Studies in Cantonese Linguistics

edited by

Stephen Matthews

Linguistic Society of Hong Kong

1998

ON THE 'INVERTED' DOUBLE OBJECT CONSTRUCTION*

SZE-WING TANG

1. Introduction

It has long been observed by the traditional Chinese grammarians and Chinese dialectologists that the indirect object can follow the direct object without any dative marker in Cantonese. This 'inverted' word order of double object constructions has been taken to be one of the major syntactic characteristics of Cantonese. In this paper, I examine the classification of verbs used in the dative constructions in Hong Kong Cantonese and prepare an account where I relate the word order of double object constructions to the thematic properties of the dative verbs. I argue that the 'inverted' double object construction is only possible with the verbs that assign a Goal thematic role to the indirect object. In particular, I argue that the 'inversion' structure is derived from the prepositional dative construction with a null dative marker under certain conditions. I provide phonological evidence to support this analysis. I also argue that typological variation with respect to the word order of double object construction is the result of lexical and thematic variation.

This paper is organized as follows. Section 2 examines the classification of dative verbs in Cantonese. In section 3, I discuss the thematic properties of dative verbs and their relation to the dative constructions. In section 4, I argue that the so-called 'inversion' structure should be treated on a par with the prepositional dative construction. I then propose that the 'inversion' structure is derived from prepositional dative construction with a null dative marker and present phonological and syntactic evidence in support of this hypothesis. Typological variation will be investigated in section 5.

2. Dative verbs and their classification[1]

2.1. The patterns of dative construction in Cantonese

The so-called dative constructions typically consist of a direct object (DO) and an indirect object (IO). Since Cantonese does not mark these two objects morphologically to signal the grammatical function they have in the sentence, such function is generally expressed by the word order in which the two objects surface and by the use of the dative markers. The meaning of the objects also helps distinguish which NP is the direct object and which one is the indirect object. The one which refers to an inanimate object is generally interpreted

[1]Cantonese romanizations here follow the Linguistic Society of Hong Kong Cantonese Romanization Scheme. Tones are represented as follows: 1: high level, 2: high rising, 3: mid level, 4: low falling, 5: low rising and 6: low level. The following abbreviations are used in giving glosses for Cantonese examples: Cl: classifier, Dat: dative marker, Exp: experiential aspect marker, Mod: modifier marker; Part: particle, Perf: perfective aspect marker, 3sg: third person singular pronoun.

as the direct object while the one which refers to an animate object is usually interpreted as the indirect object.[2] In this paper, I will focus on the three patterns of dative constructions in Cantonese shown in (1).

(1) a.   PDC: V DO dative marker IO
    b.   DOC: V IO DO
    c.   IDOC: V DO IO

(1a) is the prepositional dative construction (PDC).[3] The structure in (1b) is the so-called double object construction (DOC) in which the direct object follows the indirect object. The structure in (1c) is the 'inverted' double object construction (IDOC) where the direct object precedes the indirect object without any intervening dative marker. In the next subsection, I will classify the dative verbs with respect to these three patterns of dative constructions and further explore the characteristics of double object constructions in Cantonese drawing from the insights of earlier studies.[4]

2.2.   Toward a classification of dative verbs

Though many Cantonese verbs can take both a direct and an indirect object, they display very different properties with respect to the patterns of dative construction illustrated in (1). In this section, I present a classification of these verbs and argue that they can be classified in five different groups on the basis of their syntactic and thematic properties.

2.2.1. The 'give' verbs

This type of verbs includes verbs such as: bei^2 'to give', $sing^2$ 'to give (as a present)', $sung^3$ 'to give (a present)', and $zoeng^2$ 'to award'. What is common of all the verbs in this group is that the interpretation of the indirect object is that it is the intended possessor of the direct object. In general, these verbs allow the PDC and IDOC patterns. DOC is possible, but it is not too natural.

---

[2]The definitions of 'direct object' and 'indirect object' here follow Huang (1959). Interestingly, when both the direct object and the indirect object are animate without any dative marker, such as (i), the interpretation is ambiguous, although some speakers still consider the reading where *Siu-Ming* is the direct object and *Ling-Ling* is the indirect object to be the salient one.

(i) Ngo^5 bei^2-zo^2 Siu^2ming^4 $Ling^4ling^2$.
    I   give-Perf Siu-Ming Ling-Ling
    'I gave Siu-Ming to Ling-Ling.' or 'I gave Siu-Ming Ling-Ling.'

[3]Following Lau (1972), Bennett (1978), Tang (1992), Wong (1994), Xu and Peyraube (1997) among others, I assume that the Cantonese dative markers are prepositions. There are two dative markers in this language: bei^2 and gwo^3. Bei^2 is the most widely used dative marker. Comparatively, the acceptability of the dative marker gwo^3 is rather low. Therefore, for the ease of presentation, I only discuss the dative marker bei^2 in this paper. For discussion of gwo^3, see Tang 1992. Lai^4 is also documented as a dative marker in Cantonese in Wisner 1906, Chan 1951, and Yuen 1958. Many speakers, however, consider the use of this dative marker to be unnatural in the modern Hong Kong Cantonese. I will not discuss constructions using this marker in this paper.

[4] See, for example, Huang 1959, Cheung 1972, Shimizu 1972, Peyraube 1981, and Chui 1988.

---

(2) a. Ngo^5 $sung^3$-zo^2 jat^1-bun^2 syu^1 bei^2 $keoi^5$.   (PDC)
    I   give-Perf one-Cl book Dat 3sg
    'I gave a book to him/her.'

    b.   (?)Ngo^5 $sung^3$-zo^2 jat^1-bun^2 syu^1 $keoi^5$.   (IDOC)
    I   give-Perf one-Cl book 3sg

    c.   ?Ngo^5 $sung^3$-zo^2 $keoi^5$ jat^1-bun^2 syu^1.   (DOC)
    I   give-Perf 3sg one-Cl book
    'I gave him/her a book.'

As the grammaticality judgment show, among the examples (2a-c), (2a) is the most natural word order. Though (2b) is grammatical, some speakers consider it to be slightly unnatural. It seems that the acceptability of (2b) and other IDOC sentences depend on semantic and phonological factors as well as on functional factors, such as the speed of speech, the heaviness of the objects, etc.[5] Among all the verbs included in this group, the verb bei^2 'to give' deserves special attention. What is peculiar to this verb is that it is phonologically identical to the dative marker bei^2 'to'. When the verb bei^2 'to give' is used, it contrasts with the other verbs in that IDOC seems to be the preferred pattern by some speakers who consider (3a) not as natural as (3b). In this regard, Shimizu (1972) points out that the reason why there is a preference to use (3b) instead of (3a) in sentences with the verb 'to give' is to avoid repetition of bei^2.

