On the climbing of the particle *suo* in Mandarin Chinese and its implications for the theory of clitic placement[1]

JEN TING

Abstract

Assuming with Ting (2003) that the derivation of the particle suo *in (Mandarin) Chinese targets V/I/T categories on a par with Romance pronominal clitics, I investigate the comparable climbing phenomenon of* suo *in Chinese. An important generalization that emerges from this comparison is that in contrast to the monoclausal properties in Romance clitic climbing, the climbing of* suo *exhibits properties of a biclausal configuration. I conclude that clitic climbing crosslinguistically is not necessarily associated with restructuring effects and argue that the facts of climbing of* suo *is best captured by a head movement approach to clitic placement first advocated by Kayne (1989b, 1991).*

1. Introduction

The syntax of clitics in the Romance languages has been of great interest since the seminal work of Kayne (1975). One instance is illustrated in (1), where the

pronominal clitic in French does not stay in a canonical postverbal complement position but occurs preverbally.

(1)   *Je **le** vois*
     I   him   see
     'I see him.'

In many Romance languages such as Italian, Spanish and Catalan (Uriagereka 1988: 387), a clitic may occur not in a position associated with the verb by which it is selected (2a) but in a position in a seemingly higher clause[2] (2b). This is the well-known clitic climbing (also referred to as CC henceforth) phenomenon.

(2)   Italian

    a.   *Mario vuole* [*legger**lo***].
        Mario want read.it
        'Mario wants to read it.'
    b.   *Mario **lo** vuole* [*leggere* _____].
        Mario it   want read

CC in Romance is only possible in what is called the "restructuring" context in the sense that the infinitival complement seems to lose its clausal status during the derivation and become "transparent". To account for the distribution and properties of pronominal clitics in Romance, there have been numerous approaches in the literature (see Roberts 2010 and references cited therein).

In this article, assuming with Ting (2003) that the particle *suo* in (Mandarin) Chinese is derived on a par with Romance pronominal clitics in targeting V/I/T categories, I investigate the comparable CC phenomenon of *suo* in Chinese. An important fact obtained from this comparison is that in contrast to the monoclausal properties in Romance CC, the climbing of *suo* exhibits properties of a biclausal configuration. Based on this finding, I will argue that clitic climbing, when viewed crosslinguistically, does not have to be associated with restructuring effects, and furthermore that a Kaynean stepwise head movement approach to cliticization best captures the generating of *suo* in the higher clause. The article is organized as follows. In Section 2, I present the assumed pronominal clitic analysis of *suo* in Chinese. I then discuss the clitic climbing phenomenon in Romance in Section 3 and the facts of climbing of *suo* in Chinese in Section 4. Adopting the monoclausal approach to the CC phenomenon in Romance in Section 5.1, I conclude that the climbing of *suo* involves a biclausal structure and implement this biclausal analysis under a split-INFL approach in Section

---

2. Throughout, I will also refer to the option in (2b) as "climbing" of the clitic, only for the ease of describing the facts without hinting at any syntactic operations.

5.2. Section 6 lays out the analysis of the derivation of *suo* and argues in favor of a head movement approach first advocated by Kayne (1989b, 1991). Section 7 provides concluding remarks.

2.   Analysis of *suo* on a par with pronominal clitics in Romance

Pronominal clitics targeting V/I/T categories on a par with preverbal pronominal clitics in Romance can be shown to exist in (Mandarin) Chinese. As argued by Ting (2003, cf. 2005, 2008), the particle *suo* is a pronominal clitic licensed in a relative clause[3] (cf. Chao 1968; Li 1947; Chiu 1993, 1995; among others), exemplified in (3).

(3)   a.   *Lisi* **suo**   *mai de   shu*
              Lisi   SUO   buy   DE   book
              'the book that Lisi bought'
       b.   *xiaotou* **suo**   *mei-you tou   zou   de   shoushi*
              thief   SUO   not-have steal   away   DE   jewel
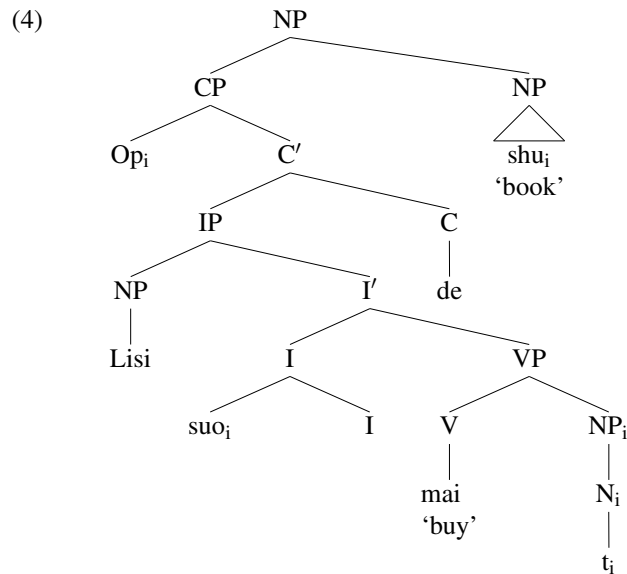   'the jewelry that the thief didn't steal'

Except being restricted in a relative clause, *suo* is argued to behave on a par with pronominal clitics in Romance in many respects. For example, like Romance clitics, it is unstressed, occupies a fixed position in the clause and has a complementary distribution with a (resumptive) pronoun.[4] Furthermore, the failure of *suo* to be associated with relativization of grammatical subject and reason and manner expressions, can be treated on a par with the lack of syntactic subject clitics as well as the observed CED and ECP effects in Romance clitic constructions (Kayne 1983; Rizzi 1986; Sportiche 1996). In addition to these arguments provided by Ting (2003), it is worth noting that another similarity *suo* shares with Romance pronominal clitics, but not with object shift in Scandinavian languages, is that it does not obey Holmberg's (1986) Generalization (see Holmberg 1999; Chomsky 2005 for discussion of Romance clitic placement in this respect). That is, the licensing of *suo* does not hinge on a context where the verb moves out of VP (and vP) given the standard assumption that Chinese has no (overt) V-to-I movement.

Ting (2003, cf. 2005, 2008) claims that the facts of *suo* follow from a head movement analysis first proposed by Kayne (1989b, 1991) for Romance pronominal clitics. More specifically, *suo* is suggested to undergo cyclic head

---

3. *Suo* is also licensed in a *bei* passive sentence with overt agents. Assuming that such long passives also involve an A′-configuration, the licensing of *suo* is unified in relatives and passives in Contemporary Chinese. This approach is extended to the licensing of *suo* in Classical Chinese. See Ting (1998, 2008) for discussion.

4. These facts are first observed by Chiu (1993, 1995).

movement from the nominal headed by it and left adjoin to INFL, leaving be-
hind a trace, which is subject to the ECP. As pointed out in note 8 of Ting
(2003), the cyclic head movement of *suo* proceeds without taking the adjoined
heads with it, just as pronominal clitics in Romance do. Given that the NP
headed by *suo* is bound by a base-generated null operator in the relative clause,
suo carries the same index of the relative operator. The structure of a relative
clause containing *suo* in (3a) is shown in (4), with the intermediate step of
movement of *suo* via the intervening (verbal) head omitted.

(4)

```
                          NP
                 ┌─────────┴─────────┐
                CP                    NP
          ┌──────┴──────┐             △
        Op_i           C′          shu_i
                   ┌────┴────┐      'book'
                  IP          C
             ┌────┴────┐      │
            NP         I′     de
             │     ┌────┴────────┐
           Lisi    I             VP
               ┌───┴───┐     ┌────┴────┐
             suo_i     I     V        NP_i
                             │         │
                            mai       N_i
                           'buy'       │
                                      t_i
```

Although a wide range of facts of *suo* are shown to follow from the analysis that
treats it on a par with Romance pronominal clitics, one may still have doubts
about this approach because *suo* does not behave exactly as Romance pronom-
inal clitics. For example, one remarkable difference between *suo* and Romance
pronominal clitics is that the former but not the latter needs to occur in relative
clauses. Here, I would like to clarify that what I mean by *suo* behaving on a
par with Romance pronominal clitics, more precisely, is that *suo* belongs to the
group of the so-called V-/I-/T-oriented clitic languages such as French, Italian
and Spanish. Such clitics target V/I/T categories, thus in clear contrast with cl-
itics in C-oriented (or Clitic Second) languages (such as the Slavic languages)[5]
and Fixed Position clitic languages[6] (such as the Semitic languages Arabic and

---

5. European Portuguese, though a Romance language, belongs to the group of Clitic Second
   languages (Madeira 1993; Halpern 1995).

Hebrew) (see Roberts 2010 for discussion). Crucially, even within the V-/I-/T-oriented clitic languages in Romance, the clitics do not behave uniformly. For example, clitic doubling is allowed in River Plate Spanish (Jaeggli 1980) and Romanian (Steriade 1980) but not in French and Italian; clitic climbing, in Italian and Spanish, but not in French (Kayne 1989b). This suggests that even within the V-/I-/T-oriented clitic languages, the exact behavior of a clitic may not be identical but correlates with other properties of the particular language. Crucially, what is shared by clitics in V-/I-/T-oriented clitic languages is that they target V/I/T categories but not, say, C categories. This is exactly what I suggest for *suo*'s parallel behavior with that of pronominal clitics in Romance languages such as French and Italian. That is, *suo*'s derivation targets V/I/T categories though coupled with other language-specific properties such as being licensed in relative clauses. The reason for this licensing condition on *suo*, I believe, hinges on the historical origin of it. As discussed by Ting (2005) (and references cited therein), occurrences of *suo* are confined to relative clauses in Classical Chinese[7] and it thus should not be surprising that the restriction on *suo* being associated with relative clauses in Contemporary Chinese is a historical remnant from Classical Chinese.

Given the foregoing discussion, despite some innovations to be provided later in this article, I will continue to assume with Ting (2003, cf. 2005, 2008) that *suo*'s derivation targets V/I/T categories on a par with pronominal clitics in the so-called V-/I-/T-oriented clitic languages such as French, Italian and Spanish in Romance languages, and compare the facts of climbing of *suo* in Chinese and the CC phenomenon in Romance.

3. Clitic climbing in Romance

As mentioned earlier, Romance languages such as Italian, Spanish and Catalan (Uriagereka 1988: 387) allow clitic climbing (or CC) in the sense that clitics may occur not in a position associated with the verb by which it is selected (2a), but in a position in a seemingly higher clause (2b). It is well-known that the verbs associated with the higher clitic in Romance are limited to volitional,[8] modal, causative, perception, motion and aspectual verbs. Some of the examples are given in (2), (5)[9] and (6) (For more examples see Burzio (1986); Li (1990); Cardinaletti and Shlonsky (2004); and the references cited therein.)

