

JEN TING

THE NATURE OF THE PARTICLE *SUO*  
IN MANDARIN CHINESE

This article argues for an analysis of Mandarin Chinese *suo* as a resumptive pronominal clitic: *suo* is suggested to be the head of a nominal projection, licensed by being bound by a null operator and adjoined to I<sup>0</sup> via head movement. This analysis will be shown to account for the various properties of *suo*, including its surface order with respect to other elements in the clause, the complementary distribution between *suo* and the resumptive pronoun *ta* 'he', the "climbing" phenomenon, and the licensing asymmetry with respect to *suo*'s distribution, namely, the fact that *suo* is allowed in relativization of the object, the locative expression, and the post-verbal element in locative inversion constructions but not in relativization of subject, manner and reason expressions. This proposed analysis will be compared with that of Chiu (1995) and will conclude that the facts of *suo* do not support the positing of an agreement-like projection in Chinese.

1. INTRODUCTION

Studies of relative clauses in Mandarin Chinese have long noticed the optional occurrence of the particle *suo* before a transitive verb in relatives (Chao (1968), Li (1947), T. Tang (1977), among others), exemplified in (1).

- (1) a. Lisi (**suo**) ai de ren  
Lisi SUO love DE person  
'the person that Lisi loves'
- b. xiaotou (**suo**) meiyou tou zou de naxie shoushi  
thief SUO not-have steal away DE those jewel  
'the jewelry that the thief didn't steal'

The syntactic status of *suo*, however, is not commonly agreed on. It has variously been claimed to be an adverb (Chao (1968)), a relative pronoun (cf. Ma (1898)), and a "construction particle" (cf. Zhu (1983)), among other proposals. The first really detailed investigation of the distribution of *suo* in the Government and Binding framework is Chiu (1995, cf. 1993), where *suo* is argued to head an accusative Case projection in Chinese. As is well known, Chinese lacks agreement marking. If this analysis (the ACP analysis, henceforth) is correct, then it provides strong evidence for positing a functional category in a language which exhibits no morphological marking of such grammatical function. The purpose of this article is two-fold: first,



it is to demonstrate that *suo* cannot be analyzed as heading an accusative Case projection. Second, it is to provide a proper analysis of *suo* in Mandarin Chinese and to account for aspects of its syntactic behavior which are left mysterious in previous analyses. More specifically, it is suggested that *suo* is an  $X^0$  element, heading an NP in the theta-position which relates to the head noun of the relative clause. It is further suggested that due to a morphological requirement, *suo* undergoes subsequent raising and cliticization to  $I^0$ .<sup>1</sup>

This article is organized as follows: in Section 2, I review the ACP analysis of *suo*. I show that an account along this line, though potentially appealing, cannot handle all facts of *suo*. In Section 3 I construct an alternative account of *suo*, namely, that *suo* is a resumptive clitic. Section 4 concludes the article.<sup>2</sup>

## 2. AGAINST THE ACCUSATIVE CASE PROJECTION ANALYSIS OF *SUO*

### 2.1. *The Accusative Case Projection Analysis*

Chiu (1995, cf. 1993) proposes that *suo* heads a functional projection in Mandarin Chinese, termed SuoP. It assigns accusative Case to its spec via spec-head agreement. Elements receiving accusative Case are required to move to [spec/SuoP] to get Case. This projection thus resembles object agreement projection in the sense of Chomsky (1991), where accusative Case is assigned in the spec of Agr-O projection. The position of SuoP in the clause structure is between NomP, where nominative Case is assigned in its spec, and TP. The overt realization of the head of SuoP, i.e., *suo*, is triggered when an element bearing accusative Case syntactically moves through its spec. Syntactic movement is crucial in triggering the occurrence of *suo*, as *suo* is not allowed in clauses where an object NP is in situ (2).

- (2) \*Akiu **suo** du-guo shu  
 Akiu SUO read-ASP book  
 'Akiu has read the book.'

On this analysis, there is an expletive pro in [spec\SuoP] in (2), and it forms a Case chain with the postverbal object NP, giving rise to a structure analogous to *there*-expletive constructions in English. Accusative Case is assigned when the object NP raises to [spec\SuoP] at LF. The reason why *suo* is not allowed in (2) is that the expletive pro in [spec\SuoP], as opposed to the syntactically moved NP, lacks a lexical index of the sort necessary to trigger the overt realization of the head of SuoP.<sup>3</sup>

In support of analyzing *suo* as the overt realization of the head of the accusative Case projection, triggered by syntactic movement through its spec, the following arguments have been provided by Chiu (1995, cf. 1993). The first argument concerns the licensing asymmetry in *suo*'s occurrence: *suo* is licensed only where the relativization site is a direct object position (3) but not where the site is a subject (4a) or an adjunct position (4b).