(3) a.   (?)Ngo^5 bei^2-zo^2 jat^1-zi^1 bat^1 bei^2 $keoi^5$.   (PDC)
    I   give-Perf one-Cl pen Dat 3sg
    'I gave a pen to him/her.'

    b. Ngo^5 bei^2-zo^2 jat^1-zi^1 bat^1 $keoi^5$.   (IDOC)
    I   give-Perf one-Cl pen 3sg

    c.   ?Ngo^5 bei^2-zo^2 $keoi^5$ jat^1-zi^1 bat^1.   (DOC)
    I   give-Perf 3sg one-Cl pen
    'I gave him/her a pen.'

Note further that the acceptability of (2c) and (3c) is subject to a number of additional restrictions. In particular, these sentences seem to be natural only in a context in which the direct object is rather heavy or is the focus of the sentence (Yuan et al 1960, Kwok 1971, Peyraube 1981, Matthews and Yip 1994). In unmarked cases, DOC with the 'give' verbs is not as natural as IDOC.[6]

2.2.2. The 'send' verbs

The 'send' verbs include, among others, the following predicates: bun^1 'to move', $daai^3$ 'to bring', dai^6 'to hand to', $deng^3$ 'to pelt', $gaau^1$ 'to deliver', $gaap^3$ 'to lift food with

---

[5]According to Bruche-Schulz and Peyraube (1993), some speakers use the IDOC pattern in the context of 'losing temper' or 'intimacy'. However, it seems to me that IDOC can also be used in an unmarked context.

[6]There are some idiom-like DOC expressions which do not have a PDC or IDOC counterpart, such as bei^2 nei^5 $seon^3sam^1$ 'let you put confidence in somebody (lit. 'to give you confidence')', and $waan^4$ ngo^5 $cing^1baak^6$ 'to indemnify me for defamation (lit. 'to return me stainless')'.

chopsticks', gei^3 'to send', lau^4 'to reserve', ling^1 'to carry with hand', lo^2 'to bring', maai^6 'to sell', paai^3 'to deliver', tek^3 'to kick', and wui^6 'to remit'. With this type of verb, the direct object is tranferred from somewhere to the indirect object.

(4) a.   Siu^{2}ming^4 gei^3-zo^2 jat^1-fung^1 seon^3 bei^2 ngo^5.   (PDC)
          Siu-Ming send-Perf one-Cl letter Dat I
          'Siu-Ming sent a letter to me.'

      b.   */?Siu^{2}ming^4 gei^3-zo^2 jat^1-fung^1 seon^3 ngo^5.   (IDOC)
          Siu-Ming   send-Perf one-Cl   letter I

      c.   *Siu^{2}ming^4 gei^3-zo^2 ngo^5 jat^1-fung^1 seon^3.   (DOC)
          Siu-Ming send-Perf I   one-Cl   letter
          'Siu-Ming sent me a letter.'

These verbs allow the PDC pattern, as in (4a). In general, as (4b) illustrates, IDOC is not allowed with these verbs. All speakers consider (4c) to be ungrammatical.

2.2.3. The 'fry' verbs

The 'fry' verbs include caau^2 'to fry', jing^2 'to photocopy', pai^1 'to cut', sai^2 'to wash', tong^3 'to iron', waak^6 'to draw', zam^1 'to pour', zik^1 'to knit', zing^2 'to make', zok^3 'to compose', and zyu^2 'to cook'. All these verbs are verbs of creation. The indirect object is interpreted as the beneficiary of the event expressed by the verb.

(5) a.   Ling^{4}ling^2 caau^2-zo^2 jat^1-dip^6 coi^3 bei^2 ngo^5.   (PDC)
          Ling-Ling fry-Perf   one-Cl   vegetable Dat I
          'Ling-Ling fried vegetable for me.'

      b.   */?Ling^{4}ling^2 caau^2-zo^2 jat^1-dip^6 coi^3 ngo^5.   (IDOC)
          Ling-Ling   fry-Perf one-Cl   vegetable I

      c.   *Ling^{4}ling^2 caau^2-zo^2 ngo^5 jat^1-dip^6 coi^3.   (DOC)
          Ling-Ling fry-Perf I   one-Cl vegetable

This type of verbs allows the PDC pattern, as in (5a). Some speakers marginally allow IDOC. For example, (5b) is quite unnatural. DOC with this kind of verb is ungrammatical, as illustrated in (5c).

2.2.4. The 'pluck' verbs

The 'pluck' verbs include coeng^2 'to snatch', gaan^2 'to choose', maai^5 'to buy', ling^1 'to take', lo^2 'to get', tau^1 'to steal', and zaak^6 'to pluck'. These verbs are mainly verbs of obtaining. The indirect object in PDC can be interpreted as beneficiary but it is interpreted as the source in DOC configuration.

(6) a.   Ngo^5 zaak^6-zo^2 sap^{6}jat^1-zi^1 mui^{4}gwai^{6}faa^1 bei^2 keoi^5.   (PDC)
          I   pluck-Perf eleven-Cl rose   Dat 3sg
          'I plucked eleven roses to him/her.'

      b.   */?Ngo^5 zaak^6-zo^2 sap^{6}jat^1-zi^1 mui^{4}gwai^{6}faa^1 keoi^5.   (IDOC)
          I   pluck-Perf eleven-Cl rose   3sg

      c.   Ngo^5 zaak^6-zo^2 keoi^5 sap^{6}jat^1-zi^1 mui^{4}gwai^{6}faa^1.   (DOC)
          I   pluck-Perf 3sg eleven-Cl rose
          (i) *'I plucked eleven roses for him/her.'
          (ii) 'I plucked his/her eleven roses.'

As illustrated in (6a), these verbs allow PDC. The acceptability of the IDOC pattern exemplified in (6b) in general is low. Though these verbs may allow DOC, as in (6c), they give a completely different interpretation: in particular, in which the indirect object is interpreted as the source.[7]

2.2.5. The 'teach' verbs

Finally, this type of verbs includes ceng^{2}gaau^3 'to inquire', gaau^3 'to teach', haau^2 'to test', kaau^4 'to request', and man^6 'to ask' etc.[8] They describe the acquisition of information, communication, and the transfer of ideas. Unlike other dative verbs, the 'teach' verbs do not allow PDC or IDOC. Only the DOC pattern is grammatical.

(7) a.   *Ngo^5 gaau^3 Gwong^{2}dung^{1}waa^2 bei^2 keoi^5.   (PDC)
          I   teach Cantonese   Dat 3sg
          'I teach him/her Cantonese.'

      b.   *Ngo^5 gaau^3 Gwong^{2}dung^{1}waa^2 keoi^5.   (IDOC)
          I   teach Cantonese   3sg

      c.   Ngo^5 gaau^3 keoi^5 Gwong^{2}dung^{1}waa^2.   (DOC)
          I   teach 3sg Cantonese

Interestingly, if the direct object of gaau^3 'to teach' is related to tricks, such as saan^{2}sau^2 'tactic', ziu^1 'trick', the three patterns PDC, IDOC as well as DOC are acceptable, as indicated in (8).