---

6. The terminology of Clitic Second languages and Fixed Position clitic languages are adopted from Ouhalla (1999).
7. This context subsumes the distribution of *suo* in *bei* passive sentences. See note 2.
8. Volitional verbs are grouped as modal verbs by Cardinaletti and Shlonsky (2004).
9. With thanks to Roberto Zamparelli for providing Italian examples in (5).

(5) a. *Mario può legger**lo***
     Mario can read.it
     'Mario can read it.'
     b. *Mario **lo** può leggere*
     Mario it can read

(6) a. (?)*Vorrei   poter andar**ci** con Maria.*
     (I)-would-want able go.there with Maria
     'I would want to be able to go there with Maria.'
     b. *Vorrei   poter**ci** andare con Maria.*
     (I)-would-want able.there go   with Maria
     c. ***Ci** vorrei   poter andare con Maria.*
     there (I)-would-want able go with Maria
     (Cardinaletti and Shlonsky 2004: 522)

Those that do not belong to the class of verbs showing the CC phenomenon include verbs like *hate*, *decide*, raising verbs, etc., as illustrated below.

(7) a. *Mario odia legger**lo**.*
     Mario hate read.it
     'Mario hates to read it.'
     (Burzio 1986: 323)
     b. **Mario **lo** odia leggere.*
     Mario it hate read
     (Burzio 1986: 322)

(8) a. *Piero deciderà di parlar**ti**   di   parapsicologia.*
     Piero decide   to speak.you about parapsychology
     'Piero will decide to speak to you about parapsychology.'
     b. **Peiro **ti** deciderà di parlare di   parapsicologia.*
     Piero you decide   to speak   about parapsychology
     (Rizzi 1982: 1)

(9) Raising infinitives

     a. *Angela pareva aver**lo**   riaccompagnato a casa.*
     Angela seem have.him take   to home
     'Angela seemed to have taken him home.'
     b. **?Angela **lo** pareva avere riaccompagnato a casa.*
     Angela him seem have take   to home
     (Rizzi 1982: 3)

CC in Romance is associated with what is called the restructuring effects. The verb contained in an infinitival complement can lose its independent status during the derivation, with the result that the phrases it semantically heads (VP, IP, CP) become transparent. In other words, when the clitic occurs upstairs, an apparent biclausal structure shows monoclausal properties as if the

complement clause selected by the verb can be considered absent. Therefore, the set of verbs in Romance that shows the CC phenomenon is also referred to as restructuring verbs in the literature.

Illustrated below are the "tense-merge" and auxiliary switch phenomenon usually attributed to restructuring. When the clitic is placed on the matrix verb, the matrix verb and embedded verb cannot be modified by different temporal adverbs as in (10) (Napoli 1981). Similarly, a modal verb such as *volere* 'want', which is associated with auxiliary *avere* 'have' and not with *essere* 'be', must inherit the auxiliary of an embedded unaccusative verb when CC has applied, as shown in (11).

(10)   a.   *Oggi, vorrei   finir**lo**   domani.*
                today (I)-would-want finish.it tomorrow
                'Today, I would like to finish it tomorrow.'
    b.   ^{??}*Oggi, **lo** vorrei   finire domani.*
                today it (I)-would-want finish tomorrow
                (Napoli 1981)

(11)   a.   *Avrei/?Sarei   voluto andar**ci** con Maria.*
                (I)-would-have/(I)-would-be want   go.there with Maria
                'I would have wanted to go there with Maria.'
    b.   ***Ci**   sarei/*avrei   voluto andare con*
                there (I)-would-be/(I)-would-have want   go   with
                Maria.
                Maria
                (Cardinaletti and Shlonsky 2004)

It has also been observed that Romance CC exhibits specific subject condition (SSC) effects. In Romance, CC is not possible out of clauses with a specific subject. For example, placement of the dative clitic and object clitic cannot reach the main clause over the subject of the embedded clause in (12) (Rizzi 1982; Kayne 1989b; Sportiche 1996) and over the subject of the finite complement clause in (13) respectively.

(12)   French
    a.   *Jean a   laissé Pierre parler à Marie.*
                John has let   Pierre speak to Marie
                'John let Pierre speak to Marie.'
    b.   *Jean **lui**   a   laissé Pierre parler.*
                John to:her has let   Pierre speak
                'John let Pierre speak to her.'
                (Sportiche 1996: 223)

(13)   Italian

    a.   *Credo   che Gianni **la** presenterà a Francesco.*
        (I)-believe that Gianni her introduce to Francesco
        'I believe that Gianni will introduce her to Francesco.'

    b.   *La credo   che Gianni presenterà a Francesco.*
        her (I)-believe that Gianni introduce to Francesco
        (Rizzi 1982: 3)

The SSC effects can be taken to follow from the restructuring configuration that CC in Romance is associated with. According to Wurmbrand (2001), one of the hallmarks of a restructuring configuration is the lack of an embedded subject. Therefore, structures with an embedded subject in (12) and (13) are not restructuring configurations where the CC phenomenon is licensed.

4. Climbing of *suo* in Chinese

4.1. *General facts*

I shall now consider the climbing facts of *suo*. Similar to CC in Romance, *suo* may also appear either higher or lower than the matrix verb taking an infinitive complement. However, there do not seem to be specific semantic classes of verbs that allow climbing of *suo*. Apparently all verbs that take infinitive complements admit climbing of *suo*, as illustrated by subject control verbs (14), object control verbs (15-16) and raising verbs[10] (17).

(14)   Subject control construction

    a.   *wo dasuan mingnian **suo** dacheng de mubiao*
        I   plan   next:year SUO achieve DE goal
        'the goal that I plan to achieve next year'

    b.   *wo **suo** dasuan mingnian dacheng de mubiao*
        I   SUO plan   next:year achieve DE goal

(15)   Object control construction

    a.   *Lisi yaoqiu Akiu **suo** mai de na-ben shu*
        Lisi ask   Akiu SUO buy DE that-CL book
        'the book that Lisi asked Akiu to buy'

    b.   *Lisi **suo** yaoqiu Akiu mai de na-ben shu*
        Lisi SUO ask   Akiu buy DE that-CL book
        (taken from Chiu 1995)

---

10. I assume with Teng (1978) that verbs like *kaishi*, which do not assign a theta-role to the grammatical subject, are raising verbs in Chinese.

(16)   Object control construction

　　a.   *Lisi   mingling/bipo Akiu   **suo**   xie   de   xin*
　　　　　Lisi   order/force   Akiu   SUO   write   DE   letter
　　　　　'the letter that Lisi asked Akiu to write'

　　b.   *Lisi   **suo**   mingling/bipo Akiu   xie   de   xin*
　　　　　Lisi   SUO   order/force   Akiu   write   DE   letter

(17)   Raising construction

　　a.   *ta   kaishi   **suo**   xingcheng   de   yishi*[11]
　　　　　he   begin   SUO   form   DE   conception
　　　　　'the conception he began to form'

　　b.   *ta   **suo**   kaishi   xingcheng   de   yishi*
　　　　　he   SUO   begin   form   DE   conception

Clitic placement in Romance and in Chinese also differs in that Romance allows the clitic to occur either lower or higher than a modal as in (2), (5) and (6), whereas the occurrence of *suo* does not enjoy such flexibility. As shown in (18), taken from Chiu (1995),[12] and (19), *suo* in a position lower than a modal is greatly degraded, if not impossible, in comparison to being generated in a position higher than a modal.

(18)   a.   *Lisi   **suo**   keneng   du-guo   de   na-ben   shu*
　　　　　　Lisi   SUO   probably   read-ASP   DE   that-CL   book
　　　　　　'the book that Lisi probably read'

　　　b.   ??*Lisi   keneng   **suo**   du-guo   de   na-ben   shu*
　　　　　　Lisi   probably   SUO   read-ASP   DE   that-CL   book

(19)   a.   *Zhangsan   **suo**   yinggai   chang   de   ge*
　　　　　　Zhangsan   SUO   should   sing   DE   song
　　　　　　'the song that Zhangsan should sing'

　　　b.   ??*Zhangsan   yinggai   **suo**   chang   de   ge*
　　　　　　Zhangsan   should   SUO   sing   DE   song

I would also like to mention an apparent difference between CC in Romance and climbing of *suo* in Chinese. In contrast to pronominal clitics in Romance as illustrated in (13), *suo* seems to be able to climb out of a finite complement as in (20b) and (21b).

---

11. This example is retrieved via the link http://www.jsblog.cn/user1/207/41762.html.
12. The judgment of (18b) given by Chiu (1995) is, in fact, ungrammatical.

(20)   a.   *Zhe jiu shi* [*zhangguan renwei/shuo-guo* [*Xiaoli **suo***
              this just be   superior   think/say-ASP   Xiaoli SUO
              bixu wancheng] *de*] *renwu.*
              must accomplish DE mission
              'This is exactly the mission that superiors thought/said that Xiaoli had to accomplish.'

         b.   *Zhe jiu shi* [*zhangguan **suo**   renwei/shuo-guo* [*Xiaoli*
              this just be   superior   SUO think/say-ASP   Xiaoli
              bixu wancheng] *de] renwu.*
              must accomplish DE mission

(21)   a.   *Zhe jiu shi* [*yisheng xuanbu*   [*bingren **suo**   bu*
              this just be   doctor   announce   patient SUO   not
              neng congshi] *de*] *yundong.*
              can   engage   DE exercise
              'This is exactly the exercise that doctors announced that patients cannot be engaged in.'

         b.   *Zhe jiu shi* [*yisheng **suo**   xuanbu*   [*bingren bu*
              this just be   doctor   SUO announce patient not
              neng congshi] *de*] *yundong.*
              can   engage   DE exercise

If it is indeed the case, then the climbing of *suo* may not only cross an infinitive clause boundary, but may also apparently cross a finite clause boundary. A convenient account for this fact would be to assume the lack of finite vs. non-finite distinction in Chinese as claimed by Hu, Pan and Xu (2001). However, I would like to pursue an alternative here, namely that the climbing of *suo* cannot cross a finite clause boundary but that this fact is disguised by a stacked relative clause structure. In other words, the examples such as (20b) and (21b) should not be used to show that *suo* can move out of a finite complement clause and land in the matrix clause. Rather, they are stacked relatives in disguise (cf. Kayne 1994). Under this analysis, placement of *suo* on a predicate taking an infinitive complement in the (b) examples of (14)–(17) is a true case of clitic climbing, whereas placement of *suo* on a predicate taking a finite complement in (20b) and (21b) is licensed in a stacked relative clause structure.

