this-CL matter
        'How will they handle this matter?'

(45) *Adverbs of Quantification:*
    a. tamen zenme changchang chuli   zhe-zhong shi?
        they   how   often   handle this-kind   matter
        'How come they often handled this kind of matter?'
    b. tamen changchang zenme chuli   zhe-zhong shi?
        they   often   how   handle this-kind   matter
        'How did they often handle this kind of matter?'

(46) *Control Verbs:*
    a. Akiu zenme dasuan qu Taibei?
        Akiu how   intend go Taipei
        'How come Akiu intends to go to Taipei?'
    b. Akiu dasuan zenme qu Taibei?
        Akiu intend how   go Taipei
        'How does Akiu intend to go to Taipei?'

Curiously enough, the subject agentivity effects duly show up for inner *how* as well: That is, the instrumental/manner reading is consistently blocked when the subject is not agentive, as evidenced by (47–51):

(47) *passives:*
    na-ge xuesheng zenme bei pian-le,   hai xiang pian bieren?
    that-CL student   how   BEI cheat-INC still want cheat others
    a. 'How come that student himself was cheated, and he still wants to cheat
        others?'
    b. #'By what means was that student cheated, and he still wants to cheat others?'

(48) *unaccusatives:*
    na-ben shu   zenme chu-xian le?
    that-CL book how   show-up INC
    a. 'How come that book showed up?'
    b. #'By what means did that book show up?'

(49)   *locative-existential predicates:*
    cong faguo   zenme lai-le   san-ge   gongchengshi?
    from France how   come-PRF three-CL engineer
    a.   'How come from France came three engineers?'
    b. #'By what means did three engineers come from France?'

(50)   *transitive sentient verbs:*
    Akiu zenme xihuan hua,   jiu   guli   dajia   zhong?
    Akiu how   like   flower then encourage people plant
    a.   'How come Akiu likes flowers, and then encouraged people to plant them?'
    b. #'In what manner does Akiu likes flowers, and then encouraged people to plant them?'

(51)   *unergative sentient verbs:*
    Akiu zenme ku-le   qilai?
    Akiu how   cry-INC up
    a.   'How come Akiu started to cry?'
    b. #'In what manner did Akiu start to cry?'

The correspondence between inner Self and inner *how* is too systematic to be dismissed as a coincidence. Our hunch is that they are subject to the same syntacto-semantic restrictions due to their positions in the "topography" of Chinese adverbials as sketched in the diagram (28). Take a solid example like (52) or example: In terms of syntax, a question operator Q merges to C according to the parametric setting of Chinese (cf. Cheng 1991; Aoun & Li 1993; Tsai 1994, 1999a), while inner *how* merges to the edge of *v*P, i.e., the VP periphery in Belleti's (2005) terms, as shown in (52a):

(52)   Akiu hui zenme chuli   zhe-jian shi?
    Akiu will how   handle this-CL   matter
    a.   Syntax: $[_{CP}$ Q $[_{TP}$ Akiu hui $[_{vP}$ zenme $[_{vP}$ chuli zhe-jian shi]]]]
    b.   Semantics: $Q_f (\exists e$ (*handling* (e) & Agent (*Akiu*, e) & Theme (*this matter*, e) & f(comitant)))

In terms of semantics, a comitative argument is again introduced by the agentive subject to license inner *how*, as illustrated in (52b). The comitant in turn provides a choice function variable unselectively bound by the Q-operator in the left periphery along the line of Reinhart (1998).[12] As a result, sentences without an

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12. Following Reinhart (1998), we may elaborate on the semantics further along the line of Hamblin (1973) and Karttunen (1977), where questions are viewed as sets of true propositions and the *wh*-expression (a choice function in our case) is existentially bound, as sketched below:

    (i) $\{P| \exists_f (CH(f)$ & $P=\wedge$(will $(\exists e$ (*handled* (e) & Agent (*Akiu*,e) & Theme (*this matter*,e) & f(comitant)))) & true (P))$\}$

For the ease of exposition, we will continue to use the original notation while adopting this elaboration tacitly.

agentive subject license neither inner Self nor inner *how*, because there is simply no way for them to introduce an optional comitative argument.

If this move turns out to be on the right track, then we have not only found independent evidence for our analysis of inner Self, but also provide a unified account of the subject agentivity restriction on Chinese adverbials.