(8) a.   Ngo^5 gaau^3-zo^2 loeng^5-dou^6 saan^{2}sau^2 bei^2 keoi^5.   (PDC)
          I   teach-Perf two-Cl   tactic   Dat 3sg
          'I taught some tactics to him/her.'

      b.   Ngo^5 gaau^3-zo^2 loeng^5-dou^6 saan^{2}sau^2 keoi^5.   (IDOC)
           I   teach-Perf two-Cl   tactic   3sg

      c.   Ngo^5 gaau^3 keoi^5 loeng^5-dou^6 saan^{2}sau^2.   (DOC)
          I   teach 3sg two-Cl   tactic
          'I taught him/her some tactics.'

---

[7] Yuan et al (1960) point out that the indirect object in (6c) can be genitivized as a modifier of the indirect object without changing the basic meaning; if this is correct, (6c) is not a DOC.

[8] Cheung (1972:85) treats dong^3 'consider' on a par with the 'teach' verbs. For example,

(i)   Ngo^5 dong^3 keoi^5 hou^2-jan^4 tim^1.
        I   consider 3sg good-person Part
        'I consider him/her a good fellow.'

However, unlike typical dative verbs, dong^3 'consider' does not denote an action of transfer or an action of benefit. The 'consider' type verbs should be analyzed differently from the dative verbs. See Tang 1997 for detailed discussion in Mandarin Chinese.

In fact the choice of the direct object in PDC and IDOC in (8) is very restricted. It seems that it is an idiomatic usage which may be a 'residue' of Old Chinese.[9]

2.2.6. Summary

Based on the above discussion, the five types of dative verbs can be further classified as three main categories: (a) verbs that allow the PDC, IDOC as well as DOC patterns, i.e. the 'give' verbs, (b) verbs that only allow PDC, i.e. the 'send', 'try' and 'pluck' verbs; and (c) verbs that only allow DOC, i.e. the 'teach' verbs. With respect to the three patterns of dative constructions, then the dative verbs in Cantonese can be classified as in table (9). The classification is based on whether or not they fit into the various patterns of dative constructions discussed above.

(9)   Dative constructions and dative verbs in Cantonese

	'give'	'send', 'fry', 'pluck'	'teach'
PDC	OK	OK	*
IDOC	OK	*/?	*
DOC	?	*	OK

As shown in table (9), all dative verbs but the 'teach' verbs allow PDC. The occurrence of IDOC is very restricted. In general, it is limited to the 'give' type verbs. As for the DOC pattern with the 'give' verbs, its occurrence in Cantonese is restricted to those cases where the direct object is heavy or stressed. In the discussion in the next section, I will focus on IDOC in Cantonese and try to link the syntactic properties of each of these types of verb to the internal thematic structure of these dative verbs

3.   Thematic roles and dative constructions

What is clear from the discussion above is that, in general, only the 'give' verbs allow IDOC in Cantonese. Why are the 'give' verbs so special? In opposition to the rest of the verbs, the 'give' verbs are verbs of change of possession. Moreover, the 'send' verbs are verbs of sending and carrying or verbs of throwing, the 'fry' verbs are verbs of creation, the 'pluck' verbs are verbs of removing, and the 'teach' verbs are verbs of communication.[10] Thus, it is only the 'give' type verbs that are verbs of change of possession. In other words, only verbs that denote a change of possession allow the IDOC pattern. The restrictions on the IDOC pattern are derived from the semantic properties of dative verbs.

Such a distinction suggests that the availability of the different patterns of dative construction in (1a-c) may be related to the thematic structure of the verbs. The thematic role assigned to the indirect object by the 'give' verbs is Goal. With the 'give' verbs, the indirect object is the intended possessor of the direct object. In contrast with this, though the thematic role assigned to the indirect object by the 'send' verbs could be interpreted as Goal, these verbs are fundamentally spatial, but not possessional.[11] In the dative

---

[9]The pattern 'teach DO dative marker IO' can be traced back to *Shangshu*. See Peyraube 1988.
[10]See Levin 1993 for a similar classification of verbs in English.
[11]See Jackendoff 1990b:§9 for related discussions in English.

constructions, the 'send' verbs indicate change in location. Consequently, the thematic role assigned to the indirect object by the 'send' verbs should be distinguished from that assigned by the 'give' verbs. For ease of exposition, I will tentatively assume that the thematic role that the indirect object of the 'send' verbs bears is a complex role composed of Goal and Location. As for the 'fry' and 'pluck' verbs, they denote an action which can be regarded as being done for someone's benefit. The thematic role that the indirect object of the 'fry' and 'pluck' verbs bears is best interpreted as Benefactive. The thematic role assigned by the 'teach' verbs to the indirect object could be analyzed as either Patient or Source. In other words, in contrast with the rest of dative verbs, the 'give' verbs only assign the thematic role Goal to the indirect object. In this vein, based on our observations of the grammaticality of IDOC, I state the following descriptive generalization for Cantonese.

(10)   An 'inverted' double object construction is grammatical only if the dative verb assigns only the thematic role Goal to the indirect object.

In conclusion, IDOC is acceptable in Cantonese only if the dative verbs belong to the 'give' type, i.e. verbs that assign only Goal to the indirect object.

4.   The 'inversion' structure and the null dative marker hypothesis

In this section, I will first review various hypotheses of the formation of IDOC in Cantonese and point out their weaknesses. I will then present an alternative analysis of the phenomena. In particular, I will argue in favor of a null dative marker approach where IDOC is derived from PDC with a null dative marker.

Cheng (1988) proposes that IDOC and some of the DOC have different structures. In particular, she argues that IDOC with the verb bei^2 'to give' is derived from (11a), where the verb bei^2 'to give' will move to the upper empty V position.

(11)   a. $[_{VP} [_V e][_{VP} DO [_{V'} bei^2 IO]]]$ (IDOC in Cantonese)
         b. $[_{VP} [_V e][_{VP} DO [_{V'} gei IO]]]$ (DOC in Mandarin)
         c. $[_{VP} [_V e][_{VP} IO [_{V'} song DO]]]$ (DOC in Mandarin)

She assumes, on the other hand, that the structures of the double object construction with the verbs *gei* 'to give' and *song* 'to give (a present)' in Mandarin are represented as in (11b) and (11c) respectively. In (11c), the verb *song* 'to give (a present)' moves to the empty V position while in (11b) the V' reanalyzes as V and moves to the empty V position because *gei* 'to give' does not have 'full verbal property'. The reason why the V' in (11a) cannot reanalyze as a V is due to its [+V] feature. For the sake of argumentation, let us assume that it is correct. However, in (11a-c), if, as Cheng proposes, dative verbs assign Theme to DO and Goal to IO, the question then arises: Why do the dative verbs bear the thematic hierarchy 'Theme > Goal' in (11a) and in (11b) but 'Goal > Theme' in (11c)? This analysis seems quite problematic under UTAH, the Uniformity of Theta Assignment Hypothesis (Baker 1988) widely assumed in current syntactic theory.