As shown in (22), the predicate taking a finite complement can optionally be followed by the linker *de*, which can be analyzed as introducing a relative clause.[13]

---

13. Regarding the structure of such stacked relative clauses, a possible analysis is laid out as follows. The first relative clause does not modify the head noun but rather modifies the second relative clause. Semantically, the second relative clause is understood as the thematic object of the predicate in the first relative clause. In this approach, *de* is taken to "nominalize" a

(22) a. [*zhangguan renwei/shuo-guo (de)*] [*Xiaoli bixu*
          superior   think/say-ASP   DE   Xiaoli must
          wancheng   de] *renwu*
          accomplish DE mission
          'the mission that superiors thought/said that Xiaoli had to accomplish.'

     b. [*yisheng xuanbu   (de)*] [*bingren bu neng congshi de*]
          doctor   announce DE   patient not can engage DE
          yundong
          exercise
          'the exercise that doctors announced that patients cannot be engaged in.'

In contrast, the predicate taking an infinitive complement cannot be followed by the linker *de*, as shown below.

(23) a. [*zhangguan bipo (*de)*][*Xiaoli bixu   wancheng*
          superior   force DE   Xiaoli must
          de]   *renwu*
          accomplish DE   mission
          'the mission that superiors forced Xiaoli to accomplish'

---

clause, as traditional and functional grammarians have been claiming. Technically, it doesn't matter whether the nominal status of the relative clause is brought about by *de* or it becomes nominal by being a relative clause with *de* only being a marker. All that matters is that the relative clause is "nominal" in some sense so that it can be modified like a nominal. It is the presence of *de* that turns CP into NP/DP. Since default CPs are verbal and not nominal, they can't be modified via a relative clause. This explains why regular CPs don't get a relative clause modifier. Syntactically, there is no problem for the null operator in the first relative clause as in (i) to be co-indexed with the second relative clause (denoting the thematic object of the predicate in the first relative clause), because as well-known, a clause can be referred to by a pronoun (e.g., *that* and *it*). Furthermore, Kayne (1984) observes a construction where a lexical NP cannot be exceptionally Case-marked but a *wh* trace in the same position is licensed as in (ii). This suggests that the null operator in the first relative clause does not need Case.

(i)   [*Op$_i$ zhangguan renwei/shuo-guo t_i de*][*Xiaoli bixu wancheng de*]$_i$
          superior   think/say-ASP   DE   Xiaoli must accomplish DE
       renwu
       mission
       'the mission that superiors thought/said that Xiaoli had to accomplish.'

(ii)   a. **John alleged Peter to be crazy.*
       b. *Who did John allege ___ to be crazy?*

b. [*yisheng mingling (*de)*] [*bingren bu neng congshi*
    doctor order DE patient not can engage
de] *yundong*
DE exercise
'the exercise that doctors ordered patients not to be engaged in'

The disguised stacked relative clause analysis of examples like (20b) and (21b) gains further support from the fact that *suo* can occur in both of the claimed stacked relative clauses.

(24) a. [*zhangguan **suo** renwei/shuo-guo (de)*][*Xiaoli **suo***
    superior SUO think/say-ASP DE Xiaoli
bixu wancheng de] *renwu*
SUO must accomplish DE mission
'the mission that superiors thought/said that Xiaoli had to accomplish'

b. [*yisheng **suo** xuanbu (de)*] [*bingren **suo** bu neng*
    doctor SUO announce DE patient SUO not can
congshi de] *yundong*
engage DE exercise
'the exercise that doctors announced that patients cannot be engaged in'

However, since the option of stacked relative clauses is not available for predicates taking an infinitive complement, doubling of *suo* is not allowed as in (25).

(25) a. *[*zhangguan **suo** bipo (de)*][*Xiaoli **suo** bixu*
    superior SUO force DE Xiaoli SUO must
wancheng de] *renwu*
accomplish DE mission
'the mission that superiors forced Xiaoli to accomplish'

b. *[*yisheng **suo** mingling (de)*] [*bingren **suo** bu neng*
    doctor SUO order DE patient SUO not can
congshi de] *yundong*
engage DE exercise
'the exercise that doctors ordered patients not to be engaged in'

Under this analysis, examples like (20b) and (21b) involve a stacked relative clause structure. If this approach is on the right tract, then like CC in Romance, the climbing of *suo* in Chinese also cannot be associated with predicates taking a finite complement.

Crucially, a striking difference between CC in Romance and climbing of *suo* in Chinese is that the former shows restructuring effects whereas the latter does not, discussion of which I immediately turn to in the next section.

4.2.   Lack of restructuring effects in climbing of suo

As well-known, CC in Romance shows transparency effects with respect to clause boundary and is said to occur only if so-called restructuring has taken place. According to Wurmbrand (2001), the restructuring phenomenon entails obligatory control, simultaneous tense and lack of an embedded subject. Below I will show that climbing of *suo* does not exhibit these effects.

In Wurmbrand's theory, obligatory control infinitives require a particular interpretation of the embedded subject. Exhaustive control constructions involve obligatory control, whereas arbitrary, long-distance, partial, split and variable control constructions involve non-obligatory control. The distinction between obligatory vs. non-obligatory control can also be shown to obtain in Chinese.

Collective predicates such as *baowei* 'to surround', *huimian* 'to meet' and *jihe* 'to gather' require a plural subject. When they are embedded under *try*-type control verbs, which require obligatory control, the matrix subjects have to be plural, as shown by the contrast in (26a/b).

(26)   a.   *Naxie shibing changshi baowei   fangzi.*
              those   soldier attempt   surround house
              'Those soldiers attempted to surround the house.'
        b.   *Na-ge   shibing changshi baowei   fangzi.*
              that-CL   soldier attempt   surround house
              'That soldier attempted to surround the house.'

In contrast, *decide*-type control verbs allow non-obligatory control. When they take an infinitive combining with a collective predicate, the matrix subject does not have to be plural, as shown in (27a). Similarly, with *suo* in the higher clause as in (27b), non-obligatory control of the embedded empty subject obtains. This shows that climbing of *suo* does not involve restructuring.

(27)   a.   *Nage jiangjun jueding baowei   fangzi.*
              that   general   decide   surround house
              'That general decided to surround the house.'
        b.   *nage jiangjun **suo** jueding baowei de fangzi*
              that   general   SUO   decide   surround DE house
              'the house that the general decided to surround'

With respect to the lack of simultaneous tense in the restructuring configuration, there is a so-called "tense-merge" phenomenon in Romance as shown in (10), repeated here as (28). In contrast, in the *suo* construction the matrix and embedded predicate may be modified by different temporal adverbials as shown (29). This, again, shows that there is no restructuring effect in the climbing of *suo*.

(28) a. *Oggi,   vorrei   finir**lo**   domani.*
          today (I)-would-want finish.it tomorrow
          'Today, I would like to finish it tomorrow.'
      b. ^{??}*Oggi, **lo** vorrei   finire   domani.*
          today   it   (I)-would-want finish tomorrow

(29) *women qunian   **suo**   jueding jinnian   yiding   yao*
      we   last:year SUO decide   this:year definitely will
      goumai   de   shu
      purchase DE book
      'the book that we decided last year to purchase this year'

A restructuring configuration, as argued by Wurmbrand, does not permit an embedded subject. As shown in (30), the climbing of *suo* is possible with the presence of an embedded subject. This fact would be left mysterious if climbing of *suo* occurs in a restructuring configuration.

(30) [*wo **suo** yaoqiu Lisi$_i$ [PRO$_i$ zai ziji$_i$ jiali   wancheng*]
       I   SUO ask   Lisi   at   self home accomplish
      de] *renwu*
      DE mission
      'the mission that I asked Lisi to accomplish at his own home'

The above three sets of facts show that the climbing of *suo*, contra CC in Romance, is not associated with restructuring effects.[14] To summarize, like

---

14. There is another property exhibited by restructuring, namely lack of embedded negation, according to Wurmbrand (2001). As shown in (i), clitic climbing in Romance is not possible with embedded negation.

   (i) a. *Gianni vuole non vederli.*   (Italian)
            John   want   not see.them
            'John does not want to see them.'
        b. *Gianni li   vuole vedere.*
            John   them want   see
            'John wants to see them.'
        c. [*]*Gianni li   vuole non vedere.*
            John   them want   not see
            'John does not want to see them.'

   The climbing of *suo* in Chinese is, however, possible with a negated infinitive clause.

   (ii) *women **suo** jueding bu   goumai   de   shu*
         we   SUO decide   not purchase DE book
         'the book we decided not to purchase'

   Although this contrast at first sight supports our claim that *suo* climbing in Chinese does not involve restructuring, there may be other accounts for it. One may argue that the type of

pronominal clitics in Romance, placement of the clitic *suo* in Chinese may occur either lower or higher than the matrix verb. But contra Romance, verbs that can be associated with the upstairs *suo* are not limited to the classes of the so-called restructuring verbs. Furthermore, although clitics in Romance may occur lower or higher than a modal, *suo* in Chinese is readily acceptable in a position higher but not lower than the modal. Lastly, climbing of *suo* is not associated with the restructuring properties that characterize the CC in Romance.

5.   Analysis of the contrasts between CC in Romance and the climbing of *suo*

To capture the different distributions of CC in Romance and the climbing of *suo* in Chinese, I assume the monoclausal approach to the CC phenomenon in Romance and propose that the climbing of *suo* in Chinese involves a true biclausal structure. This biclausal structure analysis will be implemented by positing the position of *suo* in a split-INFL domain.

5.1.   *Monoclausal approaches to restructuring effects associated with CC in Romance*

I shall first take a look at the monoclausal approach to restructuring effects in Romance. In the literature, there have been many approaches proposed for deriving the restructuring effects associated with CC in Romance. They can be classified as biclausal approaches and monoclausal approaches (Wurmbrand 2001). The common property of the former approaches is that embedded or restructuring infinitives start out as clausal CP or IP[15] complements and that their clausal status is altered by some mechanisms, e.g. structure changing operations like a restructuring rule postulated by Rizzi (1982) or head movement,

---

phrase that licenses negation differs in Chinese and Romance. As pointed out by Ernst (1995), clausal negation in Chinese may be licensed by V or Aux. Clausal negation in Romance, as claimed by Cardinaletti and Shlonsky (2004: 527) (cf. Li 1990), entails the projection of a full CP, which is incompatible with the configuration of restructuring. One may also argue that this contrast between (i) and (ii) is due to whether Neg is a head of a functional projection. If we adopt Kayne's approach that head movement cannot cross a Neg head, then this contrast between Romance and Chinese suggests that Neg heads a functional projection in Romance but not in Chinese. This is the approach taken by Ting (2006). Given these considerations, I thus do not take the fact that climbing of *suo* is not blocked by negation as an argument for the proposed analysis.

