

On the Relative *Suo*-Construction in Literary Chinese*

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Inspired by Fuller (1999) and relying heavily on Ting (2005), this paper explores the *suo*-construction in Literal Chinese where *suo* occurs between the subject and the predicate and has the entire clause interpreted like a typical free relative. In section 2, first, we discuss the construction's syntactic properties in detail and critically review major previous analyses of the construction including Ting's (2005), where *suo* is analyzed as a [+WH] clitic moving to Infl in overt syntax and into C at LF. We point out that her analysis doesn't straightforwardly capture the nominal property of the *suo*-phrase in appropriate detail. In section 3, then, we make a proposal where *suo* substitutes into Infl and produces a hybrid category and its projections, and suggest that it generally has a slightly better empirical coverage over the syntactic properties of the *suo*-construction.

Keywords: *suo*-construction, free relative clause, Literary Chinese, head movement, substitution

1. *Suo* in a relative clause of Literary Chinese

Suo (所 or *so* in Korean pronunciation) is a function word. On the one hand, it means 'place' as in (1). Here, it seems to form a compound noun along with *wang* 'king'. With this meaning, this word is frequently found in Korean

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vocabulary as in (2).¹

- (1) *ke e wang suo* (居於王所)
 reside in king place
 'reside in the king's place/residence' [Fuller 1999: 268]
- (2) *jwu ywu suo* (注油所)
 put-in gas place
 'the place where [one] puts in the gas'

In (2), *suo* is the head of a complex noun that contains a relative clause. This also shows that Literary Chinese (or LC)² is head-final in the nominal syntax.

What is intriguing is that the same word can also be used to turn a clause into a kind of free relative as follows:

- (3) a. *Yi ca wang si* (李子往市)
 Yi Master go-to market
 'Master Lǐ went to the market.'
- b. *Yi ca suo wang si ya*
 Yi Master SUO go-to market YA (李子所往, 市也)
 '(The place) Where Master Lǐ went to was the market.'

As shown in (3a), LC is an SVO language. The subject comes first, while the object comes after the verb. This means that LC is head-initial in the verbal syntax.

If we consider (3b) in this context, on the one hand, we are tempted to conclude that *suo* must be located in a nominal functional projection that covers the verbal lexical projection with its nominal constituent (presumably its locational object³) missing, and that takes the subject NP as its specifier. This is shown in (4a), abstracting away from the v-V distinction. As far as the location

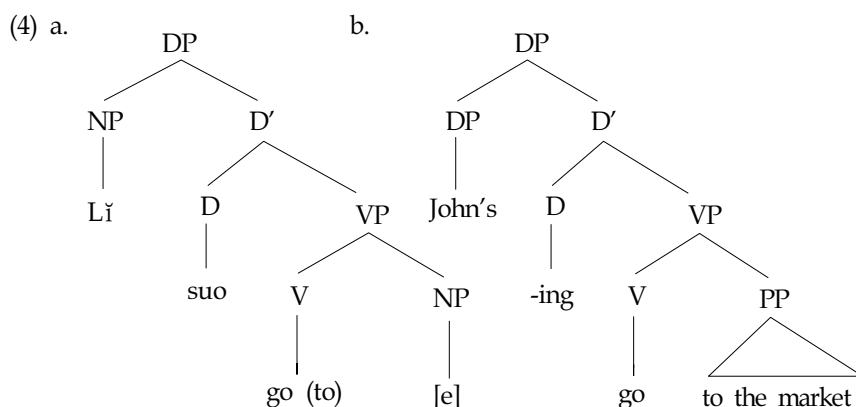
¹ Because of the author's ignorance, the examples are romanized based on their Korean pronunciation unless their romanized versions are given based on Chinese pronunciation in their original sources. When available, the Chinese characters are also given in parentheses. For the ease of communication, *suo* is adopted rather than *so* even when the latter is the phonetically more correct in Korean.

² Ting (2005, to appear) discusses *suo*'s behavior in Classical Chinese, which we accept as "generally" equivalent to Literary Chinese even though there must be different stages in its grammatical development. Following Fuller (1999), we stick to the term "Literary Chinese" in this paper.