One way to solve this problem would be to assume that IDOC is derived from DOC by object shift: either by leftward movement of the direct object or by rightward

movement of the indirect object.[12] Though this proposal could avoid the violation of UTAH, the problem now is how those speakers who accept IDOC can derive this 'inversion' structure from the ungrammatical DOC examples with the 'send', 'fry' and 'pluck' verbs. As pointed out by Zhan (1981:§4) and Xu and Peyraube (1997), if the assumption that IDOC is derived from DOC by means of object shift is correct, we would wrongly generate those ungrammatical IDOC examples with the 'teach' verbs; for instance, the asymmetry relation between (7b) and (7c). Consequently, unless we stipulate that in Cantonese grammar object shift is obligatory in DOC with the 'send', 'fry' and 'pluck' verbs and it is forbidden in DOC with the 'teach' verbs, the object shift approach is both too weak and too powerful at the same time. This approach will not be adopted in this paper.

I would like to propose that these problems can be solved if we adopt the null dative marker approach suggested by Qiao (1966), Shimizu (1972), Bennett (1978), Tang (1992), Bruche-Schulz and Peyraube (1993), Xu and Peyraube (1997), among others. According to this approach, IDOC is derived from PDC with a null dative marker.[13] In other words, the underlying structure of IDOC will be the same as PDC, as indicated in (12) where '∅' is a null dative marker.

(12)   a.   V $[_{NP}DO][_{PP}[_{P}bei^2][_{NP}IO]]$ (PDC)
       b.   V $[_{NP}DO][_{PP}[_{P}\varnothing][_{NP}IO]]$ (IDOC)

In (12), DO and IO will be assigned thematic roles Theme and Goal respectively. In this case, the thematic hierarchy is 'Theme > Goal' and UTAH will not be violated. Violation of UTAH is not a problem anymore.

As I argue next, there is empirical evidence in support of analysis along these lines and in particular in support of the postulation of the null dative marker. For one thing, this empty position is 'observable' phonologically. In this regard, Qiao (1966:§34) reports that there is usually a pause between the direct object and the indirect object in IDOC. Consider the examples in (13). If we compare these two examples, we notice that in (13a) there is a pause (indicated by '//') between the direct object go^2-bun^2 zi^6din^2 'that dictionary' and the indirect object Siu-Ming. In contrast with DOC in (13b), the pause in (13a) is clearer and longer. Instead of a pause, for many speakers, the last syllable of the direct object zi^6din^2 'dictionary' in (13a) can be lengthened; in this regard, (13a) thus contrasts with (13b), where lengthening of the last syllable of the indirect object Siu-Ming in (13b) is not natural.

---

[12]Huang and Zhan (1983) seem to suggest that IDOC is formed by postposing the indirect object. Killingley (1993) suggests that DOC is the 'normal' word order for Cantonese and IDOC is formed by shifting the objects. Thanks to Steve Matthews for pointing out the work by Killingley to me.
[13]It does not matter in the discussion whether the null dative marker is formed by deleting the phonological features in the PF component or such phonological information is already encoded in the lexical entry. Furthermore, the details of the structure of PDC and IDOC are omitted in (12). See Tang 1992, Xu and Peyraube 1997 for discussion in Cantonese in terms of Larsonian VP-shell.

---

(13)   a. Ngo^5 bei^2-zo^2 go^2-bun^2 zi^6din^2 // Siu^2ming^4.   (IDOC)
          I   give-Perf that-Cl   dictionary Siu-Ming
          'I gave that dictionary to Siu-Ming.'

       b. $?Ngo^5$ $gaau^3$-gwo^3 Siu^2ming^4 // $Gwong^2dung^1waa^2$.   (DOC)
          I   teach-Exp Siu-Ming   Cantonese
          'I have taught Siu-Ming Cantonese.'

The pausing and the final lengthening in (13a) suggest that the syntactic structure of (13a) and that of (13b) is different. This could be accounted for under Selkirk's (1984) Silent Demibeat Addition hypothesis. Let us suppose that IDOC contains an NP and a PP whereas DOC contains two NPs. A partial structure of (13a) and that of (13b) would be as in (14a) and (14b) respectively, where '∅' stands for the null preposition.

(14)   a.   ... dictionary $]_N]_{NP}$ $[[[$ $\varnothing$ $]_P$ $[$ Siu-Ming $]_N]_{NP}]_{PP}$
       b.   ... Siu-Ming $]_N]_{NP}$ $[[$ Cantonese $]_N]_{NP}$

According to Selkirk's Silent Demibeat Addition hypothesis, a silent demibeat is added at the end of the metrical grid that is aligned with some syntactic categories.[14] Following this hypothesis, then, since the two objects in (14a) are separated by an NP boundary and a P, two silent demibeats will be assigned to the position between *dictionary* and *Siu-Ming* in (14a), one after the NP and one after the empty P,[15] whereas only one demibeat will be assigned to the gap between *Siu-Ming* and *Cantonese* in (14b). This is shown in the representations of metrical grid alignment in (15), where 'x' represents a silent beat. These silent grid positions are either realized as a pause or associated with the final syllable to form final lengthening giving representation to syntactic timing.[16] Thus, we expect to find a pause between the direct object and the indirect object in IDOC.

(15)   a.   ... dictionary <u>xx</u> Siu-Ming <u>xx</u>
       b.   ... Siu-Ming <u>x</u> Cantonese <u>x</u>

Supporting evidence for the null dative marker hypothesis comes from the fact that most speakers accept IDOC when the dative verb is bei^2 'to give'. Since the dative marker bei^2 shares the same phonological features with the dative verb bei^2 'to give', the strategy of using a null dative marker might be due to identity avoidance. Recall that IDOC, for example (16b), is always preferred to PDC such as (16a) to avoid phonological identity when the verb is bei^2 'to give'.

---

[14]These include (a) a word, (b) a word that is the head of a nonadjunct constituent, (c) a phrase, and (d) a daughter phrase of S. She stipulates that if a word is a phrase, it will not receive two demibeats but only one.
[15]My analysis seems contrary to Selkirk (1984:§6.2), according to which the application of Silent Demibeat Addition is restricted to lexical categories which would seem to exclude prepositions. This is not necessary a problem. The status of prepositions is sometime unclear. Abney (1987:§2.3) points out that prepositions straddle the line between functional and lexical categories and they could be underspecified. Fukui (1986:§2fn5) further suggests that the status of prepositions may be subject to parametric variation. I assume that prepositions are lexical categories in Cantonese.
[16]See Selkirk 1984:§6 for detailed discussion.