- (3) [Lisi **suo** mai [e]] de neixie shu  
 Lisi SUO buy DE those book  
 'those books that Lisi bought'
- (4) a.\*[[e] **suo** mai naxie shu] de neige ren  
 SUO buy those book DE that person  
 'the person that bought those books'
- b.\*[Lisi **suo** piping Zhangsan [e]] de  
 Lisi SUO criticize Zhangsan DE  
 yuanyin/fangfa/shijian/difang  
 reason/method/time/place  
 'the reason/method/time/place that Lisi criticized Zhangsan'

This paradigm, according to Chiu (1995, cf. 1993), shows that *suo*'s occurrence is restricted to relativization of elements receiving accusative Case, given that accusative Case is assigned in object position but not in subject or adjunct position. This fact, Chiu argues, supports the analysis that only elements receiving accusative Case trigger the overt realization of *suo* in the head of *SuoP*.

The second argument concerns the fixed position of *suo* in the clause. As indicated in (5), *suo* must occupy a position lower than NP-subjects and sentential adverbs but higher than negation, manner adverbs, and verbs. The examples are given in (6).

- (5) NP-subject S-level-adv SUO Neg manner-adv verb NP-object  
 (Chiu (1995, p. 84))
- (6) [Lisi (\*suo) dagai suo meiyou (\*suo) henhende  
 Lisi SUO probably SUO not-have SUO severely  
 (\*suo) piping [e]] de naxie ren  
 SUO criticize DE those person  
 'the people that Lisi probably didn't severely criticize'  
 (adapted from Chiu (1995), (30–31), p. 84)

Chiu (1995, cf. 1993) suggests that the fixed position of *suo* in the clause is the position of the head of S<sub>uo</sub>P. S<sub>uo</sub>P, on her analysis, is lower than NomP and higher than other functional projections in a clause. The position of *suo* with respect to other elements in a clause, such as sentential adverbs and VP-level adverbs, thus follows, assuming that sentential adverbs and VP-level adverbs are licensed under NomP and VP respectively.

The third argument concerns the complementary distribution between *suo* and the resumptive pronoun *ta* 'he', as illustrated by the contrast in (7).

- (7) a. (?) [wo ai-le ta san nian] de nage ren  
 I love-ASP he three year DE that person  
 'the person I loved for three years'
- b. [wo **suo** ai-le san nian] de nage ren  
 I SUO love-ASP three year DE that person  
 'the person I loved for three years'
- c. \* [wo **suo** ai-le ta san nian] de nage ren  
 I SUO love-ASP he three year DE that person  
 'the person that I loved for three years'

According to Chiu, the incompatibility of *suo* and the resumptive pronoun *ta* 'he' in (7c) supports the analysis that *suo*'s occurrence is triggered by syntactic movement. It is generally assumed that relative clauses containing a resumptive pronoun do not involve syntactic null operator movement. Since *suo* must be licensed by syntactic movement under the analysis, the environment with a resumptive pronoun does not allow *suo*'s occurrence. As a result, *suo* and a resumptive pronominal never co-occur.

Another argument provided by Chiu in support of triggering of *suo*'s occurrence by syntactic movement concerns the "locality effects" on clauses containing *suo*, as illustrated by (8).

- (8) a. [[Lisi (\*suo) kan \_\_\_\_<sub>1</sub>] zui heshi de] shu<sub>1</sub>  
 Lisi SUO read most appropriate DE book  
 (Chiu 1995, p. 87)  
 'the book that it is most appropriate for Lisi to read'  
 (Subject Condition)



- (10) a. Lisi zai zhege jigou fuwu/gongzuo  
 Lisi at this organization serve/work  
 'Lisi serves/works in this organization.'
- b. Women zai zhege shehui shengcuen  
 we at this society live  
 'We live in this society.'

Given that a locative phrase is not assigned accusative Case (by the verb), the ACP analysis would wrongly predict that examples with a locative head should be as unacceptable as relatives with other types of adjunct heads, as in (11).

- (11) [Lisi suo gongzuo] de ??shijian/?\*fangfa/\*yuanyin  
 Lisi SUO work DE time/method/reason  
 'the time/method/reason that Lisi works'

The acceptability of cases such as (9a/b) thus casts doubt on the ACP analysis.

The second set of facts concern the occurrence of *suo* in relatives where the relativized elements arguably receive inherent rather than accusative Case, as in (12).