15. The approaches involving an IP complement are considered somewhat between monoclausal and biclausal approaches and thus termed as 'reduced clausal approach' by Wurmbrand (2001: 11). I think that this case also involves a biclausal structure and thus subsume it under biclausal approaches.

proposed by Kayne (1989b, 1991) (see also Li 1990; Rosen 1990; Roberts 1991, 1994; Ouhalla 1999; Rooryck 1994; Sportiche 1996; Uriagereka 1995; Kayne 1994, 2002). The structure changing processes are often criticized for violating the Projection Principle. The head movement operation, which is claimed to be responsible for the restructuring effects, on the other hand, as pointed out by Kayne (1989b, 1991), among others, has to assume that some verbal head of the infinitive moves (overtly or covertly) to the matrix predicate and thus that the clause boundary is rendered transparent for clitics (for critical review of the biclausal approaches, see Wurmbrand 2001).

In addition to potential theoretical problems, the biclausal approaches to the restructuring phenomenon in Romance also face empirical challenges raised by proponents of the monoclausal approaches. The essential claim of the latter approaches, e.g., Rosen (1990) and Cinque (2001, 2003, 2006), is that the embedded or restructuring infinitives are treated not as a full clause but a base-generated VP. Cardinaletti and Shlonsky (2004), along this line of research, point out that unacceptability of intermediate clitic positions or partial climbing, as shown in (31b), cannot be easily explained under the biclausal approaches because the cyclic nature of the previous accounts in Rizzi (1982) and Kayne (1989b, 1991) under the biclausal approaches would incorrectly predict the acceptability of partial climbing. The nonclimbing (31a) and the "full" climbing (31c) option are better than the partial climbing (31b) option.

(31)   a. $^?$*Sarei   voluto poter andar**ci*** con   Maria.*
                (I)-would-be want   able   go.there with Maria
                'I would have wanted to be able to go there with Maria.'
       b. **Sarei   voluto poter**ci***   andare con   Maria.*
                (I)-would-be want   able.there go   with Maria
       c.   **Ci**   *sarei   voluto poter andare con   Maria.*
                there (I)-would-be want   able   go   with Maria

In line with Cinque (2006) that restructuring verbs are functional verbs appearing with infinitives in a monoclausal configuration, Cardinaletti and Shlonsky (2004) propose that a single clause contains two clitic positions, a clausal clitic position in the functional domain of the highest verb and a lexical clitic position, as shown in (32).

(32)   [$_{FP}$ … [$_{FP}$ clitic [$_{FP}$ … [$_{FP}$… [$_{FP}$ clitic [$_{vP}$ [$_{VP}$]]]]]]]
            functional domain   lexical domain

The clausal clitic position is part of an essential skeleton of IP. Restructuring verbs, in addition to being used as lexical verbs, have the option of being merged in positions in the functional hierarchy of a clause. The lexical clitic position is associated with the (restructured) lexical verb. Availability of this

lexical clitic position is signaled by the distribution of the word-final [e] of Italian infinitives.[16]

Given the convincing arguments provided by the works of Cinque and of Cardinaletti and Shlonsky, it is thus plausible to assume that restructuring effects in Romance are what Wurmbrand (2001: 137) refers to as functional restructuring, which arises due to "a direct (and unavoidable) result of the architecture of a clause." That is, with the clitic sitting high in the clause, the apparent biclausal structure is actually monoclausal. With the clitic sitting low in the clause, this clitic position is associated with V if we assume with Cardinaletti and Shlonsky (2004).

5.2.   *Generating suo in a split-INFL domain*

In this section, before accounting for the contrasts between CC in Romance and climbing of *suo* in Chinese, I start with laying out the proposal for the position of *suo* in the IP architecture. Due to space limitation, I shall focus on the distribution of *suo* in modal constructions.

Approaches to modals in Chinese treat them as verbs represented by Lin and Tang (1995) or INFL elements as in Huang (1982), Tang (1990) and Ernst (1994). I adopt a trichotomy approach to modality (Palmer 1990; Brennan 1993; Warner 1993) and identify three classes of modals, namely, epistemic, deontic and dynamic as in (33).

(33)   Epistemic (possibility and necessity):
       keneng 'possibly', *yinggai* 'should be the case', *hui* 'will be the case', *yao* 'will be the case'
       Deontic (permission and obligation):
       yinggai 'have to', *bixu* 'must', *keyi* 'be permitted to', *yao* 'have to', *dei* 'have to'
       Dynamic (ability and volition):
       keyie 'be able to', *hui* 'be able to', *neng* 'be able to', *yao* 'want to', *ken* 'want to', *gan* 'dare'

Assuming with Hsu (2005), Hsu and Ting (2008) (cf. Tsai and Portner 2008), the three classes of modals are treated as functional categories heading their own functional projections in a structure like (34), examples of which are given in (35).[17]

---

16. But see Roberts (2010) for a different view of the *–e* ending, namely that it is identified as a morphological reflex of the incorporation of v with Inf.
17. These examples are due to Yuyin Hsu.

(34)   TP
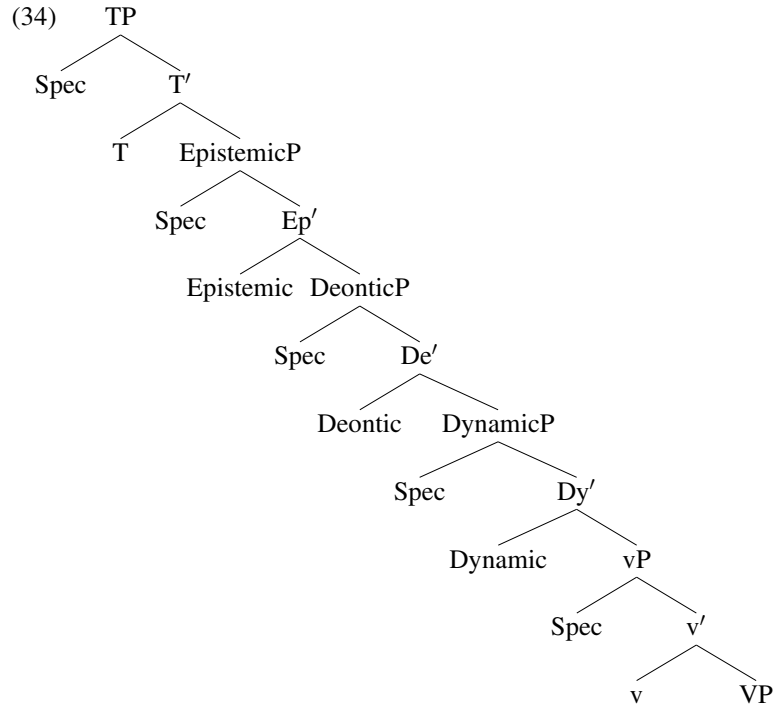
(35)   a.   *Zhangsan yinggai bixu gan change (buran zeme*
Zhangsan should must dare sing otherwise how
canjia gechang bisai)
participate singing contest
'It should be the case that Zhangsan has to dare to sing. (Otherwise, how could he participate in a singing context?)'

b.   *Zhangsan yinggai keyi nenggou ganshang zhe-ban che*
Zhangsan should may can catch this-shift bus
(haiyou san fenzhong, erqie Zhangsan pao-de
more three minute furthermore Zhangsan run-DE
hen kuai)
very fast
'It should be the case that Zhangsan may be able to catch the bus (there are three more minutes and furthermore Zhangsan runs very fast).'

In constructions with a string of modals like (35), as shown in (36), *suo*'s occurrence is readily acceptable in a position higher, but not lower, than the epistemic modal. It is necessary to note that although *suo*'s occurrence below

the epistemic modal is not totally out, it is never as natural as sitting higher than the epistemic modal.

(36)   a.   *Zhangsan (**suo**) yinggai (?**suo**) bixu (?**suo**) gan*
        Zhangsan SUO   should SUO   must SUO dare
        *(??**suo**) chang de ge*
        SUO   sing   DE song
        'the song that it should be the case that Zhangsan has to dare to sing'

      b.   *Zhangsan (**suo**) yinggai (?**suo**) keyi (?**suo**) nenggou*
        Zhangsan SUO   should SUO   may SUO   can
        *(??**suo**) ganshang de che*
        SUO   catch   DE bus
        'the bus that it should be the case that Zhangsan may be able to catch'

    Let's suppose that *suo* is situated in a functional projection in the split-INFL domain. I shall label such a functional projection FP, following the term used for a clitic projection by Uriagereka (1995) (cf. Cardinaletti and Shlonsky 2004). Then given the distribution of *suo* in multiple modal constructions as in (36), I claim that FP hosting *suo* is projected between TP and the projection of epistemic modals. This is the canonical clausal clitic position in Chinese. Although flexibility may be allowed to generate FP between any of the two modals or even below the dynamic modals for some speakers, crucially the acceptability with *suo* below epistemic modals is never as natural as it being higher than epistemic modals. I take this fact as an indication that the position higher than epistemic modals is a canonical position for *suo* in the clausal architecture.[18, 19]

---

18. Regarding an explanation for why some speakers do not reject the generation of the FP hosting *suo* below the epistemic modals, I speculate that for these speakers, the structural constraint, namely generating *suo* in the canonical clausal position, can be relaxed if they choose to use *suo* to achieve a particular purpose of communication, such as conveying emphasis. For the various communicative functions of *suo*, see Ting 2009. Compare (ia) and (ib). Speakers who use (ia) obviously want to highlight just the verb *xiang* 'think'. Such profiling is lacking in (ib), where *suo* occurs in the canonical position, higher than the dynamic modal *gan* 'dare'. With thanks to Rey-heng Ray Huang for pointing out to me sentences like (ia).

(i)   a.   *Kaishi huluan caice-qi-le   yixie ling ren   bu gan **suo***
        start   randomly guess-up-ASP some cause people not dare SUO
        xiang de shi.
        think DE thing
        '(Someone) started to randomly guess some things that made people dare not to think.' (via the link http://blog.yam.com/uh18520/article/23574878)

Assuming that the CC phenomenon in Romance involves a monoclausal structure, the contrasts between Romance and Chinese as observed in Section 4 all point to an empirical generalization that the climbing of *suo* in Chinese involves a biclausal structure. This immediately captures the lack of restructuring effects and the fact that any verb taking an infinitive complement clause permits the climbing of *suo* because what is involved is a true biclausal context in Chinese. More specifically, if implemented under a split INFL approach, either clause in this biclausal structure may contain a (clausal) clitic position, as illustrated in the partial structure (37).

