HOO, HOO, HOO:
SYNTAX OF THE CAUSATIVE, DATIVE, AND PASSIVE CONSTRUCTIONS IN TAIWANESE

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ABSTRACT

The morpheme *hoo* in Taiwanese has been commonly observed to occur in a number of constructions: the causative, the passive, and the so-called double-object, dative and serial-verb constructions. We offer a formal unifying analysis of the argument structure of *hoo* that ties these constructions together in a way that explains their clustering, to the exclusion of other constructions. We show that the double-object construction is a special instance of the canonical causative. The serial verb *hoo* is a causative embedded as a secondary predicate, and the so-called dative is a special case of such a secondary predicate. Finally, the passive is an ergativized version of the canonical causative, formed not by de-thematizing the subject, but by turning its event complement into a secondary predicate. Following in part Feng (1995), Chiu (1995) and Chomsky (1980), we assume that the secondary predicates (in passives, datives, and the serial-verb structures) are syntactically created by Null Operator movement. We provide extensive arguments in support of this hypothesis and note some implications for the theory of argument structure.

1. INTRODUCTION

In Taiwanese and other varieties of Southern Min, it is well known that a single morpheme *hoo* occurs in a number of constructions whose counterparts in Mandarin (or other dialects or languages) may involve several different morphemes. Descriptively, six syntactic patterns may be distinguished that all involve *hoo*:

(1)

	Examples	Pattern	Type
A.	我 *hoo* 汝三百塊。	*hoo* NP1 NP2	DOC-1
B.	我送 *hoo* 伊一本冊。 我丟 *hoo* 伊四根骨頭。	V- *hoo* NP1 NP2	DOC-2
C.	我賞一先錢 *hoo* 汝。 我還三百塊 *hoo* 伊。	V NP2 *hoo* NP1	Dative
D.	我唱一首歌 *hoo* 汝聽。 我跳 *hoo* 汝看。	V(NP2) *hoo* NP1V	SVC
E.	彼個查某人 *hoo* 伊騙去矣。 伊 *hoo* 我摑一個耳光。	*hoo* NP VP	Passive
F.	我 *hoo* 伊得第一名。 咱來跳 *hoo* 伊爽，跳 *hoo* 伊勇。 我唱一首歌 *hoo* 伊較好聽。	*hoo* NP VP	Causative

In Pattern A, *hoo* occurs in construction with two NPs, denotes the meaning of 'give' and behaves syntactically on a par with the verb *give* in the so-called "double-object construction". In Pattern B the same morpheme immediately follows a verb and is followed by two NPs as in Pattern A. We shall refer to these two varieties as DOC-1 and DOC-2. In the next pattern, *hoo* occurs in a capacity analogous to the dative preposition *to* in a dative construction. Pattern D is similar to Pattern C except that *hoo* is followed not just by an NP, but by an NP-V sequence. These examples have sometimes been lumped together with other superficially similar sentences under the term "Serial Verb Construction" (SVC, e.g. Li and Thompson 1981). The examples in E are examples of the Passive construction, where *hoo* is followed by the Agent phrase and the subject is usually a Theme or Affected argument of some sort. Finally, the sentences in Pattern F exemplify canonical causative sentences, where *hoo* may conveniently

be equated with the verb *cause*.

In earlier descriptions of these familiar constructions, *hoo* has been described as having a multiple categorial and grammatical status. Thus *hoo* is a verb of giving in Pattern A, a Goal marker (and possibly a preposition) in Patterns B and C, an element of the SVC in Pattern D, an Agent marker in E, and a causative verb in F (cf. Chen 1972, Tsao 1988). Although it is probably a trivial observation that the "same" morpheme is used in all of these constructions, few have tried to treat these constructions in any uniform way, thereby explaining their clustering. Some describe the passive sentences without reference to the datives, and others describe the passives and datives without reference to the canonical causatives. An exception is Robert Cheng (1974), who did make the suggestion that these constructions should be analyzed in a unified way, i.e., involving some common underlying structure, but no formal attempt has been made to actually realize this suggestion, so that the idea that these sentence types are related to each other remains in the status of an intuition. More importantly, the intuitive "relatedness" of these constructions, which is otherwise not readily observed in many other languages, raises the question of why these constructions should cluster in exactly the way they do, to the exclusion of others.

The specific goals of our paper, then, are (a) to propose a formal analysis that unifies all these superficially different sentence types, thus explaining why they involve the same morpheme; (b) to explicate the notion of causativity, passivity, and that of a transaction event and explain how and when causatives may come to mean passives and datives, and vice versa; and (c) to place the proposed analysis within a proper general theory of argument structure and of language variation. It will be our contention that the six uses of the morpheme *hoo* can all be reduced to the two different uses of the verb *hoo*, causative and ergative, which differ only in the presence or absence of an external argument (Agent or Causer).

For expository convenience, we start by looking at Pattern F. We shall provide an analysis for each pattern as we go along and provide empirical arguments for it where appropriate before we take up the general questions related to our goals (b) and (c).

2. PATTERN F: THE CAUSATIVE CONSTRUCTION

In the sentences of Pattern F, the NP-VP sequence following *hoo* forms a clause denoting an event or a situation (an 'eventuality' in the sense of Bach 1986) brought about by the subject NP preceding *hoo* .

(2)

F.	我 *hoo* 伊得第一名。 咱來跳 *hoo* 伊爽，跳 *hoo* 伊勇。 我唱一首歌 *hoo* 伊較好睏。	*hoo* NP VP	Causative

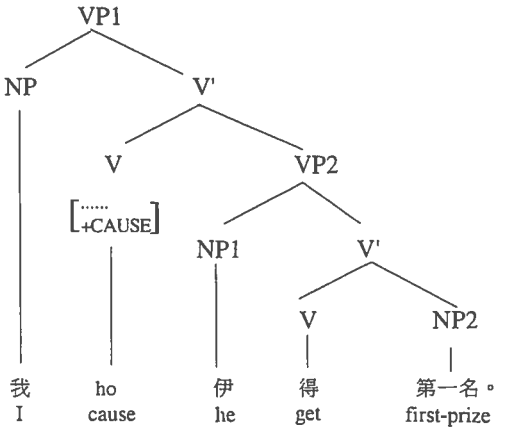
We shall make the rather uncontroversial assumption that *hoo* in these sentences is the 'pure' causative verb 'cause' which s-selects (semantically selects) an event or a situation/state as its complement, and c-selects (categorially selects, i.e., subcategorizes for) a clausal category (主謂結構) to realize that complement. In line with the VP-internal Subject Hypothesis (VISH, of Contreras 1987, Fukui and Speas 1986, Kitagawa 1986, Kuroda 1988, Sportiche 1988, inter alia), we assume that the core of a clausal category (主謂結構) is a VP, and that the 'subject of a clause' originates as the Spec(ifier) of a VP as provided for by the following instantiations of the X-bar rule schema:

(3) a. VP ----> Spec V'
b. V' ----> V^0 Complement

In doing so, we are thus in agreement with a view long held by the late Professor Zhu Dexi (e.g., Zhu 1982), that in Chinese a clausal category is no different in essence from a phrasal category; clauses are just VPs. But we differ from him in that we think his view also applies to other languages.

Under the VISH, then, the sentence (2a) has a structure with two VPs--with *hoo* occurring as the main verb taking a clausal VP (one that has both an overt subject and predicate) as its complement denoting the eventuality brought about by the matrix subject, as in (4):

(4)



'I caused him to get the first prize.'

The sentences (2b) and (2c) differ from (2a) in that a causative structure like (a) is further embedded under a higher verb.

Aside from the VISH, our assumption about the structure of a causative sentence seems rather standard even among non-formal syntacticians, so we shall not dwell upon them. We shall use this assumption as a basis for the discussion of the other sentence types involving *hoo*.

3. "DOUBLE OBJECT" CONSTRUCTIONS

3.1. Pattern A: DOC-1

The simplest "double object construction" consists of a clause with *hoo* directly followed by two NPs denoting the Goal and the Theme NP in that order, as in (5a). The same sentence may involve, instead of the verb of giving *hoo*, one of a set of verbs of transaction, as in (5b). More examples of these transaction sentences are given in (6).