- (12) a. [nachang dongluan zhong suo siqu [e]<sub>1</sub>] de ren<sub>1</sub>  
 that riot middle SUO die-away DE person  
 'the person/people that died in the riot'
- b. [natiao xiaoxi zhong suo piaoguo [e]<sub>1</sub>] de  
 that small-stream middle SUO float-past DE  
 kuyie<sub>1</sub>  
 withered-leaf  
 'the withered leaves that floated in the river'

The relative clauses in (12) embed instances of locative inversion, a construction in which the postverbal NP must be non-specific in the sense of Enc (1991), as shown by the contrast in (13).

- (13) a. Nachang dongluan zhong siqu-le henduo ren  
 that riot middle die-away many person  
 'There died many people in the riot.'

- b.\*Nachang dongluan zhong siqu-le naxie ren  
 that riot middle die-away those person  
 ‘Those people died in the riot.’

Assuming that the specificity constraint is generally related to inherent Case assignment in the literature (see, for example, Belletti (1988) for assigning a non-accusative Case to the postverbal NP in *there-be sentences*), Gu (1991) argues that with the preverbal locative phrase in the grammatical subject position, the verbs are unaccusatives and assign inherent Case to the theme NP in complement position.

If *suo* is indeed licensed only when accusative-Case-marked elements are relativized, as claimed in the ACP analysis, it is unexpected that examples with unaccusative verbs in (12) are well-formed. The facts presented in this section thus cast doubt on the analysis that *suo*'s occurrence is related to the existence of an accusative Case projection.<sup>4</sup>

### 2.2.2. The “Climbing” Phenomenon

Another set of facts that pose problems for the ACP analysis of *suo* concerns the phenomenon that *suo* may occur either in the matrix clause ((14a)) or in the embedded clause of an ECM (Exceptional Case Marking) predicate or an object control predicate ((14b)) (cf. Chiu (1995)). For the ease of discussion, I'll refer to this phenomenon as “climbing”, as if *suo* “climbs” from the embedded clause to the higher clause.<sup>5</sup>

- (14) a. [wo rang/bipo Zhangsan **suo** goumai] de shu  
 I make/force Zhangsan SUO buy DE book  
 ‘the book that I made Zhangsan buy/force Zhangsan to buy’
- b.(?) [wo **suo** rang/bipo Zhangsan goumai] de shu  
 I SUO make/force Zhangsan buy DE book  
 ‘the book that I made Zhangsan buy/force Zhangsan to buy’

Before spelling out the problem for the ACP analysis that arises with the climbing-*suo* phenomenon, some remarks concerning non-finite clauses in Chinese are in order. While there is no morphological marking on the verb to help distinguish finite/non-finite clauses, A. Li (1990, pp. 17ff) and J. Tang (1990, pp. 329ff) argue that such a distinction still obtains, given the systematic contrasts between the complement clause of predicates like *zhidao* ‘know’ and *gaosu* ‘tell’ and the complement clause of predicates like *quan* ‘persuade’ and *bi* ‘force’: the former behave like finite clauses, and

the latter behave like non-finite clauses. I will thus assume that despite the lack of morphological marking, Chinese does have finite and non-finite clauses. For the purpose of the discussion here, we are particularly concerned with the Case of the NP following the verb *bi* 'force' or *rang* 'make'. While one cannot be completely sure that such NPs have accusative or nominative Case, certain cross-linguistic evidence based on Case theory may suggest that such NPs get accusative Case rather than nominative Case. Rizzi (1997, citing Liliane Haegeman, p.c.) notes that in West Flemish infinitives introduced by *mee* 'with', subject NPs are marked with nominative rather than accusative Case, which can therefore be assumed to be provided by clausal Agr(eement) rather than the prepositional complementizer. Because of the lack of necessary Case-adjacency between the prepositional complementizer and the nominative subject, it is observed that adverbs may occur between these elements, as in (15) below:

- (15) Mee (?gisteren) zie nie te kommen, . . .  
       with yesterday she not to come

In contrast to this, in Chinese when embedded non-finite clauses are introduced by verbs such as *jiao* 'ask, make', *rang* 'let, make', and *bi* 'force', adverbs cannot intervene between the embedding verb and the following embedded clause subject NP. This necessary adjacency of the verb and the NP may be taken to suggest that such NP subjects receive accusative Case in the same way that English NP subjects of ECM clauses do, rather than nominative Case as in West Flemish *mee*-clauses.

to the climbing-*suo* phenomenon, the problematic case for the ACP analysis is with the occurrence of *suo* in the matrix clause ((14b)): it is not clear how the NP governed by the matrix verb gets Case. The accusative Case feature in the higher SuoP must have been checked off by the relativized element, as indicated by the overt realization of the higher *suo*. Given this, the NP subject of the lower clause should be left Caseless, and the examples are expected to be ill-formed, contrary to fact. In nature, this problem for the ACP analysis arises because Chinese, whose object-control constructions and causatives are like those of English, would have two NPs competing for one matrix accusative Case indicated by the overt occurrence of *suo*.