(16) a. (?)Ngo^5 bei^2-zo^2 jat^1-zi^1 bat^1 bei^2 keoi^5. (=(3a))
　　　　　I　　give-Perf one-Cl pen Dat 3sg
　　　　　'I gave a pen to him/her.'
　　b. Ngo^5 bei^2-zo^2 jat^1-zi^1 bat^1 keoi^5. (=(3b))
　　　　　I　　give-Perf one-Cl pen 3sg

Under the minimalist conception of language, linguistic expressions are the optimal realizations of the interface conditions at the interface levels PF and LF, where 'optimality' is determined by the principles of derivational economy (Chomsky 1993 et seq). Let us assume that the dative marker has to be null in order to satisfy some PF interface conditions. Suppose that the avoidance of phonological identity is one of those PF interface conditions.[17] The derivation of (16a) is deviant since it cannot satisfy the interface conditions, typically at the PF component. If that turns out to be correct, an optimal output would be a structure in which the dative marker is null when it is required for PF convergence. One piece of evidence to show that PF convergence is the driving factor comes from the facts that, as the distance between the two phonologically identical bei^{2}s increases, the grammaticality of this type of example improves. This is illustrated in (17).[18]

(17) a. Ngo^5 bei^2-zo^2 bun^2 jung^6 Zung^{1}man^2 se^2 ge^3 jyu^{5}faat^3 syu^1 bei^2 keoi^5.
　　　　　I　give-Perf Cl　use　Chinese　write Mod grammar book Dat 3sg
　　　　　'I give a grammar book written in Chinese to him/her.'
　　b. (?)Ngo^5 bei^2 bun^2 syu^1 bei^2 keoi^5.
　　　　　I　　give Cl　book Dat 3sg
　　　　　'I give a book to him/her.'
　　c. ?Go^2-bun^2 syu$^1{}_i$, ngo^5 bei^2-zo^2 e$_i$ bei^2 keoi^5.
　　　　　that-Cl book I　give-Perf Dat 3sg
　　　　　'As for that book, I gave it to him/her.'
　　d. *Go^2-bun^2 syu$^1{}_i$, ngo^5 wui^5 bei^2 e$_i$ bei^2 keoi^5.
　　　　　that-Cl book I　will give Dat 3sg
　　　　　'As for that book, I will give it to him/her'

In (17b), the two bei^{2}s are separated by a two syllable noun phrase. Compared with (17b), (17a) in which an aspect marker and a heavy noun phrase intervene between the two bei^{2}s sounds much better. (17c) and (17d) are examples of topicalization;[19] though (17c) in which the two bei^{2}s are separated only by an aspect marker is still intelligible, it does not sound very natural. (17d), where the two homophonous bei^{2}s are adjacent to each other at PF, is bad. If the overt dative marker is replaced by a null dative marker in (17c) and in

---

[17]This constraint could be some version of OCP discussed in McCarthy 1986, Yip 1988, among others.
[18]Thanks to Moira Yip for drawing my attention to these examples.
[19]Topicalization of the indirect object in other non-identical dative cases is possible. For example,
(i)　　Go^2-bun^2 syu$^1{}_i$, ngo^5 wui^5 sung^1 e$_i$ bei^2 keoi^5.
　　　　that-Cl book I　　will give　Dat 3sg
　　　　'As for that book, I will give it to him/her'

(17d), we predict that the violation will be avoided and that therefore the examples will be grammatical. (18) shows that this prediction, as a matter of fact, is born out.

(18) a. Go^2-bun^2 syu$^1{}_i$, ngo^5 bei^2-zo^2 e$_i$ ∅　keoi^5.
　　　　　that-Cl　book I　give-Perf (Dat) 3sg
　　　　　'As for that book, I gave it to him/her.'
　　b. Go^2-bun^2 syu$^1{}_i$, ngo^5 wui^5 bei^2 e$_i$ ∅　keoi^5.
　　　　　that-Cl　book I　will give (Dat) 3sg
　　　　　'As for that book, I will give it to him/her'

The relevant point being made here is that the violation of phonological identity is gradient depending on the distance between the two bei^{2}s and dative marker has to be null when the two homophonous bei^{2}s are too close to each other at PF. Consequently, the occurrence of the null dative marker is for PF convergence.

　　Evidence from quantification of saai^3 further shows that the indirect object in IDOC should be a PP. Saai^3 'all, each' is a quantifier which requires that the element associated with it be divisible/plural (Lee 1994, Tang 1996).

(19) a. *Ngo^5 bei^2-saai^3 ni^1 fung^1 seon^3 [bei^2 keoi^{5}dei^6]. (PDC)
　　　　　I　give-all　this Cl　letter　Dat they
　　　　　'I have given (*all) this letter to (*all) of them.'
　　b. *Ngo^5 bei^2-saai^3 ni^1 fung^1 seon^3 [keoi^{5}dei^6]. (IDOC)
　　　　　I ·　give-all　this Cl　letter they
　　c. Ngo^5 man^6-saai^3 [keoi^{5}dei^6][ni^1-di^4 man^{6}tai^4]. (DOC)
　　　　　I　ask-all　they　this-Cl question
　　　　　(i) 'I have asked all of them these questions.'
　　　　　(ii) 'I have asked them all these questions.'

In (19a) and (19b), since the direct object ni^1 fung^1 seon^3 'this letter' is unable to be divided into parts in that context, it cannot be associated with saai^3. Even though the indirect object keoi^{5}dei^6 'they' is divisible/plural, saai^3 cannot be associated with it. The unacceptability of (19a) and (19b) is due to the violation of the divisibility requirement of quantification of saai^3. On the other hand, saai^3 can be associated with either the indirect object or the direct object in DOC, as shown in (19c). Assuming that saai^3 cannot be associated with indirect (prepositional) internal arguments (Tang 1996), these examples strongly suggest that IDOC should go with PDC such that the indirect object in IDOC is analyzed as a PP.

　　If the null dative marker approach is correct, the null dative marker in IDOC is an empty category, which is required by the Empty Category Principle, the ECP, to be properly governed.[20] Recall that IDOC is unacceptable if the verb does not assign Goal to the indirect object. This seems to suggest that verbs that can assign Goal behave as a proper governor for an empty category in the dative marker position if proper government

---

[20]I put aside the question how the effects of the ECP are derived, given that 'government' has been eliminated (Chomsky 1993 et seq), and continue to use the term 'ECP' informally in our discussion.

is defined in terms of subcategorization dependent upon thematic role assignment (Stowell 1981).[21] The null dative marker has to be properly governed by a verb that subcategorizes for a Goal argument. If the null dative marker cannot be properly governed, IDOC is ungrammatical.

Suppose the above analysis is correct. Three related questions arise at this point. First, why is it only the verbs that subcategorize for a complement to which they assign Goal that can be a proper governor for the null dative marker? Second, how can we explain why some speakers may allow the IDOC pattern with the dative verbs other than the 'give' verbs? Third, suppose that the null dative marker is formed by phonological deletion. How is dative marker deletion related to the semantic interpretation if it is merely a phonological operation?

To answer the first question, as a tentative solution, I would like to propose that the indirect objects that do not bear Goal are not actually assigned a thematic role in the conventional sense. Let us examine the dative verbs that allow the PDC pattern, namely the 'give', 'send', 'fry', and 'pluck' verbs.[22] The grammaticality test in (20)-(23) clearly shows that in contrast with the rest of the verbs, only the 'give' verbs are genuine ditransitive verbs that subcategorize for an indirect object. (20) in which the indirect object is missing sounds peculiar in an out-of-the-blue context. Contrary, (21), (22) and (23) where the indirect object is missing are perfectly grammatical even though they are given in isolation without any prior discourse.