(5)

A.	我 *hoo* 汝三百塊。	*hoo* NP1 NP2	DOC-1

(6) 賞汝一先錢、還汝三百塊、賠汝一領衫、賜汝三斤豬肉。

It has long been observed in various languages that in a double-object construction (DOC), there is usually a relation of 'possession' holding between the two objects; specifically, NP1 'possesses' NP2 as an (actual or intended) result of some event of transaction. This is the case in each of (5) and (6). Stowell (1981) showed that, in English, if such a relation is absent, then an NP2-to-NP1 construction does not have a DOC counterpart:

(7) a. John sent a letter to Bill.
b. John sent a letter to Canada.

(8) a. John sent Bill a letter.
b. *John sent Canada a letter.

(9) a. I promised a toy to the baby.
b. I explained the theory to the boy.

(10) a. I promised the baby a toy.
b. *I explained the boy the theory.

Harley (1996) observes that there is a cross-linguistic correlation between the existence of a 'have' relation in a given language and the presence of a DOC in that language. Thus, in the three diverse languages Irish Gaelic (VSO), Tagalog (SVO) and Diné (Navajo, SOV) the relation of possession is not expressed with a verb 'have' in the form of 'Possessor + HAVE + Theme' (in an SVO order) but with the verb 'be' plus a PP complement, in the frame 'Thing + BE + 'at' Possessor'. Thus, in Irish, 'Mary has a pen' and 'Mary has the pen' are expressed as follows:

(11) Tá peann ag Máire
be pen at Mary
'Mary has a pen.'

(12) Tá an peann ag Máire
be the pen at Mary
'Mary has the pen.'

A literal translation of these sentences would be 'A/The pen is at Mary', not 'Mary has the pen'. Corresponding to this fact is that Irish (and Tagalog and Diné) allow only the dative form, but not the double-object form of a transaction sentence:

(13) Thug Míleó caisearbhán do Bhinclí
give Milo dandelion to Binkley
'Milo gave a dandelion to Binkley.'

(14) *Thug Míleó do Bhinclí caisearbhán
gave Milo to Binkley dandelion
'Milo gave to Binkley a dandelion.'

(15) *Thug Míleó Bhinclí caisearbhán
gave Milo Binkley dandelion
'Milo gave Binkley a dandelion.'

On the other hand, languages like English and Taiwanese do allow the expression of possession with 'have', in the form of 'Possessive + HAVE + Thing' (我有三本書), and correspondingly they also allow the DOC.

The idea that DOC *give* has the semantics of 'cause to have' is of course well known, and such ideas underlie the lexical decomposition hypothesis (e.g., McCawley 1968) which forms part of the legacy of generative semantics and whose insights are still very much appreciated today (Dowty 1979, Jackendoff 1990, and more recently Huang 1996, Hale and Keyser 1994, etc.) Cross-linguistic correlations of the type just observed provide important *syntactic* evidence for lexical decomposition. If DOC *give* is analyzed as CAUSE to HAVE, then in Harley's words, a language that does not HAVE cannot GIVE.

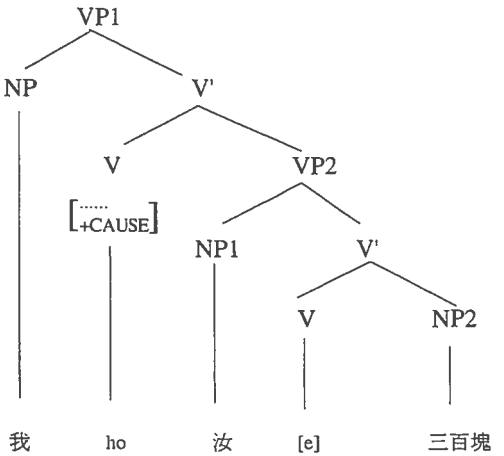
This causative analysis of DOC *give* is all the more natural for Taiwanese,

because the language not only exhibits the HAVE relation, but the DOC *hoo* has exactly the same morphological and phonological form as the causative verb *hoo*. This strongly indicates that both Patterns F and A are causative constructions, the latter a special case of the former.

Kayne (1984) showed that this relation of 'possession' can be nicely captured in a theory of 'unambiguous paths' according to which the two objects constitute a clausal category, with a null predicate denoting possession. Larson (1988) proposed that such a small clause may be accommodated within a VP embedded under another VP 'shell', each having its own specifier (the subject), head, and (optionally) a complement.[1]

Following these authors, we assume that DOCs involving transaction verbs have a universal structure of the following form:

(16)



'I give you 300 dolllars.'

In this structure, the element *hoo* is treated on a par with the verb *give*, as a causative verb that takes an eventuality (a 'possession') as its complement. Under this analysis, the fact that *hoo* in Taiwanese can function as a pure causative verb (as in Pattern F), and as a verb of giving as in Pattern A, needs no

further explanation. Pattern A is simply a special case of Pattern F. In both cases *hoo* is a causative verb. In Pattern F, *hoo* denotes general cases of causation, but in Pattern A it denotes a special case, where the caused eventuality refers to a specialized state of possession. In other words, *giving* in a DOC is a special case of causing.

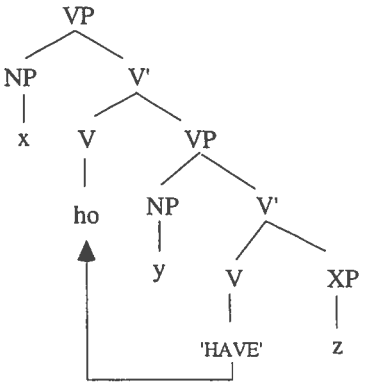
It should be noted that a structural analysis of (5a) in the form of (16) is not meant to be literally translated as 'I caused you to have 300 dollars'. In fact, (5a) would mean somewhat differently once the hypothesized null verb is replaced by the overt verb *u* 'have'.

(17) 我 *hoo* 汝有三百塊。
'I caused you to have 300 dollars.'

According to (17) I could cause you to have 300 dollars by encouraging you to moon-light over the weekend, without actually giving you the money; but (5) (i.e. (16)) entails an actual event of giving. How can this difference in entailment properties between 'I give you 300 dollars' and 'I cause you to have 300 dollars' be made in a proper theory? We think that the answer to this question--which is exactly the same question as that arising from the difference between 'He killed Bill' and 'He caused Bill to die', as pointed out by Fodor (1970) in connection with McCawley's (1968) decomposition analysis of 'kill'[2]--is to be found in a proper theory of incorporation. The critical difference is that whereas (17) involves two independent verbs (as all sentences of Pattern F do), in (16) the embedded null verb is completely dependent upon, or anaphoric to, the higher verb *hoo* (The embedded 'have' in (17) can be replaced by any other verb without affecting its grammaticality, but the [e] in (16) cannot be said to denote any other eventuality.) We assume that the *dependent* status of the embedded [e] in (16) comes from the fact that the embedded light verb HAVE has been incorporated (head-moved) to the higher predicate, forming a V-V chain with the latter (the [e] is a trace of the light verb having incorporated with the higher *ho*). We assume that the V-movement either takes place in the syntax (as in Baker 1988 or Chomsky 1995), or in the lexicon (a process of 'Conflation') as in Hale

and Keyser (1994). (In Taiwanese, the incorporated or conflated form CAUSE-HAVE gets realized morphologically in the same form as 'cause'.)

(18)

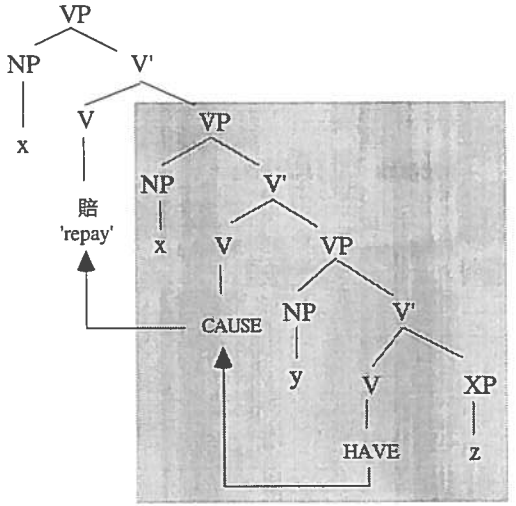


The important thing to assume about incorporation--whether it takes place in the syntax or in the lexicon ('conflation')--is that an entire V-V chain is to be treated as one single predicate, albeit a complex predicate, in syntax. As a single predicate, it can be associated with one single adverbial of time, manner, place, etc., but not more. Hence there is no independent manner of possession holding between y and z in (18) other than as part of the whole event denoted by the V-V chain; likewise, there is no independent manner of dying, in the case of *kill*, as indicated in note 2. (On the other hand, in a causative sentence of Pattern F, there are two independent predicates, each associated with its own array of adjunct roles.)