Based on these empirical problems posed by relative clauses where the relativized elements do not receive accusative Case and those with *suo* in a higher clause, I thus conclude that the analysis of *suo* as the head of an accusative Case projection cannot be maintained.

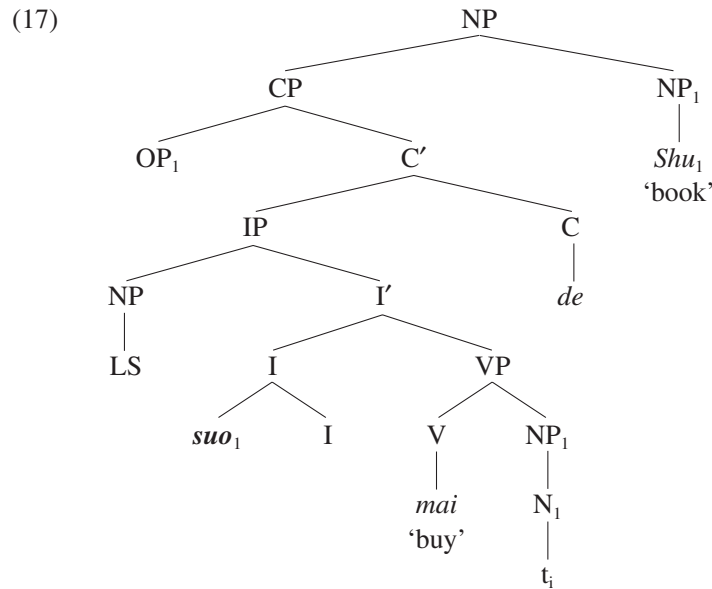


3. AN ALTERNATIVE ANALYSIS: *SUO* AN A'-BOUND PRONOMINAL CLITIC

I would now like to propose and examine an alternative potential analysis of *suo*, that it is an A'-bound pronominal clitic. The existence of such elements in natural languages can be found in French, as in (16b), taken from Zribi-Hertz (1984), which occurs as an alternative to the form in (16a).

- (16) a. Voici l'homme<sub>i</sub> à qui Marie a parlé t<sub>i</sub>  
 here is the man to whom Marie has talked
- b. Voici l'homme<sub>i</sub> que Marie lui<sub>i</sub> a parlé  
 here is the man that Marie to him has talked

Now consider the structure in (17), which I suggest underlies a relative clause containing *suo*.



Here *suo* is suggested to be base-generated as the head of the NP in the complement of verb position and to be bound by a null operator base-generated in SpecCP. Assuming that a head and its maximal projection share the same set of features, *suo* carries the same index as the null operator and is thus A'-bound. I also assume that Chinese clauses have an INFL node, where possibly tense or aspect may be generated.<sup>6</sup> Due to a morphological requirement, *suo* can then be suggested to undergo movement out of the NP it heads and adjoin to I<sup>0</sup>, just as Romance clitics do (Burzio (1986), Kayne (1989), and Pollock (1989), among others, cf. Baltin (1982)). The

crucial differences between the proposed analysis and Chiu's (1995) analysis is therefore that *suo* as an  $X^0$  heads a nominal projection rather than an agreement-like projection and that *suo* undergoes movement to its surface position rather than being base-generated there.<sup>7</sup> Such movement will importantly be subject to the Head Movement Constraint ((18)) (Travis 1984), which can be reduced to the Empty Category Principle as in Chomsky (1986) and Baker (1988) ((19)):<sup>8</sup>

- (18) Head Movement Constraint (HMC)  
An  $X^0$  may only move into the  $Y^0$  which properly governs it.
- (19) Empty Category Principle (ECP)  
a. Traces must be properly governed.  
b. A properly governs b iff A lexically governs or antecedent-governs B.