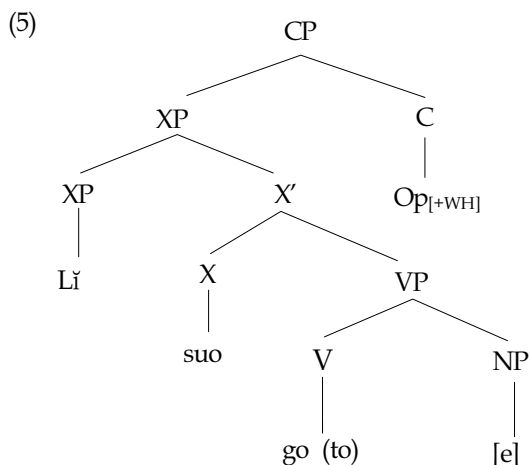
³ This is because the nominal constituent comes directly after the verb, but we won't be quite concerned here with the VP-internal structure in detail.

of the function word *suo* is concerned, this analysis is partly reminiscent of the gerundive construction of English, exemplified in (4b) below. In both structures, the functional element heads the projection relating the subject and its predicate and produces a nominal constituent.

There is, of course, a crucial difference between (4a) and (4b). It is that the object is missing in (4a), but not in (4b). The difference must be related to the interpretational difference between them: (4a) denotes '(the place) where Master Lǐ went to', as indicated by its translation, while (4b) denotes the event itself of John's going to the market.



Is (4a), then, the correct analysis of the subject in (3b)? More generally, how must we understand the *suo*-construction syntactically? Will an analysis as in (4a) be sufficient? Alternatively, must we posit a structure that more closely resembles the analysis of a free relative of English exemplified in (5) below? These are the questions that we will attempt to answer in this paper. First, in section 2, we will consider more properties of the *suo*-construction in section 2.1 and will then critically review previous proposals on the construction, crucially including Ting (2005), in section 2.2. We will point out that Ting's (2005) analysis of *suo* in LC relatives is very comprehensive but still leaves some problems unsolved. To solve part of the problems, in section 3, we will slightly modify Ting's (2005) analysis adopting Rizzi and Roberts's (1989) theory of incorporation; we then show that the modified version has a better empirical coverage. In section 4, lastly, we will summarize the discussion and then discuss its implications and remaining questions and problems.



2. Previous analyses of the *suo*-construction

2.1 More grammatical properties of the *suo*-construction

To begin with, let us consider the external syntax of the phrase containing *suo* (or *suo*-phrase). As shown in (3) above, it can function as the subject. It can also function as whatever a nominal phrase can (cf. Fuller 1999, Ting 2005, Yo 2006): as an object (6), as a nominal predicate (7), as a complement of a co-verb (or preposition) (8),⁴ and as a nominal preceding *zhi* ('Genitive') as in (7) and (9): examples (7)-(9) are from Ting (2005: (3)).

- (6) o pwu ci Yi ca suo wang (吾不知李子所往)
 I not know Yi Master SUO go-to
 'I do not know (the place) where Master Lǐ went.'

[Fuller 1999: 63]

- (7) ci liu zi zhe⁵ shi zhi suo gao ye (此六子者, 世之所高也)
 this six person ZHE world ZHI SUO admire YE
 'These six people *(are) people the world admire.' (Zhuangzi. Daotuo)

⁴ Quite a few scholars including Jeong (1990) treat the [*suo* +co-verb] as a modifier of the following verb phrase; many of them treat co-verbs as prepositions (cf. Yo 2006).

⁵ This nominal (*zhe*, 者) functions rather like a head noun and may come after a *suo*-phrase.

(i) wu suo kyeng (zhe) (牛所耕(者))
 cow SUO plow (ZHE) 'the one/thing (of what) the cow plows'

- (8) *yì qǐ suǒ shòu bēi qǐ suǒ cǐ zé ...*
 use hisSUO bear violate his SUO speak so ...
 'He uses what he receives to contradict what he speaks, so' (Xunzi.
 Zhengming)
- (9) *fān shuō zhè zhī wú, zài zhī shì suǒ shuō zhī suǒ jīn ...*
 all persuade ZHE ZHI tip exist know modify SUO say ZHI SUO proud
 'The tip of persuading depends on knowing to boast (for him) what he feels
 proud of' (Hanfeizi. Shuonan)

The coverb *yì* in (8) is glossed as a preposition in Ting 2005, but it may be understood as a verb meaning 'to use' and taking a nominal complement in LC. The function word *zhī*, which corresponds to the Korean postposition *uy* ('Genitive') and the English preposition *of* (or the genitive marker 's), generally follows a nominal constituent, as in (7).⁶ Hence, the distribution of the *suo*-phrase illustrated in (3) and (6)-(9) quite clearly reveals its nominal nature. Further, notice the pronoun *qǐ* is in genitive Case right before *suǒ*, as in (8).⁷ This also reminds us of the English gerundive construction, as was in (4b), and suggests a similarity between the LC and English constructions.