The examples we have provided under Pattern A include a number of verbs in addition to *hoo*, i.e., 送賞還賠賜 etc. What's the difference between these verbs and *ho*? Semantically, *hoo* is a pure verb of giving, and 送賞還賠賜 are manner-of-giving verbs. The difference is similar to that between *hit* on the one hand and *slap, spank, punch, whip,* etc. on the other. Note that the meaning of each of 送賞還賠賜 etc. includes (entails) the meaning of *hoo*, but the reverse does not hold. We can capture this relation by decomposing each of these verbs

into an activity-denoting verb that selects (16) as its complement (送 ＝送而使有之). In each case, the pattern V NPy NPz may be decomposed as "V so as to cause y to have z" at a pre-conflation level of representation:

(19)



In other words, the structure of 'pure giving' is embedded as a purposive complement of an action verb. The shaded portion of (19) is identical to (18) except that the causative verb is a full verb, phonetically realized as *hoo* in (18), but is a phonetically null light verb in (19) that must undergo further conflation or V-movement.

As correctly pointed out to us by C.-C. Cheng (personal communication), there is a difference between the pure causative *hoo* and the giving *hoo* with respect to the entailment of possession:

(20) 我 *hoo* 伊三本冊，伊攏無愛，所以伊不曾有過這三本書。
'I *hoo* him 3 books, but he didn't want them, so he never had these books.'

(21) #我 *hoo* 伊有三本冊，伊攏無愛，所以伊不曾有過這三本書。

'#I caused him to have 3 books, but he didn't want them, so he never had three books.'

(21) involves a contradiction, as indicated by its translation, but (20) does not.[3] This difference poses a non-trivial problem for the analysis of 'giving *ho*' in terms of the structure (18). This analysis predicts that (20) should be as semantically anomalous as (21). We must then explain why, in fact, (20) is not anomalous.

We suggest that the answer to this problem comes from the way we treat 送賞還賠賜, in terms of the P-marker (19), where the verb of giving, as a causative verb, is embedded as a purposive complement of 送賞還賠 or 賜. Since the causative verb and its complement forms an embedded purposive complement, it only denotes an intention to bring out an accomplishment. Thus a sentence having the structure of (19) does not entail an eventuality of possession.

Similarly, we propose that a proper analysis of the verb of 'pure' giving *hoo* must in fact further embed (18) under a suitable activity verb. In each case of 送賞還賠賜, we assume that a causative structure is embedded under an activity verb that denotes some manner of transaction--as in (19). In the case (5a), we propose that the same causative structure is embedded under a 'pure' general activity verb, i.e., the light verb DO. Thus, a fuller structural representation for (5a) should be as in (19), except that the highest V is filled by DO.

Thus, in spite of its appearance, we do not treat the alternation between (5a) and (5b) and among those in (6) as a simple substitution of *hoo* by a manner-of-giving verb. All of the examples we have considered here involve an activity verb taking a causative structure as its purposive complement. The 'pure' verb of giving *hoo* originates as the complement of a 'pure' activity (light) verb; a manner-of-giving verb like 送賞還賠賜 originates as a superordinate activity verb with substantive semantic load. The pure giving verb and the manner-of-giving verb are not treated as having a relation of substitution (in complementary distribution)--that is, 送 (for example) does not just substitute for *hoo*, but superimposes itself on a structure headed by *hoo* This analysis predicts, correctly, that *hoo* can co-occur with each of 送賞還賠賜, as is illustrated by

examples of Pattern B.

3..2. Pattern B: DOC-2

In fact, *hoo* can co-occur with a range of activity verbs to make up a sentence denoting transaction. It co-occurs with any of the manner-of-giving verbs discussed above (Type A, as seen in (22a) and (23)), and it can also occur with many other activity verbs (Type B, as seen in (22b) and (24)). The difference between Type A and Type B is that *hoo* is optional with Type A words, but obligatory with Type B words for a double-object construction to be well-formed.

(22)

B.	我送 *hoo* 伊一本書。 我丟 *hoo* 伊四根骨頭。	V- *hoo* NP1 NP2	DOC-2

(23) Type A: Optional *hoo* : 送賞還賠賜 etc.
送 *hoo* 伊一本書、賞 *hoo* 汝一先錢、還 *hoo* 汝三百塊、賜 *hoo* 汝三斤豬肉。

(24) Type B: Obligatory *hoo* 交寄踢搬推留丟擲, etc.
交 *hoo* 他一本書、寄 *hoo* 伊一張批、踢 *hoo* 伊兩粒球、搬 *hoo* 伊三塊椅仔、丟 *hoo* 伊四根骨頭、留 *hoo* 伊半碗湯。

Given our analysis of Pattern A in terms of the structure (19), the sentences in Pattern B are easily accommodated. They are simply instances of the same structural configuration in which both the activity verb (the highest V) and the causative verb (the intermediate V) are phonetically realized. We may continue to assume that incorporation takes place in each of these cases. First, the light verb of possession HAVE incorporates into the causative *hoo*, resulting in the verb-of-giving, *hoo*. Then, *hoo* also incorporates to the higher (activity) verb, resulting in a V-*hoo* compound..

The main question to be answered is what makes *hoo* optional with Type A activity verbs but obligatory with Type B activity verbs. In fact, many other activity verbs (Type C) do not take DOCs (with or without *ho*) as their complements at all:

(25) Type C: Unacceptable *hoo*: 唱跳哭開 , etc.
*唱 (ho) 伊一條歌、*跳 (ho) 伊一支舞、*開 (ho) 伊彼扇門。

The differences among these three verb types clearly lies in the conceptual structure of each lexical item. Intuitively, the verbs of Type A are *inherent* transaction verbs, those of Type B are *non-inherent* transaction verbs, and those of Type C are *non*-transaction verbs. In terms of selection, we can say that verbs of these types obligatorily select, optionally select, or do not select, a state of possession as a complement.

We propose that these three types of constructions may be accounted for in terms of whether they have undergone (lexical) conflation, or (syntactic) incorporation, or neither. We propose that an *inherent* transaction verb selects a pure event of giving as its complement, a DOC with the form CAUSE x HAVE y. 'Inherent selection of y by x' basically means that 'y is part of the *inherent* meaning of x'. We can capture this intuition by the assumption that selection is already satisfied in the lexicon, with a lexical relational structure which undergoes conflation (a là Hale and Keyser 1994). Thus if both light verbs CAUSE and HAVE are conflated with the highest verb in the lexicon, we have sentences illustrated in (6). On the other hand, if lexical conflation occurs only to CAUSE + HAVE, yielding *hoo*, the latter may be incorporated in the syntax (a là Baker 1988) to the highest verb, and we have the examples in (23). Thus, the optionality of *hoo* with the verbs in (23) boils down to the optionality of lexically conflating *hoo* with the higher verb. We assume, incidentally, that once conflation has occurred in "lexical-syntax", the output is an atom whose content is invisible to and unanalyzable by syntactic processes.

For the non-inherent transaction verbs, we assume that they only optionally take a giving event as its complement. For example, the verbs in (24) can each take a simple NP object, or an object plus a directional complement:

(26) 伊出去寄批、伊踢著我、汝把彼本冊丟出去、我攏總寄十張批

Since such verbs do not necessarily take a giving event as a complement, the

relation between the verb and such a complement is not established until such a complement has actually been selected, in syntax. Hence, although *hoo* may itself be the result of lexically conflating CAUSE and HAVE), it can only be syntactically incorporated to a higher verb in (24) after it has actually been selected in the syntax. That is, it does not even have a chance to be conflated with any such higher verb in the lexicon.