(20)   *Ngo^5 bei^2-zo^2 jat^1-bun^2 syu^1.   (the 'give' type)
      I   give-Perf one-Cl   book
      '*I gave a book.'

(21)   Siu^{2}ming^4 gei^3-zo^2 jat^1-fung^1 seon^3 (the 'send' type)
      Siu-Ming mail-Perf one-Cl   letter
      'Siu-Ming mailed a letter.'

(22)   Ling^{4}ling^2 caau^2-zo^2 jat^1-dip^6 coi^3.   (the 'fry' type)
      Ling-Ling fry-Perf   one-Cl   vegetable
      'Ling-Ling fried vegetable.'

(23)   Ngo^5 zaak^6-zo^2 sap^{6}jat^1-zi^1 mui^{4}gwai^{3}faa^1.   (the 'pluck' type)
      I   pluck-Perf eleven-Cl rose
      'I plucked eleven roses.'

Since the ditransitive verb *bei^2* 'to give' in (20) subcategorizes for two internal arguments, the omission of the indirect object without prior context is ungrammatical. In fact, the 'send', 'fry', and 'pluck' verbs are transitive verbs that only subcategorize for one complement. Hence, (21), (22) and (23) are perfect. To derive the dative constructions,

---

[21] According to Stowell (1981:§6), α properly governs β if and only if α governs β, and α is lexical, and α is co-indexed with β, in which co-indexing is defined by means of thematic role assignment.

[22] The indirect object of the 'teach' verbs can be omitted, as noted by the anonymous reviewer.
(i)   Ngo^5 gaau^3 Gwong^{2}dung^{1}waa^2.
    I   teach Cantonese
    'I teach Cantonese.'
Since the 'teach' verbs do not allow IDOC, they will not be considered in the discussion.

the theta-grid of those transitive verbs, such as the 'send', 'fry', and 'pluck' verbs, has to be expanded, for example, by Argument Augmentation, developed along the ideas in Grimshaw 1989, Larson 1988, 1990, and Jackendoff 1990a, by which thematic roles will be added to the theta-grid of the verb. If the 'added' indirect object is an adjunct in some sense, the null preposition cannot be properly governed and thus the IDOC pattern is not allowed.

The second question is why some speakers may allow the IDOC pattern with non-'give' verbs. I suppose that Goal assignment and subcategorization for complements are subject to dialectal variation. For some of the dative verbs, the transfer of possession may result in change in location or some benefactive motions. Those speakers who have a 'liberal' judgment may then have the possibility to allow some non-'give' verbs to subcategorize for two complements and to assign Goal to the indirect object. If the dative marker is null, the empty category can be properly governed and IDOC is allowed. This might explain the degree of marginality of IDOC which, as I have noted above, seems to be subject to some degree of variation.

Let us assume that the formation of the null dative marker in IDOC is merely a phonological operation. We may wonder why phonological operations affect the semantic interpretation and why they are subject to syntactic constraints such as the ECP if we assume that there are no interactions between PF and LF (Chomsky 1993). There seem to be some possible lines to solve this problem. One line of research is to assume that the ECP applies also at PF and that empty categories must be properly governed at PF (Aoun et al 1987). Another possible solution is to assume that there is a link between some level within PF and LF (Chomsky 1995:fn31). One may assume that dative marker deletion takes place in the overt syntax, but we have to explain how the outputs of this operation are subject to general conditions. An alternative possibility is that in the IDOC pattern, the null dative marker is a phonologically non-overt affix which undergoes incorporation or conflation in syntax.[23] Under this approach, the ECP effects exhibited by the IDOC pattern may follow from conditions on movement, which seems to be a desirable approach to pursue, given that 'government' has been eliminated (Chomsky 1993 et seq). Due to limited space, I leave this possibility for my future research.

To sum up, I have argued that the proposal that IDOC is derived from PDC with a null dative marker is on the right track and presented empirical evidence in support of this assumption. I have also derived the constraints on the occurrence of the null dative marker from some general principles, such as the ECP and the thematic structure of the predicates. If that turns out to be the case, we need not stipulate any language particular operations to explain the 'inverted' dative structure in Cantonese and our analysis does not induce too much computational complexity. This should be a desirable move.

5.   Typological variation: a perspective

I have argued that IDOC in Cantonese is derived from PDC with a null dative marker; further I have proposed that the null dative marker is subject to the ECP and that the empty dative marker should be properly governed by a verb that subcategorizes for a complement to which it assigns Goal. These properties would be of limited interest if they

---

[23] I am indebted to Myriam Uribe-Etxebarria (personal communication) for this suggestion.

only applied to Cantonese. What is interesting from this phenomena is that, in fact, its scope seems to be larger than that. In what follows, I address the issue of the typological variation in the word order of double object constructions. The discussion here will be restricted to Chinese dialects.

The data discussed in the following table (24) are from Gan, Hakka, Hui, Jin, Mandarin, Min, Wu, Xiang, and Yue, the major Chinese language families.[24] The words listed in the second column are the corresponding forms of the verb 'to give' in those dialects. The third column shows the acceptability of IDOC in those dialects. As the table shows, among the Chinese dialects, only Huizhou, Meixian, Leihua, Shanghainese, Changsha, and Cantonese allow IDOC.

(24)   The verb *give* and IDOC in Chinese dialects[25]

	to give	IDOC
Gan (Anyi)	t^{h}au	*
Hakka (Huizhou)	pi	OK
Hakka (Meixian)	pun	OK
Hui (Xiuning)	te	*
Jin (Taiyuan)	gei	*
Mandarin (Beijing)	gei	*
Min (Fuqing)	k^{h}y?	*
Min (Leihua)	pun	OK
Min (Taiwanese)	ho	*
Wu (Shanghainese)	bɔ?	OK
Xiang (Changsha)	pa	OK
Yue (Cantonese)	bei	OK

If we study the verb 'to give' in those dialects carefully, the verb 'to give' can be classified in two different groups with respect to the grammaticality of IDOC. In particular, in those dialects that allow IDOC, the verb 'to give' is a 'real' ditransitive verb diachronically. For example, the history of *bei* (畀) in Cantonese can be traced back to the 14th-11th century BC (Qiu 1980), where this lexical item was used as a ditransitive verb. The verb *pi* in Huizhou dialect can be represented by the same character used in Cantonese (Liu 1991). It is thus highly possible that *pi* and *bei* are cognate morphemes. As for the Shanghainese verb *bɔ?*, its origin is not clear, but it might be cognate with the Cantonese *bei* (畀) since the rhyme of this word ended in a dental-alveolar stop, *-t, in the Archaic Chinese (Guo 1986:86) and the diachronic sound change from a dental-alveolar stop to a glottal stop, *-t>-?, in Shanghainese can be supported by other examples.[26] If the hypothesis that Shanghainese *bɔ?* and Cantonese *bei* are cognate is correct, then

---

[24]Pinghua, one of the Chinese language families, will not be discussed due to insufficient information.