Next, let us consider the internal syntax of the *suo*-phrase. First of all, the phrase can have missing not only the object of the verb, as in (7)-(9), or the locational or goal phrase, as in (3b) and (6). As Ting (2005) observes, it can also have missing the reason or manner phrase, as in (10)-(11) (=her (2005: (10)-(11)), or a complement of a co-verb, as in (12);⁸ it, however, can never have the subject missing, as in (13) (=her (2005) (5c)).

- (10) *xié huì zài shēn. yuán zhī suǒ gòu (reason)*
 evil dirtiness exist body. grudge ZHE suǒ constitute
 'The evil and dirtiness are in the body. This is the reason why hatred is
 accumulated.' (Xunzi.Quanxue)

⁶ As stressed by Ting (2005, personal communication (p.c., hereafter)), the relative clause in modern Chinese is obviously different from that in LC in that it always has *dě*, probably as complementizer, in place of the optional *zhī* between a *suo*-phrase and a nominal head, and in that *suo* itself is optional.

⁷ Ting (p.c.) notes that *qǐ* also occurs in embedded clauses.

⁸ Ting (2003, 2005) observe that *suo* cannot "stand for" such reason or manner phrases in modern Chinese and insightfully connects this difference between LC and modern Chinese to another observation that ancestors of modern Chinese prepositions tend to function as verbs in LC.

- (11) ... *yu yi suo shi Kongzi shi zhi* (manner)
 ... want with SUO serve Confucius serve he
 '... wanted to serve him in the way they served Confucius.'
 (Mengzi.Tengwengong)
- (12) *suo i sal kwu ca, to ya* (所以殺狗者, 刀也)
 SUO use kill dog thing knife YA
 'What he used and killed a dog was a knife.'
- (13) (**suo*) *geng tian (zhi) niu; (*suo) shi su (zhi) min*
 SUO plow field ZHI cattle; SUO eat barley ZHI people
 'the cattle that plowed the rice field'; 'the people that eat the barley'

As Hong (1976: 203-7) and Ting (2005) report, (13) is fine only without *suo*, and *zhi* ('Gen') is optional there. That is, *suo* can "represent" various verbal complements but not the subject.

Second, as Ting (2005) reports again, *suo* may occur before a VP adverb (14), a negative marker (15), an auxiliary verb (16), or a co-verb (or prepositional) phrase (17), but after a temporal adverb (18).

- (14) *He shi bi, tianxia suo gong chuan bao ye*
 HE surname jade the:world SUO together recognize treasure YE
 'The jade Heshi *(is) the treasure that is unanimously recognized by the world.' (Shiji.Lianpo Linxiangru Liezhuan)
- (15) ... *gu huan you suo bu bi*
 ... so fear have SUO not avoid
 'Thus, when disaster comes, I don't avoid it.' (Mengzi.Gaozishang)
- (16) ... *zhong bu zhong fei chen suo neng bi yi*
 ... hit not hit not I SUO can certain YI
 '... whether to hit the target or not is not what I am certain of.'
 (Yulizi.Qiudao)
- (17) *fa zhe tianzi suo yu tianxia gonggong ye*
 law ZHE emperor SUO with the:world share YE
 'The law *(is) what the king shares with the world.' (Hanshu.Zhangshizhi zhuan)
- (18) *Wuzixu chu suo yu ju wang*
 Wuzixu early SUO with together die
 'the people that Wuzixu died with earlier...'. (Shiji.Wuzixu liezhuan)

Since LC is a head-first language in verbal projections, this suggests that the position

that *suo* ends up in is lower than a clausal adverb but is higher than VP adverbs and others.

As Hong (1976) implies and Ting (2005) points out, third, *suo* is obligatory in LC.