5.2   Outer self and outer how

By parity of reasoning, there must be a close connection between outer Self and outer *how* in terms of syntax-semantics mapping. In the following discussion, we are to show that this is indeed the case. First consider the following interpretive contrast of *how come* and *why* in English: When *how come* co-occurs with a stative predicate, there is always a change-of-state flavor attached to the question, as evidenced by (53a):

(53) a.   How come the snow is white? (It was very muddy this morning.)
       b.   Why is the snow white? (I am not aware of any scientific explanation.)

This presents a sharp contrast to the epistemic question of (53b) (cf. Bromberger 1992), *which* is typically associated with *why*. The same contrast is also attested in Chinese, as evidenced by the causal reading of (54) vs. the epistemic reading of (55):[13]

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13. It is instructive to note that ordinary *why*-questions are often three-way ambiguous among causal, epistemic, and purposive readings. Causal *why* and epistemic *why* pattern together syntactically as CP/IP-adverbials, whereas purposive *why* functions as a vP/VP-adverbial, observing the subject agentivity. As illustrated below, *weishenme* 'why' typically appears before the future modal, and can be interpreted as either causal or epistemic:

(i)   Akiu weishenme hui shengbing?
      Akiu why   will sick
      'Why would Akiu be sick?'
      a.   Causal Answer: He was infected by his roommate.
      b.   Epistemic Answer: He is an old man.

By contrast, its cognate *wei(-le) shenme* 'for what' typically appears after the future modal, and can only be interpreted as purposive, as evidenced by (ii):

(ii) Akiu hui wei(-le)   shenme cizhi?
      Akiu will for(-PRF) what   resign
      'For what purpose would Akiu resign?'
      Purposive Answer: He wanted to protest the injustice.

Once we substitute the stative predicate *shenbing* 'sick' for *cizhi* 'resign', the sentence degrades dramatically, as in (iii), where *Akiu* is a theme instead of an agent:

(54) xue   zenme shi baide?
      snow how   be white
      'How come the snow is white?'

(55) xue   weishenme shi baide?
      snow why   be white
      'Why is the snow white?'

This indicates that *how come*, as well as outer *how*, presupposes a cause event which rendered the snow white, while an epistemic question does not. To account for (53a) and (54), Tsai (2008) puts forth the claim that *how come* and outer *how* introduce an implicit causative predicate CAUSE, which takes two event arguments, that is, a cause event and an resultant state in the vein of Vendler (1967), as illustrated below:[14]

(56) Qe ($\exists$s (CAUSE (e, s) & *being-white* (s) & Theme (*the snow*, s)))

Here it is the cause event e that is subject to interrogative construals, a form of reduction, which changes the snow into the state s, namely, the state of being white. Therefore, when people utter 'How come the snow is white?', they want to know what made the snow white, or more literally, how the change-of-state came about.

In light of the above observation, we may apply the same semantics further to outer *how* with an episodic predicate: The internal argument of CAUSE is an effect event rather than a resultant state, whereas the external argument can be either an event (i.e., cause) or an individual (i.e., causer). Let's take (57) for example:

(57) Akiu zenme hui chuli   zhe-jian shi?
      Akiu how   will handle this-CL   matter
      a. Syntax: [$_{CP}$ Q [$_{TP}$ Akiu [$_{ModP}$ zenme [$_{ModP}$ hui [$_{vP}$ chuli zhe-jian shi]]]]]
      b. Semantics: Qe (CAUSE (e, e′) & *will* ($\exists$e′ (*handling* (e′) & Agent (*Akiu*, e′) & Theme (*this matter*, e′)))

(iii) *Akiu hui wei(-le)   shenme shengbing
       Akiu will for(-PRF) what   sick
       '*For what purpose would Akiu be sick?'

This indicates that purposive *why* is indeed subject to the subject agentivity, patterning with instrumental *how* and manner *how* in Chinese.

14. This notion of the eventual causative predicate is very much the same as the one proposed by Parsons (1990, 1995) to account for causative constructions such as *Mary galloped her horse*:

(i)   For some event e, Mary is the agent of e.
(ii)   For some event e′, the horse is the agent of e′, and e′ is a galloping.
(iii) e CAUSES e′.