[25]The data are from the following works: Anyi: Chang and Wan 1994; Huizhou: Liu 1991; Meixian Yuan et al 1960; Xiuning: Hirata 1994; Taiyuan: Hou and Wen 1993; Fuqing: Feng 1993; Leihua: Dai 1994; Taiwanese: J.-S. Huang 1977; Shanghainese: Xu and Tang 1988; Changsha: Li 1991.

[26]For example, *bɔ?* 'nose' follows the sound change rule (*-t>-?).

Shanghainese *bɔ?* 'to give' might have originated from a ditransitive verb. Moreover, Leihua *pun* and Meixian *pun* are represented by the same character 分 (Yuan et al 1960, Dai et al 1994). The ditransitive usage of this word has been documented in the 6th century AD.[27]

Summarizing, in all these dialects where IDOC is allowed, the verb 'to give' has a diachronic source from a ditransitive verb. Keeping this in mind, let us now consider the verb 'to give' in those dialects that do not allow IDOC, such as *t^{h}au* in Anyi, *te* in Xiuning, *gei* in Taiyuan and Beijing, *k^{h}y?* in Fuqing, and *ho* in Taiwanese. What all these verbs have in common is that they are historically derived from transitive verbs. For example, in Anyi and Fuqing, *t^{h}au* (討) and *k^{h}y?* (乞) can also be used as verbs of deprivation. It has also been argued that in the northern dialects, *gei* (給) is historically derived from the transitive verb *qi* (乞) 'to beg', which is the same character used in Fuqing dialect (Zhang 1989). The origin of the verb *te* in Xiuning could be a transitive verb *chi* (持) whose original meaning is 'to hold' (Hirata 1994). As for the origin of *ho* in Taiwanese, one possibility is that *ho* and the verb 'to beg', such as the word *k^{h}y?* (乞) 'to give/to beg' used in Fuqing dialect, are cognate (Tsao and Cheng 1992).

If the hypothesis regarding the relation between the acceptability of IDOC and the source of the verb 'to give' is on the right track, it is only when the verb 'to give' is derived from a ditransitive verb historically that the IDOC pattern is allowed. This can hardly be a coincidence and consequently provides further support for an analysis along the lines I have defended in this paper.

Let us assume that in those dialects IDOC is also derived from PDC with a null dative marker, as what we have seen in Cantonese. Recall that it is ditransitive verbs that subcategorize for a complement to which they assign the thematic role Goal. In those dialects that allow IDOC, the verb 'to give' subcategorizes for two complements historically. If the null dative marker is subject to the ECP defined in terms of subcategorization and thematic role assignment, then the null dative marker can occur only if it can be properly governed by a verb that subcategorizes for a Goal argument. In those dialects that the verb 'to give' is derived from a transitive verb which does not subcategorize for a Goal argument, the occurrence of the null dative marker will cause a violation of the ECP and consequently IDOC will not be allowed.

If the analysis presented here is correct, the grammaticality of IDOC is subject to the ECP and depends on the thematic properties of the dative verbs. In regard of dialectal/typological variation, I would like to suggest that the thematic properties of the dative verbs are subject to parametrization. From a minimalist point of view, the 'syntactic' difference with respect to the word order of the double object constructions is reducible to a lexical and thematic difference in the nature of the dative verbs. Choice of parametric options and language variation are thus determined by the lexicon. How to make the parameter-setting precise in formal terms is not trivial, although it is not implausible. A comprehensive typological study of natural languages is necessary, but it would go beyond the scope of this paper. I only keep to an informal sketch here and leave it for future research.

---

[27]The origin of *pa* in Changsha dialect is not clear. It could be cognate with Cantonese *bei* and Shanghainese *bɔ?*. Due to insufficient data, I leave this question open here.

6. Concluding remarks

We have seen that in Cantonese, the dative verbs that permit IDOC are those verbs that subcategorize for a complement to which they assign the thematic role Goal. This suggests that there is a close relationship between the grammaticality of IDOC and the thematic properties of the dative verbs.

I have also proposed that Cantonese IDOC is derived from PDC by using a null dative marker. The dative marker will be null to satisfy PF interface conditions, such as the avoidance of phonological identity. The occurrence of the null dative marker is subject to the ECP: the null dative marker has to be properly governed by the verb that subcategorizes for a Goal argument. This analysis accounts for a number of properties displayed by IDOC.

As research proceeds, it becomes clear that with regard to the word order of the double object constructions, the dialects/languages differ in the contents of their lexical items. Dialectal/typological variation can be reducible to lexical variation. If this is correct, language variation is reduced to variation in the properties of lexical items. Though my research project here is far from conclusive, there seems to be a promising prospect of studying cross-dialectal/typological variation in terms of syntax-morphology interface along the lines of a minimalist approach.

References

Abney, Steven Paul. 1987. The English noun phrase in its sentential aspect. Doctoral dissertation. MIT.

Aoun, Joseph, Norbert Hornstein, David Lightfoot, and Amy Weinberg. 1987. Two types of locality. *Linguistic Inquiry* 18: 537-577.

Baker, Mark C. 1988. *Incorporation: A Theory of Grammatical Function Changing*. Chicago and London: The University of Chicago Press.

Bennett, Paul Anthony. 1978. Word order in Chinese. Doctoral dissertation. SOAS, University of London.

Bruche-Schulz, Gisela and Alain Peyraube. 1993. Remarks on the double-object construction in Hong Kong Cantonese. Paper presented at the Fourth International Conference on Cantonese & Other Yue Dialects. City Polytechnic of Hong Kong.

Chan, Y.-K. 1951. *Everybody's Cantonese*. Hong Kong: Man Sang Printers.

Chang, Song-Hing, and Bo Wan. 1994. Anyi fangyan de dongci weiyuju (Verb predicates in Anyi dialect). Paper presented at the Workshop on South East Chinese Dialect Grammars, Shaoguan University.

Cheng, Lisa Lai-Shen. 1988. Dative constructions in Mandarin and Cantonese. Ms., MIT.

Cheung, Samuel Hung-Nin. 1972. *Xianggang Yueyu Yufa de Yanjiu* (Cantonese as spoken in Hong Kong). Hong Kong: The Chinese University of Hong Kong.

Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, ed. Kenneth Hale and Samuel Jay Keyser. 1-52. Cambridge, Mass.: The MIT Press.

Chomsky, Noam. 1995. Categories and transformation. In *The Minimalist Program*. 219-394. Cambridge, Mass.: The MIT Press.

Chui, Ka-Wai. 1988. Topics in Hong Kong Cantonese syntax. MA thesis. Fu Jen Catholic University.

Dai, Youwu et al. 1994. *Dianbai Fangyanzhi* (Dianbai dialects). Zhongshan University Publisher.

Feng, Aizhen. 1993. *Fuqing Fangyan Yanjiu* (Studies on Fuqing dialect). Beijing: Shehui Kexue Wenxian Publisher.

Fukui, Naoki. 1986. A theory of category projection and its applications. Doctoral dissertation. MIT.