- (19) min *(suo) shi (zhe)
 people (SUO) eat ZHE
 'what people eat'

When a non-subject constituent is relativized,⁹ for example, *suo* must be preposed¹⁰ and cannot be missing.¹¹ This is in sharp contrast with the fact that when a subject is relativized, it cannot be used as already shown in (13). Fourth, the two scholars and Pulleyblank (1995) observe that the word *zhe* ('thing') in (19) can be optionally added. Fifth and lastly, *suo* cannot co-occur with a resumptive pronoun.¹²

2.2 Previous proposals

Among the Chinese literature on the *suo*-construction, which we cannot get access to directly, Ting (2005) identifies two approaches to *suo* in LC: Under one approach, *suo* is regarded as a pronoun (e.g., Ma 1898, Liu 1937, L. Wang 1958, Yi 1989, and S. Zhou 1993, among others); under the other, it is taken to be a particle attaching to a verbal projection to produce a nominal construction (e.g., F. Zhou 1961, S. Lu 1974, K. Wang 1982, D. Zhu 1983, Yang and He 1992, Ye et al. 1992).

Among the non-Chinese literature on *suo*, we can identify similar proposals. Hong (1976) takes it to be an "empty word" (or function word) functioning like a relative pronoun.¹³ Park (1986: 90) identifies *suo* as the object

⁹ LC doesn't seem to distinguish objects from complements quite clearly, which can be a research topic to be pursued further in future research.

¹⁰ Ting (p.c.) points out that just like *suo*, *wh*-elements must be preposed into a position between the subject and the verb. This is reminiscent of languages like Hungarian (Farkas 1986) and almost means that there must a position or projection related to focus or interrogation. Potential correlation between the movement of *suo* and *wh*-elements hasn't been explored here.

¹¹ As noted by Ting (p.c.), this means that complements cannot be relativized by means of a null operator.

¹² Quoting Wei (1990/2004: 328), Ting (to appear: note 13) only reports two "passive" cases where *suo* co-occurs with an element like a resumptive pronoun.

¹³ He insightfully points out (p. 205) that along with *wei* (爲, 'to become') *suo* may be used to

of the verb that follows it (cf. Ahn 1998), and claims that its proper position is after the verb. Fuller (1999) holds a similar view; he states that the *suo*-construction is quite similar to the (pseudo-)cleft sentence in English, and that *suo* is similar to English relative pronouns like *what* and *where*. He continues quite theory-neutrally that it modifies the verb it precedes and both become a head (H), which is modified by the subject constituent, and that the entirety becomes a nominal phrase. On the other hand, Jeong and Kim (1982: 354) suggests that a *suo*-phrase is in an appositive relation to the noun that follows it: *zhe* (者, 'thing, one'), which seems to presume that *suo* is a nominalizer or a construction particle.

Basically following the first approach, Ting (2005) makes the most elaborate proposal on the *suo*-construction available to us thus far. First, she assumes that *suo* is an X^0 pronominal clitic with a [+WH] feature.¹⁴ She further assumes that like a typical syntactic clitic in Romance languages, the clitic is base-generated in the complement position of a verb, moves and attaches to the Infl head in overt syntax; she, then, adds that it moves further to the C head at LF to function as an operator. Fourth, she assumes that this CP relative clause modifies a noun which may sometimes be a pro. Based on Yi's (1989) observation that its presence only produces some prosodic effects, but no grammatical differences, fifth, she (note 6) assumes that the optional *zhi* between a *suo*-phrase and the head noun is only introduced at PF. Her analysis based on these assumptions can be best illustrated with her example (43), which is about a nominal expression including a relative clause that means 'the barley that people eat', reproduced here as (20) with a slight modification for clarification.

expressive a passive meaning, but that it functions in no different ways than it does as a relative pronoun. This approach is in sharp contrast to Hwang (1994) and Yang (1982), who treat it as a passive auxiliary in such usage. Readers are also referred to Ting (to appear) for its elaborate treatment.

¹⁴ A locative nominal is frequently used to refer to more general entities. In Paduan a northern Italian, as Kayne (2006) observes, *ghe* is used as a locative clitic and as a dative clitic.

- (i) a. Ghe meto el libro b. Ghe dago el libro
 there I-put the book him/her/them I-give the book

In English, sometimes, *there* is oblique as well as locative: *We spoke thereof*.