Such a proposed analysis can be shown to have a wide range of potential advantages, as will be made clear in the remainder of the paper. First of all, it immediately accounts for the fixed position of *suo* in the clause in (5), as observed by Chiu (1993, 1995). Assuming that there is no overt V-to-I movement in Chinese unlike languages such as French (J. Tang (1990), Cheng and Li (1991), S. Tang (2001)), and that sentential adverbs and manner adverbs are licensed by the I projection and a functional category immediately dominating VP, respectively (J. Tang (1990, 2000), Bowers (1993) cf. (Travis (1988))), the surface position of *suo* as indicated in (5) can be taken to correspond to  $I^0$ . This is concretely illustrated in (20) below:

- (20) ta (\*suo) dagai suo neng (\*suo) wancheng de  
he SUO probably SUO can SUO finish DE  
gongzuo  
work  
'the work he probably can finish'

A second fact which naturally follows from the proposed head movement analysis of *suo* is the ill-formedness of *suo* co-occurring with the resumptive pronoun *ta* 'he', as in (7c). As a reviewer suggests, this ill-formedness may arise simply because *suo* as a clitic and the pronoun *ta* compete for the same underlying position. Therefore, either *ta* or *suo* may occur, as in (7a, b), but both *ta* and *suo* may not be present simultaneously, as seen in (7c).

Let us now also reconsider the fact that the occurrence of *suo* is allowed where an object, a locative phrase, and the post-verbal NP following

intransitive verbs are relativized while it is barred where a subject, a manner phrase, and a reason phrase are relativized. Below I will demonstrate that this licensing asymmetry of *suo* also follows from the proposed analysis: all the well-formed cases have *suo* originating in the  $N^0$  position of a selected NP. Its subsequent movement out of the NP it heads to adjoin to  $I^0$  does not cross any barrier because the NP is selected, and the trace of *suo* can thus be properly governed, satisfying the ECP. The ill-formed instances of *suo*, on the other hand, will result because the trace left behind fails to be properly governed.

First of all, though, I would like to examine whether *suo*'s occurrence is also allowed in the relativization of an indirect object in double object constructions. Note that while this type of relative is not always acceptable, the acceptability of these constructions is significantly the same as their counterparts without *suo*.

- (21) [wo (suo) \*song/song-le/zengsong [e] yiben shu de]  
 I SUO give one book DE  
 neige ren  
 that person  
 'the person that I gave one book'

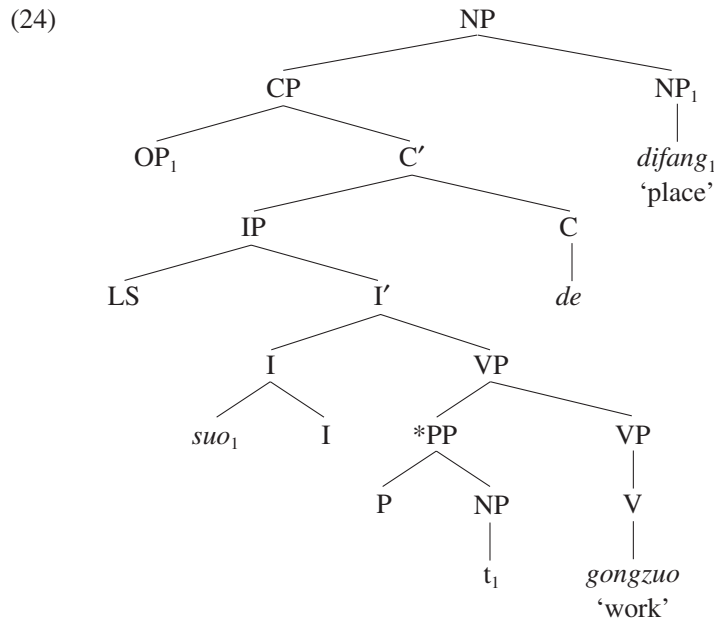
It is not fully clear why certain lexical predicates but not others should allow for relativization of their indirect objects, i.e., why relativization of indirect objects is unacceptable with the monosyllabic verb *song* 'give' but fine with the more literary lexical item *zengsong* and *song* with an aspect marking *-le*. However, in cases where the indirect object NP of a predicate is extractable, such an NP will itself not be a barrier for extraction of its head *suo*, and this will allow for *suo* to occur associated with an indirect object gap in a relative clause with such a predicate. This occurrence of *suo* in the relativization of indirect objects is revealing in two respects. First, the appearance of *suo* with a relativized dative object is problematic for the ACP analysis, which specifically correlates the licensing of *suo* with accusative Case. Secondly, it can be noted, significantly, that dative clitics occur in many languages, which makes the suggestion that *suo* is a clitic all the more plausible.

Let us now turn to the instances of *suo* in relatives involving an unaccusative verb in the locative inversion construction. On the proposed analysis, *suo* starts out as the head of an NP bound by a null operator in SpecCP. As the relevant NP with unaccusative predicates occurs in post-verbal complement position, it is not a barrier for the extraction of *suo* to  $I^0$ , and the trace of *suo* will be properly governed, satisfying the ECP.