Here the speaker is essentially soliciting information as to who or what causes the effect event e', i.e., the event of Akiu's handling this matter.[15]

We now have a useful tool for sharpening our intuition about outer Self. In light of this new development, we may venture to reverse the logic of correlating inner Self with inner *how*: If it is a cause/causer argument that is bound by a question operator in construing outer *how*, then it must be a cause/causer argument that is subject to outer reflexive construals. More specifically, outer Self patterns with outer *how* in involving a causal relation. For outer reflexive construals, it is the cause/causer argument that is identified with the subject under the coargumental relationship, as sketched below:

(58)   *Causality of Outer Self:*
      Outer Self presupposes an implicit causative predicate, whose external argument is either a cause or a causer.

5.3   Causality and reflexives of nature

As is clear from our previous discussion in Section 3.1, outer Self merges to the CP layer, hence scoping over the entire IP, and it is impossible for a cause event to be construed as a coargument. One nice consequence along this line of thinking

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15. An interesting question here is why a reason expression may co-occur with outer Self, as exemplified below:

(i)   a.   Akiu yinwei   Xiaodi ziji hui chuli   zhe-jian shi.
           Akiu because.of Xiaodi self will handle this-CL   matter
           'Akiu will handle this matter willingly because of Xiaodi.'
      b.   Akiu weishenme ziji hui chuli   zhe-jian shi?
           Akiu why   self will handle this-CL   matter
           'Why will Akiu handle this matter willingly?'

The answer may lie in the epistemic nature of reason expressions. As pointed out by Tsai (2008), it is actually possible to tease causal questions from reason questions with a stative predicate, as shown by the following contrast:

(ii) a.   tiankong zenme shi lande?   [causal question]
           sky   how   be blue
           'How come the sky is blue (as the typhoon is approaching)?'
      b.   tiankong weishenme shi lande?   [reason/epistemic question]
           sky   why   be blue
           'Why is the sky blue (a scientific account is in order)?'

This suggests that causal and reason expressions may well occupy different kinds of functional projections in the left periphery (see also Shlonsky & Soare 2011).

is that we have a ready answer for the emergence of reflexives of nature. First consider (59):

(59)   feng da-le,   men **ziji** hui kai.
        wind big-INC door self will open
        'When wind grows stronger, the door naturally will open.'

In absence of a coargument, outer Self essentially serves as a λ-operator binding a predication variable introduced by the cause event. This in turn triggers predication on the external force present in the discourse (i.e., the stronger wind), as illustrated below:

(60)   λe ∃e′ (CAUSE (e, e′) & *opening* (e′) & Theme (*the door*, e′)) (*stronger wind*)

We thus have a straightforward account of our early observation that a proper cause must be identified in the context for certain outer Self.

Next consider the 'without cause' reading in (61a): As we learn from the discourse, the cause is unknown to the speaker, which virtually asserts the non-existence of a cause event, as illustrated in (61b):

(61)   a.   bu zhi   zenme de, Akiu ziji ku-le   qilai.
              not know how   DE Akiu self cry-INC up
              '(I) don't know how (that happened). Akiu started to cry without cause.'
        b.   ∃e′ (~∃e (CAUSE (e, e′)) & *crying* (e′) & Sentient (*Akiu*, e′))

A similar case can be found in unaccusative sentences such as (62a), where the derived subject cannot be a causer, hence disqualified as a coargument. Since we may infer from the discourse that the speaker has no knowledge of the cause event, outer Self produces a 'spontaneous' reading, as represented by (62b):

(62)   a.   wo hai mei   zhao, na-ben shu jiu   ziji chu-xian le.
              I   still have.not search that-CL book then self show-up INC
              'I have not looked for it yet. Then the book showed up spontaneously.'
        b.   ∃e′ (~∃e (CAUSE (e, e′)) & *showing-up* (e′) & Theme (*the book*, e′))

All in all, we have good reasons to believe that outer Self is causation-oriented, and has a lot to do with discourse construals associated with the left periphery.

5.4   Anti-causal readings revisited

As illustrated in the diagram (29), middle Self differs from outer Self minimally in merging to the IP layer, where the contrastive focus is again a force to reckon with. First consider (63), the reflexive counterpart of the outer *how*-question (57):

(63) Akiu ziji hui chuli   zhe-jian shi.
Akiu self will handle this-CL   matter
'Akiu will handle this matter on his own initiative.'