- (20) a. Before Spell-out: [NP [[min suo shi t][]] su] (民所食之粟)
 people SUO eat barley
- b. At LF: [[[min t shi t][suo]] su]
- c. At PF: [[[min suo shi t][]] zhi su]¹⁵

This proposal is advantageous in various ways. First, it captures a similar property between LC and Romance languages adding a case for the Universal Grammar. With the auxiliary assumption that a *suo*-phrase always combines with a nominal head, second, it explains its nominal nature illustrated in (3b) and (6)-(9). Third, it also mostly explains the fact to a certain extent that a *suo*-phrase cannot relativize the subject while it can others, illustrated in (10)-(13); with the help of additional assumptions that Infl requires a constituent as its specifier in LC [an EPP property], and that if *suo* occupies [Spec, IP] and then adjoins to Infl, it violates the Proper Binding condition (Fiengo 1977, Lasnik and Saito 1992)¹⁶.

- (21) A trace must be properly bound in surface structure.

Her analysis, fourth, explains the position of *suo* in a sentence, illustrated in (14)-(18), assuming standardly that Infl takes a vP as its complement. Fifth, her analysis explains why *zhe* (者, 'entity') can optionally follow a *suo*-phrase; it is so because the phrase is a relative clause that modifies a noun head which is sometimes a *pro*, and because the noun *zhe* occurs exactly in the noun head position. All in all her analysis explains the major properties of the *suo*-phrase quite comprehensively.

In spite of its wide coverage, however, Ting's analysis does not seem to provide quite adequate explanations for at least two properties of the *suo*-phrase.

¹⁵ Ting (2005) doesn't provide the PF version of the phrase in (20) and has *zhi* in the pre-Spell-out representation. We add (20c) to be consistent with her assumption that *zhi* is introduced at PF, bearing the responsibility for any errors that might be made with that addition.

¹⁶ As one *Studies in Generative Grammar* reviewer points out, an EPP property can be satisfied by incorporation into Infl (Alexiadou and Anagnostopoulou 1998). If the subject is assumed to be base-generated at [Spec, vP], then there is no way to block a subject clitic from attaching to Infl. See Poletto 1996 for a proposal along that line. To the extent that this analysis is viable, Ting's analysis seems to be limited.

The first is the fact that *suo* is obligatory for non-subject relativization in LC, as illustrated in (19). To explain this fact, Ting first accepts the optionality of the resumptive pronoun as its fundamental property, and states that the pronominal element in question is not a resumptive pronoun but a [+WH] operator and undergoes LF movement. In this way, he excludes the possibility that *suo* would be optional because of its resumptive status.

It is not clear, though, why a [+WH] operator must be overt. He himself actually recognizes a null operator that is used for a relative clause whose subject constituent is relativized, e.g., in her (42a), reproduced here as (22)¹⁷.

- (22) [Op [[___ xhi su] [C⁰]] zhi min
eat barley ZHI people

One might want to resort to Cheng's (1991) Clause Typing Hypothesis, but this cannot force a [+WH] *suo* to be overt because as in (22) LC must have a relative clause whose operator and head are both null. That is, her analysis must still allow for a derivational possibility that a null operator is base-generated and moves into [Spec, CP], as in (23) (=her (42d)), exactly in the same way as it does when the subject is relativized.

- (23) *[Op [[min xhi ___] [C⁰]] zhi su
people eat ZHI barley

She argues that the existence of the derivation illustrated in (20a-b) precludes this derivation in (23); she bases this argument on Chomsky's (1991) economy principle according to which overt syntactic movement is more costly than LF movement in general and on an additional assumption that a phrasal category is more costly to move than a head category.

The impossibility of (23), however, doesn't seem to follow from either of the economy principles. First, Chomsky's principle of economy doesn't seem to differentiate the two derivations appropriately because there is no reason why the null operator must move in overt syntax. Second, Ting's additional hypothesis doesn't seem to make a significant progress on that same matter because there doesn't seem to be a reason why the null operator must undergo an XP movement in LC: In Chomsky's bare-phrase approach, it is rather

¹⁷ Recall that she assumes *zhi* here is introduced at PF. A different analysis worth pursuing will be that "eat barley" here is a nominal expression.

difficult to distinguish a maximal from a minimal projection with such a null operator. Third, it wouldn't be desirable to compare two derivations based on different numerations. The derivation in (20) must begin with a numeration with the operator *suo* in it, while that in (23) starts out on the basis of a numeration without it. If such two derivations had to be compared, then our grammar of English would never generate (24a) because of the possibility of (24b).