Differences in the acceptability of “adjunct” relativization in the licensing of *suo* can also be suggested to follow from the proposed analysis. Here I would like to propose that locative (and temporal) phrases may be elements that are selected by a predicate whereas reason and manner phrases are not selected by a predicate. As a result, the former will not constitute a barrier for the extraction and head movement of *suo* to  $I^0$ , but the latter will. If we consider the four types of adverbial expressions in terms of their extractability, it is found that locative and temporal phrases ((22a–b)) pattern on a par with argument NPs ((23)) (cf. (Huang (1982))), in that they are capable of moving to the sentence-initial position from inside an indirect question, a patterning which is importantly not possible with reason and manner phrases, as seen in (22c–d).

- (22) a. ?(Zai) neiyi tian<sub>1</sub>, ta xiang zhidao [shei t<sub>1</sub> shu-le  
           at that day he want know who lose-ASP  
           qiu]  
           game  
           ‘On that day, he wonders who lost the game.’
- b. Zai neige difang<sub>1</sub>, ta xiang zhidao [shei t<sub>1</sub> zuo-le  
    at that place he want know who sit-ASP  
    henjiu]  
    for-a-long-time  
    ‘At that place, he wonders who sat for a long time.’
- c. \*Yinwei neige yuanyin<sub>1</sub>, ta xiang zhidao [shei t<sub>1</sub>  
    because that reason he want know who  
    ku-le henjiu]  
    weep-ASP for-a-long-time  
    ‘Because of that reason, he wonders who wept for a long time.’
- d. ?\*Yong neige fangfa<sub>1</sub>, ta xiang zhidao [shei t<sub>1</sub>  
    with that method he want know who  
    jiejue-le nanti]  
    solve-ASP problem  
    ‘With that method, he wonders who solved the problem.’
- (23) Neige ren<sub>1</sub>, ta xiang zhidao [shei piping-le t<sub>1</sub>]  
       that person he want now who criticize-ASP  
       ‘That person, he wonders who criticized [him].’

The paradigm in (22) can be accounted for by appealing to Rizzi's analysis that locative and temporal expressions, like arguments, as opposed to adjuncts, receive a referential index and thus allow long-distance construal on a par with arguments. Assuming with Rizzi (1990, p. 91) that locative and temporal elements are selected by the head, now consider the derivation of relatives containing *suo* with a locative head like (9a). Locative and temporal expressions in Mandarin Chinese are generally introduced by the preposition *zai* and manner as well as reason expressions by *yong/yi* and *yinwei*, respectively (cf. examples in (22)). I suggest that there are two possible derivations for (9a): *suo* may start out either in a PP headed by an empty preposition, as in (24), or alternatively *suo* may occur as the head of an NP directly selected by the verb.



If *suo* is base-generated in a selected PP (headed by an empty P), its extraction from the PP and movement to  $I^0$  will not violate the ECP. Alternatively, one might assume that *suo* might be base-generated in an NP that is directly selected by the verb. Supposing that locative expressions are indeed selected elements on a par with arguments, as NPs they will receive their theta-roles from the verb and independently of any preposition, and any preposition which is present, such as *zai*, may be assumed to be inserted simply for Case purposes, just like English 'of'. If there is however a different way for the locative expression to get Case, the prepo-

sition *zai* can be suggested to be superfluous. According to Baker (1988), an incorporated head noun does not need Case because incorporation fulfills the Case-indexing function as Case-marking. The adjunction of the head noun *suo* to  $I^0$ , as an instance of incorporation in the sense of Baker (1988) may therefore make the appearance of a preposition unnecessary in (9a). Reason and manner expressions, on the other hand, are not selected and will introduce barriers for the trace of an extracted *suo* so that raising of *suo* to  $I^0$  in such cases will be ill-formed.<sup>9</sup>