(37)　a.　$[_{TP} \ldots [_{vP}$ v $[_{VP}$ V$\ldots [_{TP} \ldots [_{FP}$ suo $\ldots [_{EpisP} \ldots [_{vP}$ v $[_{VP}$ V$\ldots$]]]]]]]]

　　　b.　$[_{TP} \ldots [_{FP}$ suo $\ldots [_{EpisP} \ldots [_{vP}$ v $[_{VP}$ V$\ldots [_{TP} \ldots [_{vP}$ v $[_{VP}$ V$\ldots$]]]]]]]]

On the other hand, under the monoclausal approach to the CC phenomenon in Romance, the apparent flexibility of clitics in a lower or higher position in Romance arises because the lower clitic position is licensed by a lexical verb and the higher clitic position is a unique clausal position in the functional domain as in (32), repeated here as (38).

(38)　$[_{FP} \ldots [_{FP}$ clitic $[_{FP} \ldots [_{FP} \ldots [_{FP}$ clitic $[_{vP} [_{VP}$]]]]]]]
　　　　functional domain　　　lexical domain

Therefore, while in Romance a clitic may occur lower than the modal as in (39a), it is not readily acceptable for *suo* to occur lower than a modal as in (39b) because in Chinese there is no such clitic position associated with lexical verbs and the clausal clitic position is higher than the modal.

---

　　　　　b.　*Kaishi　huluan　　caice-qi-le　　yixie　ling　ren　**suo**　bu　gan*
　　　　　　　start　　randomly　guess-up-ASP　some　cause　people　SUO　not　dare
　　　　　　　xiang　de　shi.
　　　　　　　think　DE　thing

19. The projection hosting (*lian*)-*dou* (cf. Shyu 1995) should be lower than the FP hosting *suo*, given examples like (i). It will be left to future research as to how other functional projections in the INFL domain are positioned with respect to the FP hosting *suo*.

　　　(i)　a.　*Zhe　shi　dangchu　　　wo　**suo**　xiang　dou　xiang-bu-dao*
　　　　　　　this　be　in:the:beginning　I　SUO　think　DOU　think-not-arrive
　　　　　　　de　shouhuo.
　　　　　　　DE　harvest
　　　　　　　'These are the profits that I didn't even think of in the beginning.'
　　　　　b.　*shi　zai　jiaxiang　**suo**　zuo　meng　dou　xiang-bu-dao　de*
　　　　　　　be　at　home:town　SUO　make　dream　DOU　think-not-arrive　DE
　　　　　　　'(Something) was not even dreamed of at home town.'

(39)   a.   *Mario   vuole*   [*leggerlo*]
            Mario   want   read.it
            'Mario wants to read it.'
        b.   ??*Zhangsan yinggai **suo**   chang de   ge*
            Zhangsan   should   SUO   sing   DE   song
            'the song that Zhangsan should sing'

To recapitulate, while the CC phenomenon in Romance arises in a mono-clausal structure, CC of *suo* involves a true biclausal structure, given the re-structuring effects associated with the former but not with the latter. How does this fact that *suo* may truly "climb" have implications for the theory of deriving the placement of a pronominal clitic? I address this issue in the next section and argue for the head movement approach to clitic placement.

Before we leave this section, it is necessary to note that the FP that is claimed to host *suo* in Chinese does not coincide with a projection headed by the emphatic *shi* (see Huang, Li and Li 2009 for distinction between the emphatic *shi* and focus *shi*), contra Ou (2007). Evidence comes from the fact that *suo* and the emphatic *shi* do not have the same distribution in the multiple modal constructions. As has been observed since Huang (1988), the emphatic *shi* can occur higher than epistemic modals and between epistemic modals and deontic modals, but not lower than deontic modals. Comparing the distribution of *suo* in (36) and that of *shi* in (40), we find that they do not have parallel acceptability patterns, which shows that *suo* and the emphatic marker *shi* should not be generated in the same functional projection.

(40)   a.   *Zhangsan (shi) yinggai (shi) bixu (*shi) gan (*shi)*
            Zhangsan   SHI   should   SHI   must   SHI   dare   SHI
            chang ge.
            sing   song
            'It (indeed) should be the case that Zhangsan (indeed) has to dare to sing.'
        b.   *Zhangsan (shi) yinggai (shi) keyi (*shi) nenggou (*shi)*
            Zhangsan   SHI   should   SHI   may   SHI   can   SHI
            ganshang che.
            catch   bus
            'It (indeed) should be the case that Zhangsan (indeed) may be able to catch the bus.'

6.   Derivation of *suo*

In this section, I would like to defend and elaborate a stepwise head movement approach to derivation of clitics as pursued by Kayne (1989b, 1991), Roberts

(1997, 2010) and Uriagereka (1995) by showing that there are no SSC effects arising with *suo*'s placement in a biclausal context. I will show that although such an approach does not gain (direct) support from clitic placement in Romance biclausal structures, it provides an elegant account for the derivation of *suo* in Chinese.

There are two major approaches to deriving clitics in Romance: with or without movement. Regarding the latter approach (Borer 1983; Burzio 1986; Jaeggli 1982), consider the configuration in (41) for a clitic construction.

(41)   … CL_i … [Y … XP^*_i…]…
         (taken from Sportiche 1996)

CL indicates the surface position for the clitic and XP* is a position associated with the predicate that has a thematic relation with the clitic. The no-movement analyses take XP* as a pro or PRO, mainly inspired by the fact of clitic doubling where XP* is claimed to be instantiated by the doubling element. On the other hand, the movement analyses are supported by the movement properties of the clitic construction. As well-known, Romance clitics exhibit SSC, CED and ECP effects (see the discussion in Sportiche 1996; among others). Given that the movement properties of the clitic construction are not easily accommodated by the no-movement approach, the movement approach to the generation of (pronominal) clitics in Romance will be adopted here.[20]

The movement analyses in turn can be further grouped in two major subsets: an approach that treats clitics as argument heads and one that treats clitics as inflectional heads. In one form of the former approach first suggested by Kayne (1989b, 1991), followed by Li (1990), Rosen (1990), Roberts (1991, 1994, 2010), Rooryck (1994) and Ouhalla (1999), clitics move out of the nominal headed by them in a stepwise head-to-head fashion and adjoin to INFL. More recently, under a finer-grained functional domain, Uriagereka (1995) and Kayne (2002) (cf. Kayne 1994), clitics are generated as a determiner head of a nominal phrase and take a pro in the complement position. They move essentially as in Kayne (1989b) and adjoin to a functional projection, say, FP.

In another form of the clitic-as-argument-head approach, Sportiche (1990) and Belletti (1999) propose to decompose clitic movement into two different steps: the first step is a phrasal NP movement up to a position, from which the clitic may incorporate as a head to its hosts without violating the Head Movement Constraint, and the derivation proceeds by head movement in the later stages. The argument is based on the fact, as observed by Kayne (1989a), that clitics trigger past participle agreement.

---

20. Non-argument clitics are given a different analysis, e.g., by Sportiche (1996).

On the other hand, under the approach that treats clitics as an inflectional head, first advocated by Sportiche (1996) and followed by Roberts (1997) and Manzini (2003), among others, Romance clitics are realization of Voice positions situated high in the clause. The features of these heads are checked by a pro, which raises from the grammatical function position associated with the clitic to [Spec, Voice]. As in Sportiche's (1990) analysis, the motivation of the initial NP-movement is based on the past participle agreement facts observed by Kayne (1989a). This approach treating clitics as functional heads is defended by Manzini (2003), based on the rigid ordering of clusters of clitics in Romance.

Turning to the generation of the pronominal clitic *suo* in Chinese, its complementary distribution with a (resumptive) pronoun and the locality effects such as failure to be associated with relativization of grammatical subject, reason and manner expressions as mentioned by Section 2 (also see Ting 2003) are best captured under the movement approach to cliticization. I thus reject the no-movement approach to the derivation of *suo*. When evaluating the movement approaches, I will argue that the derivation of *suo* cannot involve only NP movement as claimed under the clitic-as-inflectional-head approach, but rather involve head movement under the clitic-as-argument-head approach.

Evidence for NP-movement involved in Romance cliticization is based on facts of SSC effects and past participle agreement as shown by the contrast in (12a/b), repeated here as (42a/b), and by the contrast in (43a/b) respectively.

(42)   French

        a. *Jean   a   laissé Pierre parler à Marie.*
            John has let   Pierre speak to Marie
            'John let Pierre speak to Marie.'

        b. *Jean ***lui***   *a   laissé Pierre parler.*
            John to:her has let   Pierre speak
            'John let Pierre speak to her.'
            (Sportiche 1996: 223)

(43)   French

        a. *Jean   a   peint(*e)   la   porte.*
            John has painted(*FEM) the door
            'John painted the door.'

        b. *Jean **l'** a   peint(e).*
            John it has painted(FEM)
            'John painted it.'
            (Sportiche 1996: 243)

According to Kayne (1989a), participle agreement is triggered by the movement of a phrase through the specifier position. Although Chinese does not

have the phenomenon of participle agreement, yet there is evidence showing that climbing of *suo* lacks SSC effects in Chinese, as shown in (30), repeated here as (44).

(44) [*wo* **suo** *yaoqiu Lisi*$_i$ [PRO$_i$ *zai ziji*$_i$ *jiali   wancheng*]
      I   SUO   ask   Lisi   at   self home accomplish
      de] *renwu*
      DE mission
      'the mission that I asked Lisi to accomplish at his own home'

If an empty XP moves to the spec of the projection headed by *suo*, this movement is expected to be blocked by the intervening embedded subject, contrary to fact. In contrast, head movement would not be affected in this way and thus the lack of SSC effects obtains. Given this fact, coupled with the lack of positive evidence for NP movement involved in the initial derivation of the movement of *suo*, I claim that the Kaynean head movement approach should be adopted for the derivation of climbing of *suo* in Chinese.

Under this head movement approach, how is *suo* derived in relative clauses? Before answering this question, we need to consider the structure of the relative clause containing *suo*. Departing from Ting (2003), I argue that the relative clause containing *suo* is derived by overt A′ movement rather than by merging a null operator in spec/CP.

Support for the overt A′-movement analysis in relative clauses containing *suo* comes from at least two sets of facts. First, consider the fact that parasitic gaps are licensed in such relatives. Assuming that parasitic gaps in Chinese, like in English and other languages, must be licensed by overt A′-movement (see Lin 2005; Ting and Huang 2008), the relative clause containing *suo* in (45) must involve overt A′-movement.

(45) [*wo* [*zai jian-guo*   pg$_i$ *zhihou*] **suo** *kaichu* t$_i$ *de*]
      I   at meet-ASP   after   SUO fire   DE
      yuangong$_i$
      employee
      'the employee that I fired after meeting'

Another piece of support for overt A′-movement involved in relatives containing *suo* comes from a paradigm of relatives with an empty head noun, as shown in (46).