As for the non-transaction verbs, they generally do not select giving events as their complements at all. Hence the sentences in (25) are unacceptable, with or without the verb of giving *hoo* being conflated with the verb. Like other general action verbs, the non-transaction verbs may take a purposive clause as a complement, which may, among other things, denote an event of causation, but in such cases the *hoo* is the pure causative *hoo* that we have seen in Pattern F discussed above, or in Pattern D to be discussed below:

(27) 我唱一首歌 *hoo* 汝聽、我跳 *hoo* 汝看、我唱一首歌 *hoo* 伊較好睏、
我放一塊錄音帶 *hoo* 伊聽。

Summarizing, then, transaction verbs are those that must or may take a giving event as a complement. The difference between inherent and non-inherent transaction verbs lies in whether the complement verb of giving may be lexically conflated or only syntactically incorporated with the main verb. This difference may, in turn, follow from their inherent selection properties. The giving event is an obligatory complement of an inherent transaction, and forms part of the complement in lexical-syntax. Conflation is therefore possible, under the provisions of the Head Movement Constraint (HMC, Travis 1984; Baker 1988). For non-inherent transaction verbs the complement does not occupy such a close relationship with the main verb in lexical-syntax, and lexical conflation is excluded by the HMC. The non-transaction verbs are those whose semantics does not involve a transaction of any sort or which involve objects that cannot be transacted, and which accordingly do not take an event of giving as a complement.[4]

3.3. Evidence for the Causative Analysis of DOCs

We have thus treated both Patterns A and B as special instances of a causative structure, with *hoo* having been derived by lexical conflation of CAUSE + HAVE. The causative structure headed by *hoo* is in turn embedded under an activity verb of transaction. With an inherent transaction verb, the *hoo* may be further conflated and be phonetically suppressed. In other cases, *hoo* is incorporated (or compounded) with the higher verb.

As indicated in Section 3.1, a causative analysis of the verb of giving is motivated on both semantic and cross-linguistic syntactic grounds. Taiwanese provides a strong piece of evidence for the causative analysis, by the very fact that the verb 'give' and the verb 'cause' are morphologically and phonologically identical. If the giving *hoo* and the pure causative *hoo* were not related in some manner, then this very fact would be a total puzzle. There are additional arguments in favor of this analysis.

First, the causative analysis claims that the NP1-NP2 sequence in Patterns A and B forms a clausal category as a complement of the giving *hoo*, just as the NP-VP sequence in Pattern F forms a clausal complement of the pure causative *hoo*. The clausal status of the complement of a transaction verb is independently evidenced by sentences like the following:

(28) 賜汝免痛、賜伊無罪

In both cases, the verb 賜 'bestow' is a verb of transaction. The complements, meaning 'You are free from pains' and 'You are not guilty', are clearly clausal (each containing a subject and a predicate).

Secondly, the claim that the two objects form a constituent receives support from the standard constituency test of coordination.

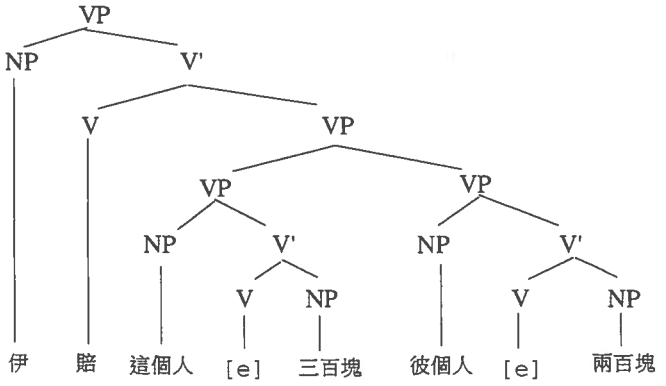
(29) 我送老張一本書，老李五枝筆。

(30) 伊賠這個人三百塊，彼個人兩百塊。

In these sentences, a single transaction verb is followed by a conjunction of two NP-NP sequences, indicating that each NP-NP sequence is a constituent. This

fact of constituency is of course expected, under our analysis. In the following structure of (30), the verb 賠 *pei* 'pay (for damage)' takes a coordinate clausal category as its complement, with both conjuncts having the form of a possessive clause.

(31)



Thirdly, the causative analysis receives important support from the history of Chinese syntax. It is a well known fact of Archaic Chinese that many monosyllabic words were associated with more than one argument structure: some of them could be used both transitively and intransitively, while others were used both transitively and *di*-transitively. Wen Hsu (徐雯 1994) distinguished between two kinds of such ambiguous words. The first kind, illustrated in (32), includes words that could be used either as 3-place predicates (ditransitives) or as 2-place predicates (normal transitives).

(32) 假、借、乞、貸、丐、沽、酤、賈、僦、受 etc.

So, for example, 受 could mean either 'teach' or 'learn'; and 'bestow' or 'receive'. 假 could mean either 'lend' or 'borrow', as illustrated below. (In fact, this dual status is true of 借 even in several modern dialects, including both Taiwanese and Mandarin.)[5]

(33) a. 唯器與名不可以假人。(左傳)
b. 范宣子假羽毛於齊而弗歸。(左傳)

Hsu (1994) correctly indicates that all these are transaction verbs which alternate between a di-transitive and a simple transitive use, roughly as between (34a) and (34b).

(34) a. Giver V Receiver Object
b. Receiver V Object

The other group of verbs that exhibited transitivity alternation includes the following:

(35) 攻、伐、知、敗、大、醉 etc.

敗, for example, meant either 'to defeat' or 'to lose' (to be defeated), as illustrated below:

(36) a. 諸侯之師敗鄭徒兵。(左傳)
b. 息師大敗而還。(左傳)

Hsu correctly points out that these are verbs that alternate between a causative and an inchoative (or ergative) use, and schematizes the alternation as follows.

(37) a. Agent V Patient
b. Patient V

On the surface these two patterns of alternation may appear different: the transitive/di-transitive alternation is an alternation between two-place predicates and three-predicates, whereas the ergative/causative alternative is one between one-place and two-place predicates. An interesting question that arises is why precisely these two patterns of alternation were observed to occur in the early history of Chinese syntax. Under our analysis of the transaction sentences, the answer is straightforward. Precisely these two patterns occurred during the same period of time because they were instances of the ergative/causative alternation.

According to our analysis, (34b) says that an event/situation of possession comes about, whereas (34a) says that someone (the Giver) causes such a situation to come about. This is an alternation between the ergative and the causative, precisely the alternation between (37b) and (37a). In both cases, the alternation involves the addition of a Causer (Giver in (34a) and Agent (37a)) to a sentence that otherwise expresses only the inception of an eventuality (event, state, or situation), and a concomitant fronting of the verb.

The idea of viewing the transitive/di-transitive alternation on a par with the ergative/causative alternation is of course not new. In fact, all the verbs in (32) and (35) have been cited by traditional Chinese grammarians as examples of 施受同辭. Our analysis captures this idea, within the framework of lexical decomposition, by explicitly positing that both involve an ergative/causative alternation. In turn, the fact that certain transaction verbs could have the 'opposite' meanings like 'give' and 'get'; 'teach' and 'learn'; or 'sell' and 'buy' during the same historical period when it was also possible for a verb to mean both 'defeat' and 'lose', etc., is strong evidence for the causative analysis of transaction sentences we have proposed here.[6]

4. DATIVES AND SERIAL VERB CONSTRUCTIONS

4.1. Pattern C: Datives

In our discussion of the DOCs, we assumed that *hoo* could be incorporated with a higher verb. Incorporation is not obligatory, however. In this case the main V and *hoo* do not need to be adjacent to each other, and this allows for an object of the main verb to appear between it and the complement headed by *hoo*, as in Pattern C, further illustrated below:

(38) a. 賞一先錢 *hoo* 汝。　　b. 賠三百塊 *hoo* 汝。
c. 搬三塊椅仔 *hoo* 伊。　　d. 丟四根骨頭 *hoo* 伊。
e. 留半碗湯 *hoo* 我。　　f. 我送一本冊 *hoo* 伊。
g. 我交一篇報告 *hoo* 伊。

These sentences have the appearance of a dative construction, with the 'direct object' immediately following the main verb, and the 'indirect object' following *hoo* One analysis that has been entertained in the literature is to simply treat *hoo* as a Goal marker (the indirect object) on a par with the preposition *to* (cf. Tsao 1988, Chen 1972). Such an analysis entails treating the *hoo* as a distinct syntactic category from the pure 'cause' *hoo* and the 'give' (=cause+have) *hoo* of Patterns F, A, B. For reasons that we shall come to shortly, we will not adopt this analysis.

We propose that Taiwanese 'datives' are formed by embedding a DOC structure under a transitive activity verb with an object that binds into the DOC. More specifically, a 'dative' like 我賠三百塊 *hoo* 汝 is formed by embedding the DOC 我 *hoo* 汝三百塊 as a purposive clause under the matrix 我賠三百塊:

(39) [我賠三百塊 [我 *hoo* 汝三百塊]]

except that the subject of the embedded DOC and the object of possession are base-generated as empty categories:

(40) [我賠三百塊 [Pro *hoo* 汝 [e]]]

We assume that the purposive clause serves as a secondary predicate on the matrix object '300 dollars'. This relation of predication is established by making the purposive clause itself a null-operator (NOP) construction whose NOP is co-indexed with the object '300 dollars'. Specifically, [e] in (40) is adjoined to the DOC clause as a (null) operator binding a trace:

(41) [我賠三百塊 [OP_i [Pro *hoo* 汝 t_i]]]

The NOP structure is interpreted as a secondary predication on the 三百塊 when OP is co-indexed with the latter.