Given the semantics laid out in (58a), we may well take the causal relation encoded by the implicit causative predicate to be an integrated part of the outer selfhood, as shown by the derivation from (64a) to (64b):

(64) a. λx ∃e (Self (*handling* (e) & Agent (*Akiu*, e) & Theme (*this matter*, e)))
          (*Akiu*)
      b. λx ∃e (CAUSE (x, e) & *handling* (e) & Agent (x, e) &
          Theme (*this matter*, e) & ~∃y (y≠x & CAUSE (y, e)) (*Akiu*)
      c. ∃e (CAUSE (*Akiu*, e) & *handling* (e) & Agent (*Akiu*, e) &
          Theme (*this matter*, e) & ~∃y (y≠*Akiu* & CAUSE (y, e))

When the predication is complete, as in (64c), the resulting interpretation is "No one other than Akiu makes him handle this matter", which is a desirable result. The same treatment applies to the following locative-existential construction:

(65) cong faguo   ziji lai-le   san-ge   gongchengshi.
from France   self come-PRF three-CL   engineer
'From France came three engineers without invitation.'

Since the alternative set is built on the implicit causer of the coming event, and since it is this causer that is in a coargumental relation with the postverbal subject, the now familiar anti-causal reading duly emerges. This is illustrated by the semantic representation (66), which literally means 'three engineers invited themselves to come from France':

(66) ∃e (CAUSE (*three engineers*, e) & *coming* (e) & Theme (*three engineers*, e) &
      Source (*France*, e) & ~∃y (y≠*three engineers* & CAUSE (y, e))

We may thus draw the conclusion that the outer selfhood involves a contrastive focus with a sentential scope plus the causality which either licenses a coargumental construal, or triggers an event-level predication, as is the case with reflexives of nature.

6.   Further consequences

6.1   Inner-outer dichotomy in compounding

It is common knowledge in the literature on Classic Chinese that simplex Self is actually a combination of a reflexive adverb *zi* and a reflexive pronoun *ji*. Interestingly enough, the inner-outer dichotomy of reflexive adverbials is faithfully mirrored in Chinese compounding on the part of *zi*. Specifically, when it occupies the second position of a compound, only the typical inner readings are available, as evidenced by (67a–c):

(67)   a.   Akiu du-**zi**   qu-le   Taibei.
            Akiu alone-self go-PRF Taipei
            'Akiu has gone to Taipei alone.'
       b.   Akiu qin-**zi**   qu-le   Taibei.
            Akiu close-self go-PRF Taipei
            'Akiu has gone to Taipei in person.'
       c.   Akiu si-**zi**   qu-le   Taibei.
            Akiu private-self go-PRF Taipei
            'Akiu has gone to Taipei in private.'

(67a–c) contrasts with (68a–c) minimally, where *zi* appears in the first position, producing the typical outer readings in conjunction with a variety of verbal/modal elements:

(68)   a.   Akiu **zi**-yuan qu-le   Taibei.
            Akiu self-wish go-PRF Taipei
            'Akiu has gone to Taipei of his own accord.'
       b.   Akiu **zi**-dong   qu-le   Taibei.
            Akiu self-move go-PRF Taipei
            'Akiu has gone to Taipei on his own initiative.'
       c.   Akiu **zi**-li   qu-le   Taibei.
            Akiu self-ability go-PRF Taipei
            'Akiu has gone to Taipei by his own ability.'

The comparison thus reveals a microsyntax of the inner-outer dichotomy at a morphological level, which virtually provides a window to the topography of reflexive adverbials in Classic Chinese. Though fossilized in compounding, the distinction between inner *zi* and outer *zi* is closely mimicked by their contemporary counterparts. The versatile construals of *zi* therefore testify to the robust analyticity of Classic Chinese, which, as we have seen throughout the paper, has not been lost in its Modern counterpart.

The reflexive of nature, on the other hand, deserves further consideration. Similar to outer Self, *zi-ran* 'self-so' requires the presence of some external force or physical condition, as in (69a), and cannot stay in the scope of the future modal *hui*, as in (69b). But unlike simplex Self, (69b) cannot be improved by replacing the force/condition with some built-in mechanism or a supernatural cause, as evidenced by (69c).