- (24)a. A man is in the garden.
 b. There is a man in the garden.

It would be so because a simple operation of Merging the head category *there* will be more economical than moving (or copying and Merging) the phrasal category [*a man*]. For these reasons, we guess the impossibility of the derivation in (23) must remain as a problem to be solved in her analysis.

Ting's analysis also seems limited in that it doesn't deal sufficiently with the occurrence of *zhi* ('Gen') between the "pronominal clitic" and the nominal expression that usually takes the agentive role of the verb that follows it, and with the genitive case form of the pronoun in the position preceding *suo*: Recall that *zhi* can occur between an instance of *suo* and the immediately preceding nominal, as in (7), and that the pronoun preceding *suo* is in a genitive form (e.g. *qi* 'his'), as in (8); both examples are repeated here.

- (7) *ci liu zi zhe shi zhi suo gao ye* (此六子者,世之所高也)
 this six person ZHE world ZHI SUO admire YE
 "These six people *(are) people the world admire." (Zhuangzi. Daotuo)

- (8) *yi qi suo shou bei qi suo ci ze ...*
 with his SUO bear violate his SUO speak so ...
 'He uses what he receives to contradict what he speaks, so' (Xunzi.
 Zhengming)

In her analysis *suo* attaches to Infl, which would, if at all, license a subject with nominative Case. This aspect of her analysis is not compatible with either of the above-mentioned facts illustrated in (7) and (8).

Considering the advantages of Ting's analysis, the two problems reviewed thus far must be minor ones. They, however, don't seem to be easily solved in the currently available, most elaborate analysis. This invites us to re-think the properties of the *suo*-phrase for a more adequate analysis, which is what we

will try to do in the next section.

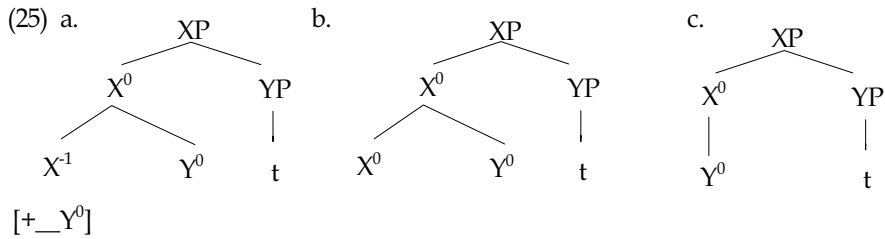
3. A hybrid approach to the *suo*-phrase

To account for the fact that *suo* is generally not compatible with a resumptive pronoun, we want to preserve the insight that *suo* is base-generated in the complement of the verb and moves to a position between the subject and the verb (Hong 1976, Park 1986, Fuller 1999, Ting 2005).¹⁸ A very plausible way to motivate such a movement is to assume, along with Ting, that it is a clitic that must attach to a tense projection. We will adopt and maintain this assumption. What is crucial to us is that *suo* must be a projecting head. If this nominal element heads the *suo*-phrase, we can immediately account for the nominal property of the maximal projection including the occurrence of *zhi* ('genitive') and genitive pronouns before *suo*.

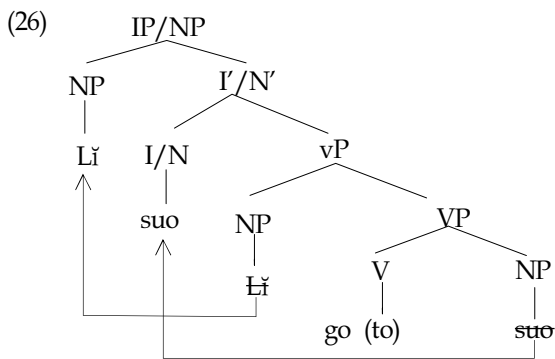
How can we have *suo* project itself? Following Rizzi and Roberts (1989), Roberts (1993) distinguishes three types of incorporation of an "incorporee" head Y^0 into an "incorporating" head X^0 : (i) substitution of Y^0 into X^0 triggered by X^0 's feature of morphological selection like [+ Y^0 ___] (25a); (ii) adjunction of Y^0 to X^0 (25b); (iii) substitution of Y^0 into the empty head X^0 (25c).