(46) a. [*wo jiao-guo*   ___ *de*]
          I   teach-ASP   DE
          '(the person) that I taught'

b. *[*wo   jiao-guo   ta   de*]
    I   teach-ASP he   DE
    '(the person) that I taught'

c. [*wo **suo**   jiao-guo   ___   de*]
    I   SUO   teach-ASP   DE
    '(the person) that I taught'

As observed by Aoun and Li (2003), a relative with an argument gap is possible with an empty head noun (46a), but a relative with a resumptive pronoun is not (46b). In terms of compatibility with an empty head noun, the acceptability of (46c) thus indicates that relatives containing *suo* behave on a par with gapped relatives rather than relatives containing resumptive pronouns. Given these two arguments, I conclude that relatives containing *suo* involve overt A′-movement.

To capture the fact that *suo* undergoes head movement and that the relative containing *suo* involves overt A′-movement, I propose, in line with a suggestion for Romance pronominal clitics made by Kayne (1972), Torrego (1986) and Uriagereka (1988, 1995),[21] that *suo* is generated as the head of an argument DP and takes the NP that is to be relativized as its complement, as indicated in the partial structure in (47) (with the intermediate steps of movement of *suo* omitted).

---

21. The complement position of the clitic D head is occupied by a pro (NP) coindexed with the (clitic) doubled NP in the specifier position under Uriagereka's (1995) analysis whereas under a simplified structure by Cecchetto (2000) (cf. Belletti 1999), the complement position of the clitic D head is occupied by the (clitic) doubled NP. The clitic doubling structure is claimed by Uriagereka (1995) to underlie all languages in Romance although some of them such as French independently do not license a double in a systematic fashion. A TLR reviewer wonders "why a functional category associated with A′ dependencies should receive an analysis along the lines of clitic doubling, which is generally associated with agreement in A syntax." In fact, the A syntax associated with clitic doubling is the dependency between the clitic and its double. If the current analysis of *suo* represented in the partial structure in (47) is correct, the A′ syntax of *suo* is manifested by relativization of the doubled NP. There is thus no incompatibility between the A′ syntax associated with the *suo* construction and the A syntax of the clitic doubling structure that underlies the clitic *suo* head and its relativized double.

(47)
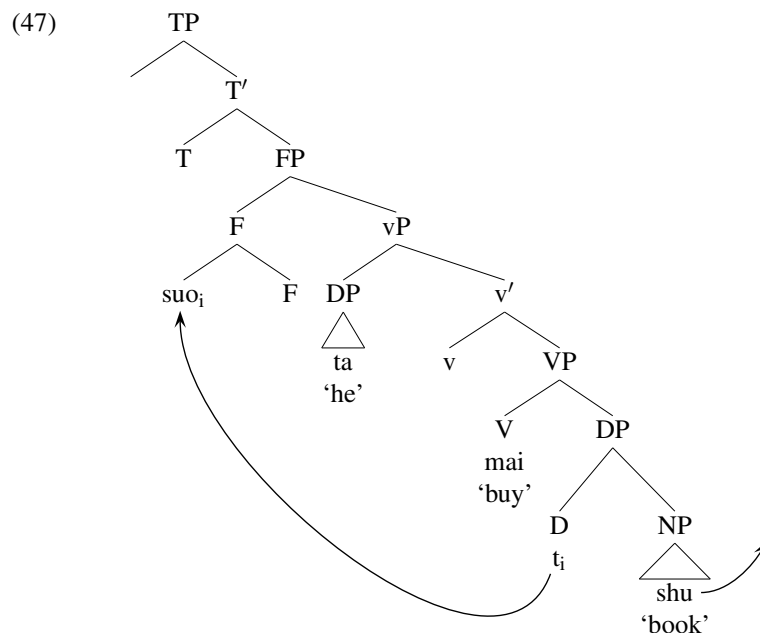
Suo moves successive cyclically to a functional category FP in the split-INFL domain without taking the adjoined heads with it in the fashion of *excorporation* as argued for Romance-type clitics by Li (1990) and Roberts (1991, 2010).[22] As argued in Section 5.2, the FP that *suo* adjoins to occupies a canonical clausal clitic position between TP and the epistemic modal projection in the hierarchy of the functional domain. The motivation of the movement of *suo* to the F head is assumed to be valuing a [+F] feature carried by *suo*. The [+F] feature can be shown to represent discourse functions conveyed by the use of *suo*. According to Ting (2009), *suo* does not only convey emphasis but also serves multiple functions such as ideational, (non-)contextual, personal and esthetic functions in the communicative situation.[23] Judging in this respect, then

---

22. According to Roberts (1991), what makes excorporation possible for cliticization but not for noun incorporation and affixation is that the incorporation host morphologically does not subcategorize for the incorporee in the former but does so in the latter. As a result, when excorporation proceeds in the latter case, the morphologically subcategorizing head would count as an intervening governor for the trace of the moved head, thus yielding a minimality violation.

23. A TLR reviewer takes this to mean that *suo* relatives are generally definite and wonders how the definite interpretation is obtained if definiteness is widely assumed (cf. Borer 2005; Jackendoff 1977; Lyons 1999) to be encoded on the highest functional head in DP and if the D head *suo* must remain within the relative clause. However, definiteness need not be encoded in such a fashion. Simpson (2001, 2002) proposes that the definiteness specification of a DP

the optionality of *suo* is simply apparent in that *suo*'s occurrence incurs semantic/pragmatic significance to the clause. Interestingly, Romance pronominal clitics also display interpretation effects and a wide variety of discourse functions (Uriagereka 1995; Gutiérrez-Rexach 2000; Capone 2003).

Note that while relativization out of the complement position of the (clitic) D head in the structure (47) is represented under a head raising approach as in Li (2001) and Aoun and Li (2003), the traditional matching approach to relativization via null operator movement should be equally compatible.

The analysis that *suo* and the relativized NP start out from the same DP[24] is reminiscent of the analysis proposed for resumptive pronouns by Boeckx (2003) as in (48).

(48)

```
         DP
         |
         D′
        /  \
       D    {wh/Op}-NP
```
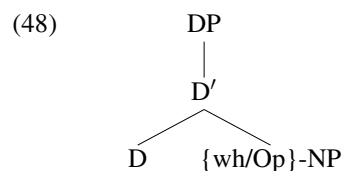
According to Boeckx (2003), resumptive chains arise from a big-DP structure like (48), where resumptive pronouns are D heads and their NP complements undergo *wh* movement. The proposed analysis of *suo* thus differs minimally from Boeckx's approach in that *suo*, being a clitic, undergoes further head movement (via excorporation) to its target head. Under this analysis, *suo*

---

need not be explicitly encoded in D but might instead relate to other elements in the phrase such as a demonstrative or quantifier in some lower position. Along this line of reasoning, we could assume that an overt D may be no more than a manifestation of definiteness (vs. D providing definiteness). Under the head raising approach to relativization, the "matrix DP" hosting the relative clause and the original DP inside the relative clause are supposed to be the "same" DP at the semantic level. In this case, the appearance of *suo* simply overtly marks, among other things, that the original DP is definite, which in turn forces the "matrix DP" to be definite under concord.

24. An and Kuo (2006) independently propose that *suo* and a relativization operator form a bigger phrase, but in contrast to the current analysis, they claim that this bigger phrase moves to spec/Agr_oP, where *suo* is stranded after the relativization operator undergoes further movement. Such an Accusative Case checking-based analysis faces the same difficulty as Chiu (1995), posed by examples like (i), where the relativized elements arguably receive inherent rather than accusative Case, as discussed by Ting (2003).

(i) a. [*nachang dongluan zhong* **suo** *si-qu*   [e]$_i$] *de* *ren*$_i$
         that   riot   middle SUO   die-away   DE   person
         'the person/people that died in the riot'

     b. [*natiao xiao-xi*   *zhong* **suo** *piao-guo* [e]$_i$] *de*
         that   small-stream   middle   SUO   flaot-past   DE
         ku-yie$_i$
         withered-leaf
         'the withered leaves that floated in the river'

is a resumptive clitic in a different sense from the account provided in Ting (2003). The so-called resumptive pronouns (RPs) in the literature, according to Sells (1984), fall into two groups: those in languages like English, licensed in clauses without *wh* movement, are not true RPs and are termed as intrusive pronoun; those in languages like Hebrew, licensed in clauses with *wh* movement, are true RPs. The relative clauses containing *suo* are claimed not to involve *wh* movement in Ting (2003); therefore, *suo* under Ting's (2003) account is a resumptive clitic in the sense of English-type resumption. Under the proposed analysis, *suo* is a true resumptive clitic because the relative clauses containing *suo* are shown to involve overt *wh* movement. Considering *suo* along the lines of true resumption sheds new light in answering the question why *suo* is not licensed in other A′ movement constructions such as topicalization.[25] As discussed by Boeckx (2003) (and the references cited therein), it is not the case that an RP in a language can appear in all A′ context in that language. For example, although some languages do allow RP in interrogatives such as Yiddish, Welsh and Arabic, many other languages only limit the occurrence of a RP in relative clauses. If *suo* is a true resumptive element, then its not occurring in all A′ configurations simply conforms to the behaviors of resumptive pronouns in general.

Despite the plausibility of the (true) resumptive clitic analysis of *suo*, one might still wonder why it is the context of relative clauses that *suo* is limited to[26] and why *suo* does not occur in simple sentences not involving relativization. As mentioned by passing in Section 2, the answers to these questions, I believe, hinge on the historical origin of *suo*. The particle *suo* is confined to relative clauses in Classical Chinese (Ting 2005 and references cited therein); no occurrence of *suo* at issue is attested in a context not involving relatives. Therefore, I claim that the distribution of *suo* being limited to relative clauses in Contemporary Chinese is due to its historical origin in Classical Chinese.

The output yielded by a structure like (47) is a nominal expression occurring with a relative clause containing *suo* without being preceded by a demonstrative-numeral-classifier (DNC) sequence, as illustrated in (3). Since a

---

25. This question was addressed in note 13 of Ting (2003) but no genuine account is provided there.

26. Raising the question why *suo* shows up only in relativization contexts and nowhere else, a TLR reviewer remarks "since *suo* does not appear in topicalization contexts, it also does not pattern with CLLD." It is necessary to note that, as argued by Cinque (1990), Iatridou (1994) and Alexiadou (2005), CLLD (or Clitic Left Dislocation) is not derived by movement of the doubled element to the sentence initial position. If Boeckx (2003) is correct that resumption and clitic doubling are derived on a par, it naturally follows that *suo*, generated under a resumption context, does not pattern with CLLD.