(69) a. feng da-le,   men **zi**-ran hui kai.
          wind big-INC door self-so will open
          'When wind becomes stronger, the door naturally will open.'
      b. *feng da-le,   men hui **zi**-ran kai.
          wind big-INC door will self-so open
      c. *men hui **zi**-ran kai,   (you gui!)
          door will self-so open have ghost

This indicates that the range of interpretive possibility of *zi* has already been narrowed down by compound formation. This is because it is no longer allowed to interact further with other components in syntax.[16]

6.2 Relating anaphors to reflexive adverbials

As for the origin of the inner-outer dichotomy in question, it is natural to assume that these adverbials start as an argument, i.e., an object anaphor, and then raise to an adjunct position, presumably the edge of a phase such as *v*P and CP along the line of Chomsky (2000, 2001). As a matter of fact, if we look carefully, there is still some residue of this process in Modern Chinese. As seen in the small clause construction of (70a,b), *ziji* 'self' seems to raise from the embedded subject position to a matrix adjunct position:[17]

(70) a. Akiu renwei   [ziji hen congming].
          Akiu consider self very smart
          'Akiu considers himself very smart.'

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16. A point of interest here concerns the fact that *zi-ran* 'self-so' is also the Chinese word for nature in the physical sense. The exact cognitive process of the transition from selfhood to physical nature is in itself a fascinating topic, which regretfully is beyond the scope of this study.

17. Note that (70b) might have another reading where the embedded empty subject could be interpreted as a pro, hence not necessarily bound by the matrix subject *Akiu*. I personally do not get this reading, but if it is possible, then *ziji* must have evolved into a genuine adverb for some speakers.

b.   Akiu ziji$_k$ renwei   [e$_k$ hen congming].
Akiu self consider   very smart
'Akiu considers himself very smart out of his own judgment.'
c. *Akiu renwei   [PRO hen congming].
Akiu consider   very smart

The displaced *ziji* in (70b) cannot be an adverbial, and must originate from the subject position of the small clause complement in (70a). This is because the embedded subject cannot be a PRO, and the main verb *renwei* cannot take a control complement, as evidenced by (70c). Even more interestingly, its semantics has also shifted to a combination of anaphors and reflexive adverbials, which may well result from the category-position change. Furthermore, we may even conflate the structure with a compound *zi-ren* 'self-consider', as shown below:

(71) Akiu zi-ren   hen congming.
Akiu self-consider very smart
'Akiu considers himself very smart out of his own judgement.'

Here we base our analysis on a proposal by Clark & Roberts (1993) and Roberts & Roussou (1999), according to which grammaticalization is driven by the computational conservativity on the part of second generation learners, where a configuration created by Move is reanalyzed as one created by Merge. Therefore, it is not hard to imagine that cliticization or object fronting in Classic Chinese may undergo structural simplification of the same sort, shifting from a verb-complement structure to a modifier-head structure.

7.   Concluding remarks

To wrap up our discussion, we have argued that Chinese reflexive adverbials should be divided into two groups, i.e., inner and outer reflexive adverbials. To account for the dichotomy in question, we propose that inner Self merges to the VP/*v*P layer, while outer Self merges to the IP/CP layer. The inner selfhood is defined as comitativity plus a contrastive focus with a *v*P scope, expressing aloneness, privateness, and physical presence. By contrast, the outer selfhood is defined as causality plus a contrast focus with a sentential scope, expressing voluntariness, exclusiveness, spontaneousness, naturalness, etc., depending on the kind of constituent subject to modification. Furthermore, the dichotomy receives an independent support from a full-fledged parallel on the part of Chinese *wh*-adverbials (cf. Tsai 2008). We therefore have discovered a solid case for the cartographic approach, in that the

syntax-semantics mapping envisioned by Rizzi (1997) and Cinque (1999) is indeed at work for shaping the topography of adverbials across languages.

From a cognitive point of view, *ziji* has been steadily abstracting away from its anaphorhood as it appears higher and higher in syntactic projections, with the selfhood shifting from individuality to comitativity, then to causality, and finally to the intrinsic nature of this world, as visualized in the following hierarchy in relation to its structural heights:

(72)   by nature > in/of oneself > by/with oneself > self

This conception of selfhood presents an interesting comparison with what Lao Tze has said about selfhood and nature: A human being is modeled on the earth. The earth is modeled on the heaven. The heaven is modeled on the Way. And the Way is modeled on selfhood. For Lao Tze, selfhood is everything. It links our self-consciousness to the intrinsic properties of our world, which is in turn linked to the Way through naturalness. In other words, the ultimate way is the way it is, without cause, without effect, without generation, and without destruction.

Acknowledgements

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