(42) [我賠三百塊$_i$ [OP_i [Pro *hoo* 汝 t_i]]]

In other words, our analysis of a 'dative' treats it on a par with the structure of an

English sentence like *I brought 30 dollars to give (to) him*, with *hoo* being treated as the causative verb 'give'. We do not analyze Taiwanese 'datives' on a par with English datives like *I paid 30 dollars to him*, the Goal NP is introduced by a preposition. We treat the *hoo* as the verb 'give' and not a preposition and claim that Taiwanese, in fact, does not have 'dative' constructions. There are several reasons why this verbal analysis of *hoo* is superior to an analysis of *hoo* as a preposition.

First, there is no evidence that *hoo* has acquired any categorial status in addition to that of a verb. For example, the *hoo* + NP sequence does not move around as a unit, as normal PPs do. In English and Mandarin, for example, the goal NP may be moved to a preverbal position:

(43) To Bill I sent a letter.

(44) Mandarin:
a. 我給李四寄了一封信。
b. 他給我送來了一件大衣。
c. 你準備給他買什麼當生日禮物？

But in Taiwanese, *hoo* + NP can never be displaced from the postverbal position as part of a purposive clause.[7]

(45) a. *我 *hoo* 汝寄一張批。
b. *伊 *hoo* 我送一件大衣。(cf. 伊送一件大衣 *hoo* 我。)
c. *汝準備 *hoo* 伊買什物作生日禮物？
(cf. 汝準備買什物 *hoo* 伊作生日禮物?)

Since the burden of proof lies on the proponent of a prepositional analysis of *hoo*, we should adopt the verbal analysis until evidence for the additional categorial identity is found.

Further comparison of Taiwanese *hoo* with Mandarin *gei* provides additional support for our treatment of *hoo* as the causative 'give' in both DOC and 'dative' contexts. In Mandarin *gei* not only may move around with its object (as shown

above), it also differs from Taiwanese *hoo* in that it may take a non-human theme NP as its object (like *give* in English), whereas Taiwanese *hoo* must always precede a human or animate NP. Thus while the Mandarin sentences in (46) are well-formed, their Taiwanese counterparts in (47) are bad:

(46) a. 張三給了一本書給我。
b. 你給點錢吧。我已經給了五萬，你還要我給多少？

(47) a. *伊 *hoo* 一本冊 *hoo* 我。
b. *請汝 *hoo* 一點錢，好無？

This cross-dialectal difference suggests that while Mandarin *gei* has undergone lexical strengthening on the one hand (so that it functions like an activity verb) and grammaticalization (so that it has approached the status of a preposition),[8] Taiwanese *hoo* has pretty much retained its status as a causative verb. The fact that the NP following 'give' *hoo* must be human or animate follows directly from our postulation that the NP must have the theta-role of a Possessor.

There is, therefore, not only no evidence for treating the *hoo* in so-called 'datives' as a preposition, but also positive evidence for treating it as the same verb 'give' as used in DOCs. Taiwanese does not have a true dative construction. A so-called 'dative' in Taiwanese is basically a transitive sentence that includes a DOC as a secondary predicate on the object. Note that this analysis for Pattern C is not an ad hoc device proposed for this construction alone. In fact, we can see that, by this analysis, Pattern C can be analyzed as a special case of Pattern D.

4.2. Pattern D: 'Serial Verb Constructions

Recall that we have treated the DOCs (Patterns A and B) each as a special case of the canonical causative (Pattern F), i.e. treating the 'give' as a special case of cause. Since we have treated Pattern C as a transitive sentence that embeds a DOC as a secondary predicate, it is reasonable to expect that such a construction might be a special case of a more general pattern where the embedded secondary predicate is not a DOC, but a 'pure' causative. This expectation is fulfilled by the examples in Pattern D.[9]

(48)

D.	我唱一首歌 *hoo* 汝聽。 我跳 *hoo* 汝看。	V(NP2) *hoo* NP1V	SVC

The structure we propose for these sentences is identical to (42) except for their terminal elements, and for the fact that the lowest verbs 聽 and 看, not being the light verb HAVE, are lexically realized but do not conflate with the higher *hoo*. The D-Structure representations of (48a-b) are as follows:

(49) a. [我唱一首歌 [Pro *hoo* [汝聽 [e]]]。
b. [我跳 [Pro *hoo* [汝看 [e]]]。

Each of the embedded clauses here is a canonical causative (of Pattern F) serving as a secondary predicate. This relation is established when the object [e] adjoins itself to the clause headed by *hoo* and is coindexed with a matrix constituent:

(50) a. [我唱一首歌[OP$_i$ [Pro *hoo* [汝聽 t$_i$]]。
b. [我跳 [OP$_i$ [Pro *hoo* [汝看 t$_i$]]。

In accordance with general principles of predication (or control), the embedded clause will be predicated on the matrix object 'one song' in (a), and on the subject 'I' or the event argument in (b).

The difference between Pattern C and Pattern D therefore lies in whether the lowest clause (under *hoo*) contains the light verb HAVE which conflates with *hoo* Whether a given sentence can take the form of Pattern C (instead of D) is directly related to whether the matrix object can be 'given to' (possessed by) a possessor. On the other hand, the Pattern D is freely available where any general relation of causation can be established. Since Pattern C is a special case of Pattern D, the former is more restricted in occurrence, as the following contrasts show. From these sentences it also is clear that the appropriateness of using a Pattern C in each case is governed by pragmatic considerations.[10]

(51) Pattern C:

我寫一張批 *hoo* 伊。

?我寫一本書 *hoo* 伊。

*我寫一個故事 *hoo* 伊。

*我寫一個意見 *hoo* 伊。

(52) Pattern D:

我寫一張批 *hoo* 伊看。

我寫一本書 *hoo* 伊看。

我寫一個故事 *hoo* 伊看。

我寫一個意見 *hoo* 伊參考。

(53) Pattern C:

*我放一塊錄音帶 *hoo* 伊。

我買一塊錄音帶 *hoo* 伊。

我留一塊錄音帶 *hoo* 伊。

(54) Pattern D:

我放一塊錄音帶 *hoo* 伊聽。

我買一塊錄音帶 *hoo* 伊聽。

我留一塊錄音帶 *hoo* 伊聽。

Syntactically, these two patterns otherwise behave on a par, arguing for their similar syntactic treatment under our approach.

4.3. Evidence for Null Operator Movement

We have proposed that Patterns C and D are related to A/B and F by virtue of the hypothesis that structures instantiating the A/B and F patterns are embedded as secondary predicates within structures instantiating C and D. We have also proposed that the secondary predicate in each of C and D involves null operator movement. That is, the object of the secondary predicate is base-generated as a null element, which then undergoes A'-movement to the left periphery of the secondary predicate, where it is co-indexed with a matrix argument.

Syntactically, the null operator movement allows the null object variable to be 'strongly bound' (in the sense of Chomsky 1986) by the matrix argument. Semantically, the null operator movement has the effect of turning a proposition (a clause with all argument positions saturated) into a predicate (i.e. a lambda-predicate in the sense of Montague Grammar). Coindexing the null operator structure with a matrix argument effectively interprets the structure as being 'predicated on' that argument. Thus,. in the examples below, each D-Structure representation in (a) is turned into (b) at S-Structure by null-operator movement, which corresponds to the semantic representation in (c):

(55) a. 我送一本書 [*hoo* 伊 [e]]
b. 我送一本書$_i$ [OP$_i$ [*hoo* 伊 t$_i$]]
c. 我送一本書$_x$ [lx [*hoo* 伊 x]]

(56) a. 我買一本書 [*hoo* 伊看[e]]
b. 我買一本書$_i$ [OP$_i$ [*hoo* 伊看 t$_i$]]
c. 我買一本書$_x$ [lx [*hoo* 伊看 x]]

(57) a. 我哭e [*hoo* 汝聽[e]]
b. 我哭 e$_i$ [OP$_i$ [*hoo* 汝聽 t$_i$]]
c. 我哭 e$_x$ [lx [*hoo* 汝聽 x]]

The null operator movement thus gives us a correct semantics, but is there independent evidence for the correctness of our proposed syntax? We shall see that all available evidence points to the correctness of this analysis.