DNC sequence may either precede or follow a relative clause, a natural question, then, arises how to derive the two orders of the DNC sequence with respect to the relative clause containing *suo*, as illustrated in (49a) and (49b).[27]

(49)   a.   *na-yi-ben*   *[wo* **suo**   *mai de]*   *shu*
              that-one-CL   I   SUO   buy   DE   book
              'the book that I bought'
      b.   *[wo* **suo**   *mai de]*   *na-yi-ben*   *shu*
              I   SUO   buy   DE   that-one-CL   book
              'the book that I bought'

The answer to this question hinges on how the DNC sequence in the Chinese nominal structure is analyzed. As argued by Huang, Li and Li (2009), the DNC sequence consists of layers of functional projections in the DP, with the classifier head taking as complement the NP adjoined by the relative clause, this yields the ordering in (49a). The other order in (49b) is derived by raising the relative clause to a pre-DNC position. Alternatively, the DNC sequence may form a constituent (or a NumP as in Hsieh 2008) and be base-generated in an initial position or in a lower position in a DP. This is the approach taken by Simpson (2001, 2002) and Hsieh (2008). Either approach to deriving the two possible orders of the DNC sequence with respect to the relative clause is compatible with the proposed analysis that the relativized head noun starts from the NP complement of the D head *suo*. Put differently, the two orders with the DNC sequence preceding or following the relative clause in the examples containing *suo* are derived in the same way as the two orders in the examples without *suo*.[28]

Under the excorporation approach to cliticization, the head movement of *suo* is expected to be non-local, yielding the CC effects, as long as the constraints on excorporation are obeyed. One of such conditions postulated by Roberts (1994) (cf. Li 1990) is that excorporation from non-L-related heads is impossible where the functional head I (or T and AGR under the split INFL system) is taken to be features of V, thus L-related, while others, e.g. C and Neg, are non-

---

27. With thanks to a TLR reviewer for raising this question.
28. A TLR reviewer suggests that "given that classifiers have been argued to be functional heads on the DP spine (cf. Cheng and Sybesma 1999), there needs to be some mechanism for splitting the DP so that the D *suo* raises within the embedded TP, while the demonstrative and classifier accompany the head NP to the CP edge of the relative clause." This suggestion may technically work for generating the order with DNC sequence following the relative clause containing *suo*; since there is plenty of literature on splitting C (cf. Rizzi 1997), it is not unreasonable to assume that D can be further split. Nevertheless, a different mechanism is still needed for deriving the order with the DNC sequence preceding the relative clause containing *suo*. I'll not further explore this split D scenario here.

L-related.[29] Independent evidence for this condition comes from the "blocking effects" exhibited in the so-called Long Head Movement, which Roberts (1994) shows is also not triggered by morphological properties of the hosting head, as reported by Lema and Rivero (1990) and Rivero (1991). One of the consequences of this condition on excorporation relevant to the current discussion is that cliticization may never cross a C head since it is not L-marked. Given the fact that head movement of *suo* may cross an infinitive, but not a finite, clause boundary, as discussed in Section 4.1, we are led to the claim that while a finite clause is a CP, an infinitive clause need not be in Chinese. This claim is fairly plausible. Bošković (1997) argues that infinitive complements not introduced by an overt complementizer may be a CP or TP. Independent evidence for validity of this claim in Chinese is manifested by the contrasts shown by object preposing or secondary topicalization involving a finite complement (50) and an infinitive complement (51), as discussed by Ting (1995) and Shyu (1995, 2001) (cf. Paul 2002).

(50) a. *Zhangsan renwei Lisi qiang-zou-le   Laowang de*
         Zhangsan think   Lisi rob-away-ASP Laowang DE
         qian.
         money
         'Zhangsan thought that Lisi robbed Laowang of the money.'
     b. **Zhangsan, Laowang de   qian,   renwei Lisi*
         Zhangsan Laowang DE   money think   Lisi
         qiang-zou-le.
         rob-away-ASP

(51) a. *Zhangsan pai Lisi qiang-zou-le   Laowang de   qian.*
         Zhangsan send Lisi rob-away-ASP Laowang DE   money
         'Zhangsan sent Lisi to rob Laowang of the money.'
     b. *Zhangsan, Laowang de   qian,   pai Lisi*
         Zhangsan Laowang DE   money send Lisi
         qiang-zou-le.
         rob-away-ASP

Given that an infinitive clause in Chinese need not be a CP, *suo* can move from within the infinitive complement clause, crossing the embedded clause boundary, and adjoin to the head of FP in the matrix clause, yielding the CC effects.

---

29. The notion of L-relatedness is defined by Chomsky and Lasnik (1993: 532) as follows: "Given a lexical head L, we say that a position is L-related if it is the specifier or complement of a feature of L".

7. Concluding remarks

To summarize, a crucial empirical generalization obtained in this article is that there exists a true case of clitic climbing in the sense that a clitic occurs not in a position associated with the verb by which it is selected but indeed in a position in a higher clause. This fact, as I have argued, is best captured by a head movement approach under which *suo* undergoes successive cyclic head movement from within an infinitive complement clause to the matrix clause, and therefore lends great support to the head movement approach first advocated by Kayne.

A question that is left unaddressed is the explanation of why clitic placement is restricted to a monoclausal structure in Romance but not in Chinese. This asymmetry could be explained via the fact that the derivation of *suo* is also accompanied by an independently needed movement forming relative clauses.[30] Alternatively, this cross-linguistic contrast may be attributed to a parametric difference in whether the infinitive complement clause is a CP or TP. Given the fact that the presence of a complementizer blocks CC in Romance as noted by Rizzi (1982), the impossibility of clitics to undergo head movement to a higher clause in Romance can be claimed to be due to the intervening CP as in Roberts (2010) (cf. Li 1990). An ultimate account for this issue will be left to future research.

National Taiwan Normal University
ting@ntnu.edu.tw

References

Alexiadou, Artemis. 2005. Left dislocation including CLLD. In Martin Everaert & Henk van Riemsdijk (eds.), *Blackwell companion to syntax* Vol. 2, 669–699. Malden, MA: Blackwell.

An, Duk-Ho & Pei-Jung Kuo. 2006. On the nature of *suo* in Mandarin Chinese. In Janet Zhiqun Xing (ed.), *Proceedings of the 18th North American Conference on Chinese Linguistics (NACCL-18)*, 11–23. CA: GSIL Publications.

Aoun, Joseph & Y.-H. Audrey Li. 2003. *Essays on the representational and derivational nature of grammar: The diversity of wh-constructions*. MA: MIT Press.

Belletti, Adriana. 1999. Italian/Romance clitics: Structure and derivation. In Henk van Riemsdijk (ed.), *Clitics in the languages of Europe: Empirical approaches to language typology*, 543–579. Berlin & New York: Mouton de Gruyter.

Boeckx, Cedric. 2003. *Island and chains: Resumption as stranding*. The Netherlands: John Benjamins Publishing Company.

Borer, Hagit. 1983. *Parametric syntax*. Dordrecht: Foris Publications.

Borer, Hagit. 2005. *In name only*. New York: Oxford University Press.

---

30. The essence of this approach is that because there are necessarily two chains in the relative clause context – one for *suo* and one for the A′-movement responsible for relativization -- and these two chains are related by originating from the same DP, the *suo*-chain can be salvaged provided that the A′-chain is independently well-formed.

Bošković, Željko. *The syntax of nonfinite complementation: An economy approach*. MA: MIT press.

Brennan, Virginia. 1993. *Root and epistemic modal auxiliary verbs in English*. Amherst, MA: University of Massachusetts dissertation.

Burzio, Luigi. 1986. *Italian syntax: A government binding approach*. Dordrecht, Holland: D. Reidel Publishing Company.

Capone, Alessandro. 2003. Theories of presuppositions and presuppositional clitics. In Peter Kuhnlein, Hannes Rieser & Henk Zeevat (eds.), *Perspectives on dialogue in the new millennium*, 111–133. New York: John Benjamins.

Cardinaletti, Anna & Ur Shlonsky. 2004. Clitic positions and restructuring in Italian. *Linguistic Inquiry* 35(4). 519–557.

Cecchetto, Carlo. 2000. Doubling structures and reconstruction. *Probus* 12(1). 1–34.

Chao, Yuen-Ren. 1968. *A grammar of spoken Chinese*. Berkeley, CA: University of California Press.

Cheng, Lisa L.-S. & Rint Sybesma. 1999. Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30(4). 509–542.

Chiu, Bonnie. 1993. *The inflectional structure of Mandarin Chinese*. Los Angeles, CA: University of California dissertation.

Chiu, Bonnie. 1995. An object clitic projection in Mandarin Chinese. *Journal of East Asian Linguistics* 4(2). 77–117.

Chomsky, Noam. 2001. Derivation by phase. In Michael Kenstowicz (ed.), *Ken Hale: A life in language*, 1–52. MA: MIT Press.

Chomsky, Noam. 2005. Three factors in language design. *Linguistic Inquiry* 36(1). 1–22.

Chomsky, Noam & Howard Lasnik. 1993. Principles and parameters theory. In Joachim Jacobs, Armin von Stechow & Wolfgang Sternefeld (eds.), *Syntax: An international handbook of contemporary research*, 506–569. Berlin: Walter de Gruyter.

Cinque, Guglielmo. 1990. *Types of A′-dependencies*. MA: MIT Press.

Cinque, Guglielmo. 2001. "Restructuring" and the order of aspectual and root modal heads. In Guglielmo Cinque & Giampaolo Salvi (eds.), *Current studies in Italian syntax: Essays offered to Lorenzo Renzi*, 137–155. Amsterdam: Elsevier.

Cinque, Guglielmo. 2003. The interaction of passive, causative and "restructuring" in Romance. In Christina Tortora (ed.), *The syntax of Italian dialects*, 50–66. New York: Oxford University Press.

Cinque, Guglielmo. 2006. *Restructuring and functional structure*. Oxford and New York: Oxford University Press.

Ernst, Thomas. 1994. Functional categories and the Chinese Infl. *Linguistics* 32(2). 191–212.

Ernst, Thomas. 1995. Negation in Mandarin Chinese. *Natural Language and Linguistic Theory* 13(4). 665–707.

Gutiérrez-Rexach, Javier. 2000. The formal semantics of clitic doubling. *Journal of Semantics* 16(4). 315–380.

Halpern, Aaron. 1995. *On the placement and morphology of clitics* (Dissertations in Linguistics). Stanford, CA: CSLI, Center for the Study of Language and Information.

Holmberg, Anders. 1986. *Word order and syntactic features in Scandinavian languages and English*. Sweden: University of Stockholm dissertation.

Holmberg, Anders. 1999. Remarks on Holmberg's generalization. *Studia Linguistica* 53(1). 1–39.

Hsieh, Miao-Ling. 2008. *The internal structure of noun phrases in Chinese*. Taipei: Crane Publisher.

Hsu, Yuyin. 2005. *The syntactic structure and pedagogical grammar of modals in Mandarin Chinese*. Taipei: National Taiwan Normal University MA thesis.

Hsu, Yuyin & Jen Ting. 2008. Chinese modals as functional categories. Paper presented at Chronos 8 (the 8th Meeting of the International Conference on Tense, Aspect, Mood, and Modality), University of Texas Austin, 3–5 October.