Grimshaw, Jane. 1989. Getting the dative alternation. In *MIT Working Papers in Linguistics 10*, ed. Itziar Laka and Anoop Mahajan. 113-122. Cambridge, Mass: MITWPL.

Guo, Xiliang. 1986. *Hanzi Guyin Shouce* (Handbook of historical pronunciation of Chinese characters). Beijing: Beijing University Publisher.

Hirata, Shôji. 1994. Xiuning fangyan de dongci weiyuju (Verb predicates in Xiuning dialect). Paper presented at the Workshop on South East Chinese Dialect Grammars, Shaoguan University.

Hou, Jingyi, and Duanzheng Wen. 1993. *Shanxi Fangyan Diaocha Yanjiu Baogao* (Report on Shanxi dialect investigation and study). Taiyuan: Shanxi Gaoxiao Lianhe Publisher.

Huang, Borong. 1959. Guangzhouhua buyu binyu de cixu (Word order of complements and objects in Cantonese). *Zhongguo Yuwen* 84: 275-276.

Huang, Jiajiao, and Bohui Zhan. 1983. Guangzhou fangyan zhong de teshu yuxu xianxiang (Special word order phenomena in Cantonese dialect). *Yuyan Yanjiu* 2. Also in Bohui Zhan. 1993. *Yuyan yu Fangyan Lunji* (Research on language and dialect). 254-264. Guangzhou: Guangdong People Publisher.

Huang, Jing-Shing. 1977. Double-object construction in Taiwanese. MA thesis. Fu Jen University.

Jackendoff, Ray. 1990a. On Larson's treatment of the double object construction. *Linguistic Inquiry* 21: 427-456.

Jackendoff, Ray. 1990b. *Semantic Structures*. Cambridge, Mass.: The MIT Press.

Killingley, Siew-Yue. 1993. *Cantonese*. München: Lincom Europa.

Larson, Richard. K. 1988. On the double object construction. *Linguistic Inquiry* 19: 335-391.

Larson, Richard K. 1990. Double objects revisited: reply to Jackendoff. *Linguistic Inquiry* 21: 589-632.

Lasnik, Howard, and Mamoru Saito. 1992. *Move α: Conditions on Its Application and Output*. Cambridge, Mass.: The MIT Press.

Lau, Sidney. 1972. *Elementary Cantonese 1*. Hong Kong: Government Printer.

Lee, Thomas Hun-Tak. 1994. Yueyu 'saai' de luoji tedian (The logical properties of Cantonese *saai*). In *Proceedings of the First International Conference on Cantonese and Other Yue Dialects*, ed. Chow-Yiu Sin, 131-138. Hong Kong: Modern Educational Research Society, Ltd..

Levin, Beth. 1993. *English Verb Classes and Alternations: A Preliminary Investigation*. Chicago and London: The University of Chicago Press.

Li, Yongming. 1991. *Changsha Fangyan* (Changsha dialect). Changsha: Hunan Publisher.

Liu, Ruoyun. 1991. *Huizhou Fangyanzhi* (Huizhou dialects). Guangdong Keji Publisher.

Matthews, Stephen, and Virginia Yip. 1994. *Cantonese: A Comprehensive Grammar*. London and New York: Routledge.

McCarthy, John J. 1986. OCP effects: gemination and antigemination. *Linguistic Inquiry* 17: 207-264.

Peyraube, Alain. 1981. The dative construction in Cantonese. *Computational Analyses of Asian and African Languages* 16: 29-65.

Peyraube, Alain. 1988. *Syntaxe Diachronique du Chinois: Evolution des Constructions Datives du XIV Siecle av. J.-C. au XVIII Siecle*. Paris: College.

Qiao, Yannong. 1966. *Guangzhouhua Kouyuci de Yanjiu* (A study of Cantonese colloquiual expressions). Hong Kong: Overseas Chinese Languages Publishing Company.

Qiu, Xigui. 1980. 'Bi' zi buxi (Notes on the word *bi*). *Yuyanxue Luncong* 6: 137-147.

Selkirk, Elisabeth O. 1984. *Phonology and Syntax: the Relation between Sound and Structure*. Cambridge, Mass.: The MIT Press.

Shimizu, Shigeru. 1972. Etsu hôgen sôhingo no shijo (The word order of double objects in Cantonese dialect). In *Essays in Memory of Hisayasu Torii: Chinese Language and Writing*. 193-208. Tenri University.

Stowell, Tim. 1981. Origins of phrase structure. Doctoral dissertation. MIT.

Tang, Sze-Wing. 1992. Classification of verbs and dative constructions in Cantonese. Paper presented at the Linguistic Society of Hong Kong Annual Research Forum. The Chinese University of Hong Kong.

Tang, Sze-Wing. 1996. Distributivity and locality of lexical quantification. In *Proceedings of the Eighth North American Conference on Chinese Linguistics, Volume 2*, ed. Chin-chuan Cheng et al, 236-253. Los Angeles: GSIL, University of Southern California.

Tang, Sze-Wing. 1997. Prohibition on superfluous symbols: some notes on the architecture of nominal small clauses. To appear in *Proceedings of the Ninth North American Conference on Chinese Linguistics*. Los Angeles: GSIL, University of Southern California.

Tsao, Feng-Fu, and Ying Cheng. 1992. Gwoyu 'gei' yu Minnanyu 'ka(p)' he 'ho' de laiyuan (the origin of 'gei' in Mandarin and 'ka(p)' and 'ho' in Southern Min). In *Proceedings of the 2nd International and the 10th National Conference on Phonology*, 119-132. Kaohsiung.

Wisner, O. F. 1906. *Beginning Cantonese*. Canton: China Baptist Publication Society.

Wong, Colleen H. 1994. The acquisition of bei2 as a verb, coverb and preposition in a Cantonese speaking-child. In *Proceedings of the Sixth North American Conference on Chinese Linguistics, Volume 2*, ed. Jose Camacho and Lina Chouciri. 206-220. Los Angeles: GSIL, University of Southern California.

Xu, Baohua, and Zhenzhu Tang. 1988. *Shanghai Shiqu Fangyanzhi* (A study on the Shanghai dialect). Shanghai: Shanghai Education Publisher.

Xu, Liejiong, and Alain Peyraube. 1997. On the double object construction and the oblique construction in Cantonese. *Studies in Language* 21:105-127.

Yip, Moira. 1988. The Obligatory Contour Principle and phonological rules: a loss of identity. *Linguistic Inquiry* 19: 65-100.

Yuan, Jiahua et al. 1960. *Hanyu Fangyan Gaiyao* (Outline of Chinese dialects). Beijing: Wenzhi Gaige Publisher.

Yuen, Y.-C. 1958. *A Guide to Cantonese*. Hong Kong: Calson Printers.

Zhan, Bohui. 1981. *Xiangdai Hanyu Fangyan* (Modern Chinese dialects). Hubei People Publisher.

Zhang, Huiying. 1989. Shuo 'gei' he 'qi' (Notes on 'gei' and 'qi'). *Zhongguo Yuwen* 5: 378-382, ii.