First, the existence of movement is partially evidenced by the fact that the object is obligatorily null. Thus, (58a) cannot be restated as in (58b-c) with a pronoun or referential expression in place of the null object:

(58) a. 我介紹兩個學生 *hoo* 汝教 e
b. *我介紹兩個學生 *hoo* 汝教伊
c. *我介紹兩個學生 *hoo* 汝教彼兩個學生

Similarly the null object in (55)-(57) cannot be replaced by any lexical material. This is naturally expected under the hypothesis that movement has taken place, but not if the object is simply base-generated--since such an empty category (a 'governed pro', if there is any) is generally in free variation with an overt pronoun. In fact, we claim that the constructions in C and D are on a par with English purposive sentences like the following.

(59) a. I bought a book to give [e] to John.
b. *I bought a book to give it to John.[11]
c. *I bought a book to give the book to John.

(60) a. I wrote a paper to submit [e] to the journal.
b. *I wrote a paper to submit it to the journal.
c. *I wrote a paper to submit the paper to the journal.

(61) a. I bought a car for him to drive.
b. I bought a car for him to drive himself around in.
c. I bought a car for him to brag around with.
d. I bought a car for him to go home early with.
e. *I bought a car for him to go home early.
f. *I bought a car for him to sleep.

Note that an overt NP in the place of the embedded object is impossible. In the familiar literature (cf. Chomsky 1980 and subsequent works), these are standardly assumed to involve null operator structures:

(62) I bought a book$_i$ [OP$_i$ [to give t$_i$ to John]].
(63) I wrote a paper$_i$ [OP$_i$ [to submit t$_i$ to the journal]].

More importantly, the relationship between the embedded null object and the matrix argument on which the purposive clause is predicated exhibits long-distance dependency, as shown in (64)-(65):

(64) 我寫一張批$_i$ *hoo* 伊派人叫彼個小姐拿去寄 [e$_i$].

(65) 我買一本書$_i$ *hoo* 伊叫人帶 [e$_i$] 去美國

Furthermore, this dependency is subject to standard island constraints:

(66) *我買一本書 *hoo* 寫 [e] 的人歡喜。
(67) *我介紹兩個學生 *hoo* 汝叫教過 [e] 的人先回家。

The long-distance dependency and island effects are also found with English purposives:

(68) I bought a car for him to ask his friend to drive him around in [e].
(69) *I bought a car to give to the guy who has always dreamed about [e].

The long-distance and island properties jointly diagnose the existence of A' movement, as is well known (Chomsky 1977, inter alia), suggesting that there is some relation of A' movement between each null object within the second predicate in Patterns C and D, and the matrix object on which it is predicated. On the other hand, there is also evidence that an A' movement relation cannot hold directly between the embedded null object and matrix object, because both objects occupy argument positions to which independent thematic roles are assigned. How should we resolve this dilemma? The answer is, of course, null operator movement. In (56b), for example, the null operator OP and its trace form one chain, whereas the matrix object 'one book' forms another, allowing separate thematic roles to be assigned to the matrix and the embedded objects. An anaphoric relation between the two objects is established under predication, by which the OP is coindexed with the matrix object.

Summarizing our discussion so far, then, we have argued that the so-called double-object constructions, Patterns A and B, are special cases of the causative construction (Pattern F) where *hoo* is the result of lexical conflation with a lower light predicate of the [HAVE] type (expressing possession, or 'central coincidence' (Hale and Keyser 1994). The so-called dative construction (Pattern C) is a transitive sentence embedding a double-object construction as a secondary predicate. Pattern D differs from C in that the embedded secondary predicate is a

normal causative type (Pattern F). In both C and D, the secondary predicate has its Theme NP undergoing null-operator movement. Predication is achieved when the null operator is coindexed with an appropriate matrix constituent ('strong binding' in the sense of Chomsky 1986).

Our analysis of *hoo* thus treats it as a verb throughout all these constructions, and not as a preposition. In particular, the double-object construction is not related to the 'dative' by a rule of 'dative movement' that moves the Goal object leftward or the Theme object rightward. In all cases, *hoo* is a causative verb, not a Goal marker. The NP immediately following *hoo* is a subject of an embedded verb in general, a verb of possession in particular.

Our verbal analysis of the so-called 'dative' *hoo* is supported not only by the fact that this analysis enables us to see it as part of a neat pattern (Pattern C being a special case of D just as Patterns A, B being special cases of Pattern F), but also by comparison with Mandarin *gei*, which appears to have evolved into the status of a theme-taking transitive verb on the one hand, and a preposition on the other--two properties that are completely lacking in the Taiwanese *hoo*. Note that the Mandarin-Taiwanese contrast with respect to the probable status of a prepositional *gei/hoo* also shows up under examples of Pattern D:

(70) Mandarin

a. 我送了一本書給他看。

b. ?我送給了他一本書看。

(71) Taiwanese

a. 我送一本書 *hoo* 伊看。

b. *我送 *hoo* 伊一本書看。

In (70a) *gei ta* 給他 may be treated as a prepositional phrase 'for him'. For some speakers the sentence (70b) is acceptable (see Zhao 1992, 4-5), when the PP is preposed and the P incorporated with the verb. In (71a), however, *hoo* 伊 is not a PP, or even a constituent, but a verb followed by the subject of an embedded clause, and hence (71b) is ill-formed for all speakers.

5. EXCURSUS: ON THE SO-CALLED "INWARD-TRANSACTION" VERBS

In discussing 'double object' constructions in Chinese, it has been customary among Chinese linguists to include sentences of the following type (cf. Li and Thompson 1981; Tsao 1988).

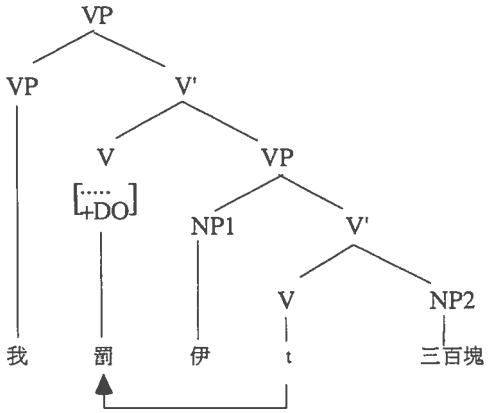
(72) 罰伊三百塊、騙汝一日的工錢、贏汝不少錢、拿我五百塊。

Tsao includes such sentences in his discussion of transaction sentences "because they somehow denote 'inward transaction', in contrast to *hoo* sentences, which denote 'outward transaction." Beyond this putative semantic connection, however, these 'double object' constructions behave quite differently from the *hoo* sentences we have discussed so far. In fact, sentences of this form do not necessarily involve transaction at all, as the following show.

(73) 罵他一聲三八、問伊兩個問題、吃汝三碗飯。

Hence it is not clear if the sentences in (72) represent any natural grouping at all. None of (72)-(73) denote causation, and NP1 and NP2 clearly do not constitute a clausal category of any sort. Rather, these sentences express the execution of an event upon an individual. In particular, each sentence indicates that an action denoted by V + NP2 is performed onto the individual denoted by NP1. All of the sentences in (72)-(73) are examples of the "retained object construction" (Lü 1955). Following Thompson (1973), Huang (1982), etc., we propose that these are complex transitive sentences, with both an 'inner' and an 'outer' object. The transitive verb combines with NP2 (the inner object) to form a complex transitive predicate taking NP1 as its outer object. As a (non-causative) transitive, such predicates are, within the framework of lexical decomposition, complements of the light verb DO (see Huang 1994). The surface word order is derived when the verb raises into the position of the light verb, preceding NP1 and NP2:

(74)



This analysis of the 'retained object' construction thus treats NP1 as the true object of the sentence, in contrast to NP2, which forms part of the predicate but does not behave like an argument. This treatment also distinguishes the outer object from the NP1 immediately following *hoo*, which is the *subject* of its complement clause. Our analysis thus provides a natural account for the following contrasts. The grammatical sentences in (75) indicate that the outer object (NP1) in (a) behaves as a true object under passivization, topicalization, and in the *ka-* construction:

(75) a. 我罰伊三百塊矣。
b. 伊 *hoo* 我罰三百塊矣。
c. 我 ka 伊罰三百塊矣。
d. 伊，我已經罰三百塊矣。

The inner object (NP2), on the other hand, is completely 'inert' with respect to these processes, because it forms part of a complex predicate, but is not itself an argument of a predicate:

(76) a. 我罰伊三百塊矣。
b. *三百塊 *hoo* 我罰伊矣。
c. *我 ka 三百塊罰伊矣。

d. *三百塊、我已經罰伊矣。

The possessor NP of a *hoo* 'give' sentence is not extractable under these processes, because it is not an object of the main predicate, but the subject of an embedded clause.