Hu, Jianhua, Haihua Pan & Liejiong Xu. 2001. Is there a finite vs nonfinite distinction in Chinese? *Linguistics* 39(6). 1117–1148.

Huang, C.-T. James. 1982. Logical relations in Chinese and the theory of grammar. MA: Massachusetts Institute of Technology dissertation.

Huang, C.-T. James. 1988. Shuo 'shi' han 'you' [On 'be' and 'have' in Chinese]. *The Bulletin of the Institute of History and Philosophy, Academia Sinica* 59, 43–64. Taipei: Academica Sinica.

Huang, C.-T. James, Y.-H. Audrey Li & Yafei Li. 2009. *The syntax of Chinese*. New York: Cambridge University Press.

Iatridou, Sabine. 1994. Clitics and island effects. In Roumyana Izvorski & Victoria Tredinnick (eds.), *University of Pennsylvania working papers in linguistics* 2, 11–30. Philadelphia: University of Pennsylvania Linguistics Club.

Jackendoff, Ray. 1977. *X′ syntax: A study of phrase structure*. MA: MIT Press.

Jaeggli, Oswaldo. 1980. *On some phonologically null elements in syntax*. MA: Massachusetts Institute of Technology dissertation.

Jaeggli, Oswaldo. 1982. *Topics in Romance syntax*. Dordrecht: Foris Publications.

Kayne, Richard. 1972. Subject inversion in French interrogatives. In Jean Casagrande & Bohdan Saciuk (eds.), *Generative studies in Romance languages*, 70–126. Rowley, MA: Newbury House.

Kayne, Richard. 1975. *French syntax: The transformational cycle*. MA: MIT Press.

Kayne, Richard. 1983. Chains, categories external to S and French complex inversion. *Natural Language and Linguistic Theory* 1(1). 107–139.

Kayne, Richard. 1984. *Connectedness and binary branching*. Dordrecht: Foris Publications.

Kayne, Richard. 1989a. Facets of Romance past participle agreement. In Paola Beninca (ed.), *Dialect variation and the theory of grammar*, 85–103. Dordrecht: Foris Publications.

Kayne, Richard. 1989b. Null subjects and clitic climbing. In Osvaldo Jaeggli & Kenneth J. Safir (eds.), *The null subject parameter*, 239–263. Dordrecht: Kluwer Academic Publishers.

Kayne, Richard. 1991. Romance clitics, verb movement and PRO. *Linguistic Inquiry* 22(4). 647–686.

Kayne, Richard. 1994. *Antisymmetry*. MA: MIT Press.

Kayne, Richard. 2002. Pronouns and their antecedents. In Sam Epstein & T. Daniel Seely (eds.), *Derivation and explanation in the minimalist program*, 133–166. Oxford: Blackwell publishing.

Lema, José & María Luisa Rivero. 1990. Long head movement: ECP versus head movement constraint. *North Eastern Linguistic Society (NELS)* 20. 333–347.

Li, Jin-xi. 1947. *Xin zhu guoyu wenfa* [The newly written Mandarin grammar]. Shanghai: Shangwu Publisher.

Li, Yafei. 1990. Conditions on X^0-movement. MA: Massachusetts Institute of Technology dissertation.

Li, Yen-hui Audrey. 2001. Universal constructions? Relativization in English and Chinese. *Concentric: Studies in Linguistics* 27(2). 81–102.

Lin, Jonah. 2005. Does *wh-in-situ* license parasitic gaps? *Linguistic Inquiry* 36(2). 298–302.

Lin, Jo-wang & C.-C. Jane Tang. 1995. Modals as verbs in Chinese: A GB perspective. *The Bulletin of the Institute of History and Philology, Academia Sinica* 66. 53–105. Taipei: Academica Sinica.

Lyons, Christopher 1999. *Definiteness*. New Yok: Cambridge University Press.

Madeira, Ana Maria. 1993. Clitic-second in European Portuguese. *Probus* 5(1–2). 155–174.

Manzini, M. Rita. 2003. Syntactic approaches to cliticization. In Lisa L.-S. Cheng & Rint Sybesma (eds.), *The second Glot international state-of-the-article book: The latest in linguistics*, 367–387. Berlin & New York: Mouton de Gruyter.

Napoli, Donna Jo. 1981. Semantic interpretation vs lexical governance: Clitic climbing in Italian. *Language* 57(4). 841–887.

Ou, Tzu-Shan. 2007. *Suo* relative clauses in Mandarin Chinese. *Language and Linguistics* 8(3). 913–937.

Ouhalla, Jamal. 1999. *Introducing transformational grammar: From principles and parameters to minimalism*, 2nd edn. New York: Oxford University Press.

Palmer, Frank R. 1990. *Modality and the English modals*. London: Longman Group UK Limited.

Paul, Waltraud. 2002. Sentence-internal topics in Mandarin Chinese: The case of object preposing. *Language and Linguistics* 3(4). 695–714.

Rivero, María-Luisa. 1991. Long head movement and negation: Serbo-croatian vs. Slovak and Czech. *The Linguistic Review* 8(2–4). 319–351.

Rizzi, Luigi. 1982. *Issues in Italian syntax*. Dordrecht: Foris Publications.

Rizzi, Luigi. 1986. On the status of subject clitics in Romance. In Osvaldo Jaeggli & Carmen Silva-Corvalin (eds.), *Studies in Romance linguistics,* 391–419. Dordrecht: Foris Publications.

Rizzi, Luigi. 1997. The fine structure of the left periphery. In Lilian Haegeman (ed.), *Elements of grammar: Handbook in generative syntax*, 281–337. Dordrecht: Kluwer Academic Publishers.

Roberts, Ian. 1991. Excorporation and minimality. *Linguistic Inquiry* 22 (1). 209–218.

Roberts, Ian. 1994. Two types of verb movement in Romance. In David Lightfoot & Norbert Hornstein (eds.), *Verb movement*, 207–242. New York: Cambridge University Press.

Roberts, Ian. 1997. Restructuring, head movement and locality. *Linguistic Inquiry* 28(3). 423–460.

Roberts, Ian. 2010. *Agreement and head movement: Clitics, incorporation and defective goals*. MA: MIT Press.

Rooryck, Johan. 1994. Against optional movement for clitic climbing. In Michael Mazzola (ed.), *Issues and theory in Romance linguistics: Selected papers from the linguistic symposium on Romance languages*, 417–443. Washington, DC: Georgetown University Press.

Rosen, Sara Thomas. 1990. *Argument structure and complex predicates*. New York/London: Garland Publishing Inc.

Sells, Peter. 1984. *Syntax and semantics of resumptive pronouns*. MA: University of Massachusetts at Amherst dissertation.

Shyu, Shu-ing. 1995. *The syntax of focus and topic in Mandarin Chinese*. CA: University of Southern California dissertation.

Shyu, Shu-ing. 2001. Remarks on object movement in Mandarin SOV order. *Language and Linguistics* 2(1). 93–124.

Simpson, Andrew. 2001. Definiteness agreement and the Chinese DP. *Language and Linguistics* 2(1). 125–156.

Simpson, Andrew. 2002. On the status of 'modifying' de and the structure of the Chinese DP. In Sze-Wing Tang & Chen-Sheng Luther Liu (eds.), *On the formal way to Chinese languages*, 74–101. Stanford, CA: CSLI, Center for the Study of Language and Information.

Sportiche, Dominique. 1990. Movement, agreement and case. Ms., University of California, Los Angeles.

Sportiche, Dominique. 1996. Clitic construction. In John Rooryck & Laurie Zaring (eds.), *Phrase structure and the lexicon*, 213–276. Dordrecht: Kluwer Academic Publishers.

Steriade, Donca. 1980. Clitic doubling in the Romanian *wh* constructions and the analysis of topicalization. *Chicago Linguistic Society (CLS)* 16. 282–297.

Tang, Chih-Chen Jane. 1990. *Chinese phrase structure and the extended X'-theory*. Ithaca, NY: Cornell University dissertation.

Teng, Shou-Hsin. 1978. Modification and the structure of existential sentences. In Robert L. Cheng, Ying-che Li & Ting-chi Tang (eds.), *Proceedings of symposium on Chinese linguistics*, 197–210. Taipei: Student Book.

Ting, Jen. 1995. Deriving the secondary topic construction in Mandarin Chinese. In Tsai-Fa Cheng, Yafei Li & Hongming Zhang (eds.), *Proceedings of the joint meeting of the fourth international conference on Chinese linguistics (ICCL-4) and the seventh north American conference on Chinese linguistics (NACCL-7)*, 289–302. Madison: University of Wisconsin.

Ting, Jen. 1998. Deriving the *bei*-construction in Mandarin Chinese. *Journal of East Asian Linguistics* 7(4). 319–354.

Ting, Jen. 2003. The nature of the particle *suo* in Mandarin Chinese. *Journal of East Asian Linguistics* 12(2). 121–139.

Ting, Jen. 2005. On the syntax of the *suo* construction in Classical Chinese. *Journal of Chinese Linguistics* 33(2). 233–267.

Ting, Jen. 2006. NegP and the particle *suo* in Mandarin Chinese. Concentric: *Studies in Linguistics* 32(2). 71–92.

Ting, Jen. 2008. The nature of the particle *suo* in the passive constructions in Classical Chinese. *Journal of Chinese Linguistics* 36(1). 30–72.

Ting, Jen. 2009. Situational characteristics and register variation: A case study of the particle *suo* in Mandarin Chinese. In Shu-Chuan Tseng (ed.), *Linguistic patterns in spontaneous speech*, 51–75. Taipei: Academia Sinica.

Ting, Jen & Yu-Chi Huang. 2008. Some remarks on parasitic gaps in Chinese. *Concentric: Studies in Linguistics* 34(1). 27–52.

Torrego, Esther. 1986. Determiners and pronouns: A DP analysis of noun phrases in Spanish. Ms., University of Massachusetts, Boston.

Tsai, W.-T. Dylan & Paul Portner. 2008. Adverb-modal interactions and actuality entailments in Chinese. Paper presented at the 11th International Symposium on Chinese Languages and Linguistics (IsCLL-11), National Chiao-Tung University, Hsinchu, Taiwan, May.

Uriagereka, Juan. 1988. *On government*. Storrs, CT: University of Connecticut dissertation.

Uriagereka, Juan. 1995. Aspects of the syntax of clitic placement in western Romance, *Linguistic Inquiry* 26(1). 79–124.

Warner, Anthony. 1993. *English auxiliaries*. Oxford: Cambridge University Press.

Wurmbrand, Susie. 2001. *Infinitives: Restructurcting and clause structure*. Berlin & New York: Mouton de Gruyter.