The unavailability of *suo* in relatives where the relativization site is a subject position also follows naturally if *suo* is analyzed as a clitic. Syntactic cliticization in the sense of Kayne (1975, 1983), as a sub-case of head movement, shows a subject/object asymmetry, hence there are object and dative clitics in languages such as French and Italian but no syntactic subject clitics (Kayne 1983, pp. 123–124; Rizzi 1986, p. 392).<sup>10</sup> Such a subject/object asymmetry in fact holds generally for head movement, as, e.g., in noun incorporation in Baker (1988). There are several possibilities to rule out structures where *suo* occurs in the case of subject relativization. First, as pointed out by a reviewer, the subject in Chinese may not necessarily be base-generated in a VP-internal position (cf. Diesing (1992) and Hornstein (1995)). If the subject NP is instead generated in SpecIP, downward movement of *suo* to  $I^0$  would leave its trace not properly governed, in violation of the ECP. Alternatively, if *suo* is perhaps base-generated in VP-internal subject position (cf. Fukui and Speas (1986), Kitagawa (1986), Koopman and Sportiche (1991)), the ill-formedness of subject-*suo* relatives might be related to Baker's (1996) theory of minimal links and Lasnik and Saito's (1992) theory of proper binding. The latter requires that each step of a derivation satisfy the ECP. Suppose that *suo* adjoins to INFL from a VP-internal subject position prior to Spell-out and that the EPP (Extended Projection Principle) as a requirement that certain functional heads have a specifier (see Chomsky (2000), Lasnik (2001)) must also be satisfied. Then, when the NP headed by the trace of *suo* raises to SpecIP (after the raising of *suo* to  $I^0$  has taken place), the trace of *suo* in SpecIP will fail to be bound by its antecedent in  $I^0$ , in violation of the proper binding condition formulated in Lasnik and Saito (1992). To recapitulate then, to the extent that a subject-object asymmetry holds for cliticization and also noun incorporation, treating *suo* as a clitic undergoing head-movement to  $I^0$  patterns neatly with this and adds further support for a clitic treatment of *suo*.

Two final facts which can be presented in support of the proposed analysis of *suo* as a clitic come from islands effects and the "climbing" phenomenon *suo* displays. First, note that the A'-bound clitic in a clause-

internal position which matches a dislocated phrase in clitic left-dislocation (CLLD) constructions also exhibits island effects (Cinque (1990), Demirdache (1991), Iatridou (1990)).

- (25) \*tin efimeridha<sub>1</sub> apokimithike [dhiavazondas **ti**<sub>1</sub>]  
 the newspaper he-fell-asleep reading it  
 'The newspaper, he fell asleep reading it.'  
 (adjunct island) (Iatridou (1990))

While it is not yet entirely clear why resumptive clitics induce island effects (see Cinque (1990), Demirdache (1991) for some discussion), for the purpose of discussion here, island effects found with *suo* establish a further parallel between it and A'-bound clitics in other languages. Whatever analysis of the island effects is assumed to account for the CLLD patterns in Italian and Greek, this will arguably also carry over to those induced by *suo* in Chinese.

Turning now to the "climbing" phenomenon of *suo* in (14), this is reminiscent of what is usually referred to as "clitic climbing" in Romance languages. I will argue that this possible "climbing" of *suo* is subject to the same sort of tensed-related constraints as clitic climbing phenomenon in Romance, which again suggests that *suo* is best analyzed as a clitic. It is important to note that clitics in Romance languages which are base-generated in an embedded clause occur in a higher matrix clause only when the embedded clause is non-finite. Thus, Romance clitics cannot move out of a tensed clause as shown in (26c),<sup>11</sup> but may or must do so when generated in non-finite clauses ((27)).

- (26) a. Je pense que [Jean a mangé le gâteau]  
 I think that John has eaten the cake  
 b. Je pense que [Jean l'a mangé]  
 I think that John it-has eaten  
 c.\*Je **le** pense que [Jean a mangé]  
 I it think that John has eaten
- (27) a. Jean **les** a fait porter à sa femme par son fils  
 'Jean had them taken to his wife by his son.'  
 (from Kayne (1975))  
 b. Mario **lo** vuole [leggere \_\_\_\_]  
 'Mario wants to read it.'  
 (from Burzio (1986))

Similarly, *suo* cannot move out of a tensed clause, as in (28) (observed by Chiu (1995)), but may move out of a non-finite clause as in (14b).

- (28) Zhangsan (\*suo) tingshuo/xingxin/renwei [Lisi **suo**  
 Zhangsan SUO hear/believe/think Lisi SUO  
 zuo [e] de shi  
 do DE thing  
 ‘the thing that Zhangsan heard/believed/thought Lisi did’

It can be assumed that non-finite clauses, in contrast to tensed clauses, do not introduce barriers blocking the movement of clitics to the matrix clause. Thus, *suo* may end up with the embedded INFL (14a) or alternatively the matrix INFL (14b).

#### 4. CONCLUDING REMARKS

In this paper, I have argued that the particle *suo* in Mandarin Chinese is a resumptive clitic.<sup>12</sup> I have suggested that *suo* crucially heads a nominal projection rather than an agreement-like projection, and it was shown that the distribution of *suo* cannot be taken as evidence for an accusative Case projection. This is on a par with the conclusion reached in Huang (1998), where it is argued that the binding facts of the anaphor *ziji* ‘self’ are not manifestations of an agreement projection in Mandarin Chinese. The results of these two studies then point to the same conclusion, namely, that Mandarin Chinese is unlikely to have agreement projections, which in turn supports Chomsky’s (1995) claim that there are no agreement projections in natural languages.