He restricts the substitution type of (25a) to cases where the result of incorporation is a visible amalgam of X^0 and Y^0 , so it cannot be pertinent to the LC case where *suo* combines with an Infl. (25b) is what Ting (2005) assumes to happen in the case in question, but it leaves the two problems pointed out at the end of section 2.2. The last option in (25c) may happen "if the host head is radically empty" (Roberts 1993: 43). Rizzi and Roberts (1989) suggest that it obtains in the French complex inversion where Infl moves into Comp and consequently which occurs only in the root clause. Can this be extended to the LC case as well? Is the LC Infl radically empty? Perhaps yes, because the language does not show any morphological tense or agreement inflection. Then, let us pursue this option for the *suo*-incorporation.

¹⁸ Readers are referred to Ting (2005: 124) for a statement that this property holds for modern Chinese; she (2005, to appear) assumes the same holds for LC as well.



Roberts assumes that the substitution into an empty head (25c) results in hybrid categories: X^0 and Y^0 head the projection together. Hence, the subject of (3b) will be analyzed as in (26) below. In this analysis the entire phrase is an IP and at the same time an NP,¹⁹ so it will show an NP distribution as well as having an IP properties. As an IP, it will provide nominative Case to its [Spec, IP] position, but as an NP it will provide a genitive Case. This is a conflicting situation. Roberts says that such a hybrid category may license two different specifiers; this literally predicts that a *suo*-phrase may have a nominative or genitive specifier. Perhaps, this might partly explain the optionality of *zhi* ('Gen') there. Since Case distinction is not strong in LC, alternatively, one might assume that when an Infl comes to live together with an N, the hybrid category only has an ability to license genitive Case. This wrinkle of the theory can be straightened only on an empirical basis, whose research must be left for the future. With this analysis, we can basically capture the fact that the *suo*-phrase is a nominal one and has a genitive NP or pronoun as its subject.



¹⁹ We are not quite sure about the grammatical category of *suo*, whether it is a D or an N. Without positive evidence for its being a D, we conservatively assume that it is a "functional" noun, which is extensively found in neighboring languages like Korean and Japanese.

Besides gaining such advantages, this analysis generally preserves the advantages of Ting's (2005) system. Since it inherits the assumption that it moves to Infl, first, the analysis can explain the position of *suo* in its phrase, which is lower than the subject NP and a clausal adverb but is higher than the vP and its adverbials. To capture the fact that a *suo*-phrase cannot relativize the subject, however, we need to assume that LC is similar to Greek and is parameterized not to have any subject clitic. Since LC allows null pronouns quite freely, it is not sufficient to state that the EPP property of its Infl requires a subject to occupy [Spec, IP]: Subject clitics are basically compatible with a pro in [Spec, IP] (Poletto 1996).

Crucially, however, our analysis still cannot account for the fact that a null operator cannot be used in relativizing a non-subject constituent. Since *suo* functions as a nominalizer, there is no reason for it to be optional. The resulting structure is partially similar to that of the English gerundive. In other words, a *suo*-phrase is nominal in LC, even when it "modifies" another nominal head; it is an appositive nominal, sometimes mediated by *zhi* (之, 'Genitive'), as illustrated in (9). This, however, cannot preclude the possibility where a null operator is used to produce a relative clause. Intuitively, the availability of *suo* seems to block use of a null operator, but there is currently no visible theoretical way to derive the fact.

If it can, does it mean that *suo* must move into Infl? Perhaps, not. When it adjoins to Infl, the resulting structure will be a genuine restrictive relative clause and look like what Ting (2005) assumes and it will need to attach to a nominal head like *zhe* (者). This explains the optionality of the nominal head.

4. Conclusions, implications and remaining problems

Heavily relying on Fuller (1999) and Ting (2005), among others, we have noticed that LC has a phrase involving a functional category *suo* which basically functions like a nominal projection, while its internal structure resembles that of a relative clause. Generally adopting Ting's approach, we have assumed that *suo* is a clitic that is base-generated as a complement of a verb but cannot stay inside VP; departing from her and adopting Rizzi and Roberts (1989) theory of incorporation, however, we have pursued the analysis where it can substitute into Infl (as well as adjoin to it). This guarantees us to capture its nominal characteristics quite satisfactorily as well as other properties that Ting (2005) captures.