(77) a. 我賠 (ho) 伊三百塊矣。
b. *伊 *hoo* 我賠 (ho) 三百塊矣。
c. *我 ka 伊賠 (ho) 三百塊矣。
d. *伊，我賠 (ho) 三百塊矣。

It is a general property of causative sentences that the embedded subject cannot be extracted under these processes:

(78) a. 我 *hoo* 汝睏不去
b. *汝 *hoo* 我 *hoo* 睏不去
c. *我 *ka* 汝 *hoo* 睏不去
d. *汝、我 *hoo* 睏不去

There are two different "double object constructions," then: the familiar 'give'-type of DOC which is argued above not to be a true DOC, and the less familiar kind discussed here, which is more truly a double object construction, each with an inner object and an outer object.

6. PATTERN E: PASSIVE SENTENCES

61. Two Approaches to Passive Sentences

Let us now turn to the last type of *hoo* sentences, the passive construction, in Taiwanese. The simple cases include sentences like those in (79)-(80):

(79)

E.	彼個查某人 *hoo* 伊騙去矣。 伊 *hoo* 我摑一個耳光。	*hoo* NP VP	Passive

(80) a. 伊 *hoo* 我打傷矣。

b. 好空的攏 *hoo* 伊拿去矣。

In the literature on passive sentences in Chinese, two general approaches have been developed to relate them to their active counterparts: a movement approach and a complementation approach. For the cases at hand, the movement approach would take *hoo* to be an 'Agent marker' (Tsao 1988, Chen 1972). In Mandarin, a popular view under this approach takes *bei* and the Agent NP as a prepositional phrase whose appearance has the effect of dethematizing the subject position and absorbing the Case-assigning property of the verb, thus inducing movement, in much the same familiar way English passives are formed (Travis 1984, Koopman 1984, Li 1990 and references cited there). Applied to the Taiwanese cases, a passive like (80a) would be derived from the following active sentence:

(81) 我打傷伊矣。

In particular, the appearance of *hoo* requires the subject position to be dethematized, causing the Agent 我 to appear in an adjunct phrase as an object of *hoo*, a preposition-like Agent marker.

(82) [e] *hoo* 我打傷伊矣。

At the same time, the verb 打傷 'injure' is deprived of its ability to assign Case to its object. This in turn causes the caseless object 伊 to move the subject position, resulting in the passive form (80a), with the following structure:

(83) [IP 伊$_i$ *hoo* 我 打傷 t$_i$ 矣]。

The non-movement approach, represented by Hashimoto (1969, 1987), Wei (1994), etc., treats passives as structures of complementation. In Mandarin, *bei* is analyzed as a main verb that takes as its complement a clause with a null object position coindexed with the matrix subject:

(84) [IP 伊$_i$ *hoo* [IP 我 打傷 [e$_i$]] 矣]。

According to the movement approach as represented in (83), the passive

sentence has a mono-clausal structure; but according to the complementation approach as represented in (84), it has a bi-clausal structure. Furthermore, in (83) the empty category following the verb 'injure' is created by movement (hence a 'trace'), but in (84) the empty object is created by 'Equi-NP Deletion' or a base-generated Pro controlled by (coreferential with) the matrix subject.

One important consideration that favors the movement approach is that it correctly predicts the obligatory occurrence of an *empty* object position. The empty category in (83) cannot be replaced by an overt anaphoric category (pronoun or reflexive):

(85) a. *伊 *hoo* 我打傷伊（自己）矣。
b. *彼個查某人 *hoo* 伊騙去伊（自己）矣。
c. *好空的攏 *hoo* 伊拿去彼個物件矣。

Nor can the verb be replaced by an intransitive that does not require an object at all. The expression 我 *hoo* 伊來 'I made/let him come' is a causative, not passive, sentence. The obligatory presence of an empty object follows from the claim that NP-movement has taken place.

On the other hand, the movement approach is called into question under other considerations. For one thing, the movement approach claims that the subject of passives is in a non-thematic position, but the following sentences suggest that the subject is not always a 'pure logical object', but may receive a thematic role of its own, as indicated by its ability to co-ocur with an agent-oriented adverb:

(86) a. 伊故意 *hoo* 我打傷矣。
b. 彼個查某人故意 *hoo* 伊騙去矣。

This property of the Chinese-type passive reminds us of the contrast between "*be*-passive" and "*get*-passive" in English (Gee 1974, Fiengo and Lasnik 1974):

(87) a. John intentionally got hit.
b. *John intentionally was hit.

Secondly, under NP-movement, the *hoo* + NP sequence is treated as a prepositional agent phrase. But there is never any evidence that it behaves as a PP, or even as a constituent. For example, the sequence *hoo* + 我 cannot be preposed:

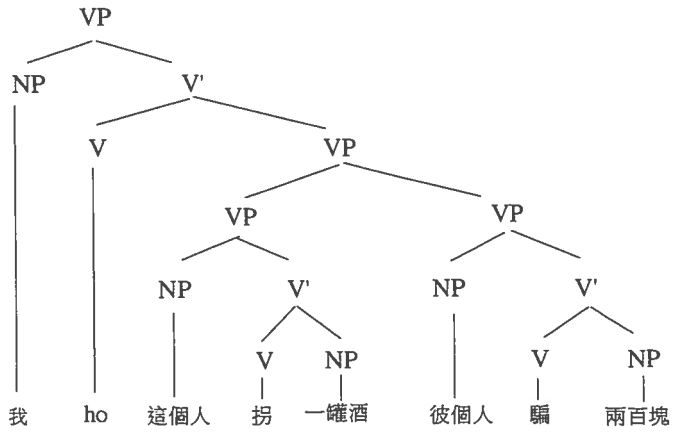
(88) **hoo* 我伊打傷矣。

Thirdly, in fact, the coordination test shows that the agent NP forms a clausal constituent with the VP that follows it, to the exclusion of the morpheme *hoo*:

(89) a. (伊有夠勇，) 不驚 *hoo* 死牛鬥著，死馬踢著，死蛇咬著。
b. 我 *hoo* 這個人拐一罐酒，彼個人騙兩百塊。

Note that these problems would not arise under the complementation hypothesis. Assuming that *hoo* is a verb theta-marking its own (deep) subject as an Experiencer, the possible appearance of a volitional adverb like 'intentionally' follows. Furthermore, since *hoo* + NP is not a constituent, it cannot be moved as in (88). Furthermore, the coordination fact in (89) also follows. Under the complementation hypothesis, the constituent structure of (89b), for example, is as in (90):[12]

(90)



The *problem* with the complementation analysis, however, is that it cannot explain why an empty object position is obligatory in a passive sentence. It is well known that, in a standard complementation structure like the following, coreference between the matrix subject and embedded object is possible, with the embedded object occurring in overt form:

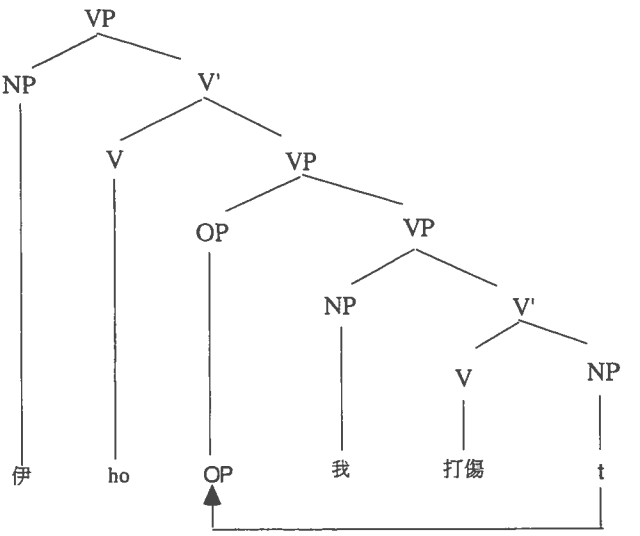
(91) 彼個人講您阿姐看到伊矣。

Deletion of 伊 is not required. In fact, its deletion leads to a considerable degree of unnaturalness, as pointed out by Huang (1984, inter alia). It is a complete mystery then, under the complementation approach, why the embedded object must be phonetically empty in a passive sentence.