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## NOTES

<sup>1</sup> It is an interesting question whether the use of *suo* has any functional purpose. Given Chang Chi-Kuang's (p.c.) observation that *suo* appears to indicate sources of the action, *suo* may be regarded as adding a focus on the immediately preceding noun and thus indicate the noun as the source of the action. This is apparently consistent with Chao's (1968) intensifier adverb analysis of *suo*. I tend to think that *suo* is used for prosodic reasons at least sometimes, namely, to improve the rhythm.

<sup>2</sup> The discussion of *suo* in this article will be limited to its occurrence in modern Chinese. The comparison between the modern and classical *suo* regarding their distributions and properties are discussed in Ting (2002).

<sup>3</sup> Yafei Li (p.c.) points out that if the structure is like a *there-be* construction in English when object NP stays postverbally, then it is not clear why the indefiniteness effect does not arise with that Case-chain.

<sup>4</sup> Chiu (1995) points out that *suo* does not appear in unaccusative structures, given its incompatibility with the intransitive verb *lai* 'come'. The reason why certain unaccusative verbs such as *si-qu* 'die' and *piao-guo* 'float' in the text may occur with *suo*, but those like *lai* 'come' don't, may be because the unaccusative class may further fall into semantically coherent subsets, which do not necessarily pattern alike (Levin and Rappaport Horvav (1995, p. 20). Thanks to Yafei Li for bringing their work to my attention.

<sup>5</sup> Other object-control verbs allowing clitic climbing include *yao* 'want', *yaoqiu* 'ask', *mingling* 'order', *tongzhi* 'notify', and *shuifu* 'persuade'. Note that for some speakers, the occurrence of *suo* in the matrix clause is detectably worse than in the embedded clause. Furthermore, there are verbs that induce greater marginality of *suo* in the matrix clause, such as *jiao* 'call'. I will leave these acceptability contrasts for future studies.

<sup>6</sup> The overt realization of the INFL head, J. Tang (1990) suggests, may be modal auxiliaries and aspect markers such as *-le*, *-zhe*, and *-guo*. For discussion of the inflectional structure of Chinese, see also Chiu (1993) and Xu (1997).

<sup>7</sup> Note that it is inappropriate to refer to *suo* as a clitic counterpart of the resumptive pronoun *ta* 'he'. The latter must bear animate features, but the former need not. The difference in animacy may be related to the fact that *suo* comes from a different source, namely, it originally meant place, which is inanimate.

<sup>8</sup> For ease of presentation, the intermediate steps of *suo* to I<sup>0</sup> are not indicated. Also note that *suo* moves by itself without taking the adjoined heads with it, just as French VP-related clitics do. Possible accounts for such a phenomenon include Y. Li (1990) and Roberts (1991).

<sup>9</sup> The reason for the lesser degree of acceptability of *suo* in relatives headed by temporal expressions may be related to Rizzi's (1990, p. 90) observation that the extraction of temporal phrases cross-linguistically often appears to be somewhat worse than the extraction of locative and instrumental phrases but is nevertheless better than the extraction of manner or reason phrases. The acceptability of *suo* in relatives with a different "adjunct" head noun conforms to this generalization.

<sup>10</sup> Adopting Ouhalla's (1999) characterization of cliticization, syntactic clitics involve movement to a designated position in the structure, while phonological clitics involve prosodic association with a neighboring category.

<sup>11</sup> Thanks to Barbara Vance for providing the French examples in (26).

<sup>12</sup> While the resumptive A'-bound clitic analysis of *suo* is able to account for most aspects of its distribution, reviewers of the paper have pointed out that the non-occurrence of *suo* in topic constructions poses a potential problem for the proposed analysis. Such a problem may be approached in several ways. Supposing that topics in Chinese are in IP-adjoined positions along the lines generally suggested in Lasnik and Saito (1992), it may be that *suo* only resumes elements in a SpecCP position, rather than in an adjoined position. Alternatively, as one of the *JEAL* reviewers points out, *suo* may perhaps only resume movement of a

null operator that has low intrinsic referential content, in line with Lasnik and Stowell (1991).

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National Taiwan Normal University  
 Dept. of English  
 162, Sec. 1, Heping E. Road  
 Taipei 106  
 Taiwan  
 E-mail: ting@cc.ntnu.edu.tw