The discussion thus far indicates that to produce a free relative-like

construction, language doesn't need a C-projection or doesn't require movement into a C-projection (cf. Rouveret 2002 and Jo 2003).

There are not a few questions unanswered and problems to be solved in the future. Immediate questions are whether there are other languages that allow clitics to substitute into Infl, and why other languages like English, Korean, French or Greek don't allow such a (free) relative clause as, if allowed, might be used as follows.

(27) *the cow's it having plowed ...

Our analysis predicts that those languages don't have such a free relative as in LC because they either don't have clitic pronouns or have explicit tense marking. English and Korean indeed don't have such a clitic pronoun, but French and Greek are in fact well-known to have some, as shown in (28)-(29).

- (28) Je t'aime [French]
 I you-love
 'I love you.'
- (29) i gin éka pu (tin) sinántisa [Greek]
 the.F.SG woman.SG.NOM that her.F.SG.ACC met.1.SG
 'The woman that I met ...'

In both examples, the clitic pronouns are preposed: *t'* ('you') in (28) and *tin* ('her') in (29). Still, these languages don't have the LC-type free relatives. Rather, their free relatives involve either a demonstrative determiner or a special relative pronoun.

- (30) ... ce/celui/celle/... que j'aime [French]
 this/this.M.SG/this.F.SG/... that I like
 'what/the male person/the female person/... I like' [Greek]
- (31) a. afto pu magirepse itan nostimo
 this that cooked.3SG was delicious
 'What she cooked was delicious.'
- b. oti magirepse itan nostimo
 whatever cooked.3SG was delicious
 'Whatever she cooked was delicious.'

To express what an English free relative means, French uses a demonstrative

determiner (e.g., *ce*) while Greek uses either a demonstrative pronoun (e.g., *afto*) or a special relative pronoun (e.g., *oti*).²⁰ The reason why those languages cannot have an LC-like free relative, therefore, **seems** to be that they have explicit tense marking and don't allow their clitic pronouns to substitute into Infl as *suo* potentially does in LC. This means that if a clitic incorporates into it, Infl must always project and be covered by a C-projection; consequently, (27) is impossible where the square-bracketed constituent doesn't have a C-projection and a relative operator.²¹

An interesting empirical question on LC is why it doesn't allow a null operator to relativize complements.

There is also a rather serious technical problem that remains. If *suo* is base-generated in a VP, its Case feature will be valued by *v* before it moves into Infl, which means that the resulting *suo*-phrase cannot participate in a further Merge operation (Chomsky 2005; cf. Bosley 1984).²² This problem is rather difficult to overcome. We might assume that notwithstanding the inclusiveness condition (Chomsky 1995), requiring that no new features are added in syntax, a new unvalued Case feature is provided for the entire *suo*-phrase when it combines with a head. Alternatively, one might want to give up the assumption that *suo* is a clitic pronominal and say that it is simply a special nominalizer that is required to bind a variable. Given this, the problem wouldn't arise. Explorations of these options are left for future study.

Other remaining problems include other instances of *suo* in LC and in modern Chinese. As Ting (to appear) discusses in detail, the occurrence of *suo* in the *wei* (爲)-construction comes to have an interpretation of a passive sentence. She proposes this version of *suo* is more like that in modern Chinese, which Ting (2003) analyzes as a [-WH] resumptive pronominal. As she notes, there has also been an approach to the "passive" *suo*-phrase treating it as a nominal constituent. She argues against this approach on the basis of a [+/-stative] interpretation of the construction. We believe a fair appraisal of her argument requires a reasonable theory of semantic interpretation, which we

²⁰ Bosley (1984) points out that in Polish a free relative systematically has a corresponding relative clause with an additional D before the clause-initial *wh*-phrase.

²¹ A *Studies in Generative Grammar* reviewer suggests a typological approach to this cross-linguistic difference: perhaps, the cross-linguistic difference in question is related to whether the language has a close connection between tense and C or not (cf. Jo 2003 for a discussion of the difference). For lack of space we must leave an examination of this potential correlation for future research.

²² Chomsky (2005) and Donati (2006), who also explore the possibility where a moving *wh*-head projects, are expected to face a similar problem.

must leave for future research as well.

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