6.2. Passive as Tough Movement

We propose to take a route that has the virtues of both the NP-movement and the complementation approaches and none of their problems. We regard *hoo* as a main verb which selects an Experiencer as its subject and a property as its complement. The Experiencer is categorially realized by an NP, whereas the property is categorially a clause, as depicted in (84) above. Hence in this respect we take a passive sentence to have a bi-clausal complement structure, in accordance with the complementation hypothesis. Furthermore, following the proposal of Feng (1995) and Chiu (1995) for Mandarin passives, we assume that the embedded Pro object undergoes movement, not to the subject position of *hoo* (which is already occupied by the Experiencer NP), but to a position adjoined to the clausal complement. In other words, the empty object undergoes Null Operator (NOP) movement (a case of A'-movement), so that the correct S-Structure representation of (77a) is not (84), but (92) on the next page. Note that (92) is, by definition, a structure of secondary predication, which requires an LF rule of predication (Strong Binding of Chomsky 1986), by which the null OP is coindexed with the matrix subject.

(92)



Semantically, this process of coindexing amounts to interpreting the structure headed by the null OP as a (secondary) predicate of the matrix subject. In other words, a null operator structure is the syntactic correlate of a lambda predicate, and the null operator movement itself the syntactic correlate of lambda conversion:

(93) 伊$_x$ *hoo* [lx[我打傷x矣]]。

Similarly, the S-Structure representation of (80b) is as in (94a), corresponding to the lambda abstracted (94b):

(94) a. 彼個查某人 *hoo* [OP$_i$ [伊騙去 t$_i$ 矣]]。
b. 彼個查某人$_x$ *hoo* [lx[伊騙去x矣]]。

Here, we propose that *hoo* means 'acquire the property (as expressed by the lambda predicate)'. (We return to the question of why it has this meaning directly below.) According to (93), (80a) thus means, "He acquired the property

of being an x such that I beat up x," which is just a more fancy way of saying that he got beaten up by me. Similarly, according to (94b), that woman ended up being an x such that he cheated x, which is just a fancier way of saying that she got taken in by him.

6.3. Arguments for the Tough Movement Analysis

According to the analysis which we have adopted from Feng (1995) and Chiu (1995), then, Taiwanese passives are treated on a par with English *tough* constructions like the following.

(95) a. John is tough to deal with.
b. The chicken is ready to eat.
c. The job is easy for me to ask you to tell them to do.

In current syntactic theory, (95a) is standardly assumed to have a null operator structure like (96):

(96) John is tough OP_i to deal with t_i.

which may be paraphrased as "John is tough with respect to his being an x such that one deals with x".

Let's see how this analysis is superior to both the pure movement analysis and the pure complementation analysis described. Consider the obligatory presence of an empty object position. The pure movement approach derives this fact from the assumption that the deep object undergoes NP movement into the surface subject position. The approach adopted here also derives this fact, but the assumption is that the movement is a case of A' movement, by adjunction to the clausal category below *hoo*. Both types of movement entail a trace, hence an empty category, in the object position.

Now consider the other facts which pose problems for the pure movement approach. First, we saw earlier that a passive sentence with *hoo* can take a subject-oriented volitional adverb. This fact follows from the NOP account, since we assume *hoo* to be a main verb which selects its own subject argument

(and assigns the thematic role Experiencer to it). Under the NOP account, the subject in a structure like (92) is related to two theta roles: (a) it is an Experiencer, which it receives from the main verb *ho*; it is also felt to be the Patient of the verb below *hoo*, because it is coindexed with the null operator under predication, which binds the Patient variable. Secondly, we saw earlier that the sequence *hoo* + NP does not behave as a movable constituent. This fact follows immediately from our account, according to which the sequence is not a constituent at all (see (92)). Thirdly, we also saw that the Agent phrase in fact forms a constituent with the immediately following VP under coordination. This fact again follows from the structure (92), where the Agent and the VP do form a constituent.

The NOP analysis thus has the virtues of both movement and complementation but shares none of their problems. The following three facts, furthermore, provide strong additional evidence for this approach.

First, in parallel to the observation made by Huang (1974) for Mandarin, Taiwanese allows long-distance passivization:

(97) a. 張小姐 *hoo* 我叫警察派人來掠去矣。
b. 彼張批已經 *hoo* 我派人叫李先生請彼個小孩寄去矣。

In both of (97), the subject of *hoo* is not related to the object of the verb immediately below *hoo*, but to the object of a verb much more deeply embedded. This kind of long-distance dependency would be impossible for the NP-movement approach to accommodate, but under the NOP approach, it immediately follows from the fact that NOP is a case of A' movement, and that long-distance dependencies are typical properties of A' movement. In this respect, note that English tough constructions also exhibit long-distance dependencies:

(98) This problem is too easy for me to ask the teacher to help me solve.

Secondly, as pointed out for Mandarin by Chiu (1995), a Chinese passive sentence may include the particle *suo* 所 (as in (99)), a property it shares with

object relativization structures (100):

(99) 這些事情不能被他們所了解。
(100) 我所敬佩的老師都快退休了。

Parallel cases also obtain for Taiwanese:

(101) 林大哥已經 *hoo* 汝所害矣。
(102) 咱心所懷念的故鄉愈來愈民主矣。

Why should relativization and passivization behave on a par, to the exclusion of other constructions, in sharing this property? A natural answer comes from the fact that relativization is a typical instance of A' dependency. The fact that passivization behaves on a par with object relativization simply suggests the broader generalization that *suo* can be used whenever an object is A'-moved, and not just when it is relativized.[13]

Thirdly, the NOP analysis offers an explanation for the existence of certain passive sentences where overt pronouns occur in place of object traces. We saw earlier that a passive sentence requires the existence of an empty object position, noting that this provides evidence for movement. The point was illustrated by the contrast between (80a) and (85a), repeated below:

(80a) 伊 *hoo* 我打傷 [e]矣。
(85a) *伊 *hoo* 我打傷伊矣。

However, under certain circumstances, specifically when there is more material in the lower predicate, or when the embedded object is embedded more deeply, an overt pronoun in place of the empty object is possible:[14]

(103) 伊 *hoo* 我 ka 伊打傷矣。
(104) 伊 *hoo* 我看到伊的缺點矣。

Given these examples, it is clear that our earlier generalization, that passivization in Taiwanese always entails an empty object, is in fact false. Note that these

examples also present an insurmountable problem for the NP-movement analysis, since as far as we know, an NP trace does not admit of an overt variant. However, under the NOP analysis, the overt pronouns in (103)-(104) may be regarded as resumptive pronouns, which are commonly observed among A'-dependencies found in the world's languages. In Taiwanese (as in Mandarin and other Chinese languages), for example, it is generally agreed that relativization may employ the "gap" strategy or the "resumptive pronoun" strategy. The rule that governs the distribution of these two strategies is basically that the gap strategy is required if the matrix subject or object is relativized, but that the pronoun strategy is used if relativization goes to a less prominent or more deeply embedded position. (See Tsao 1977, Huang 1980, Ning 1993 and references cited there.) Regardless of how this distribution of the two strategies is to be characterized optimally, note that the range of facts shown in (80)-(85) and (103)-(104) is duplicated, point by point, under relativization:

(105) 我所打傷 [e]的彼個人轉去矣。
(106) *我所打傷 伊 的彼個人轉去矣。
(107) 我ka 伊打傷彼個人轉去矣。
(108) 我看到伊的缺點彼個人轉去矣。

In other words, although examples like (103)-(104) falsify our earlier generalization which seemed to provide evidence for movement, they only present difficulties for the NP movement hypothesis as commonly assumed in earlier movement theories. These sentences not only do not pose a problem for the A' movement hypothesis but, given the parallelism found with the relativized examples in (105)-(108), end up providing addtional evidence for it.

We have thus seen a fairly large number of arguments for an analysis of Taiwanese-type passives in terms of NOP movement. There is an additional semantic argument in its favor, in that the NOP analysis enables us to make sense of the semantics of a passive sentence vis-a-vis the other uses that the morpheme *hoo* has (e.g., the causative and other uses). This should become clear at the end of the next section.

7. WHEN CAUSATIVES MEAN PASSIVE

In the preceding section we proposed that the passive *hoo* is a verb that selects an Experiencer as its subject and a Property as its complement, and that the Experiencer is structurally realized by an NP while the Property is canonically realized by a clausal category. Furthermore, we proposed that the meaning of *hoo* can be paraphrased as "acquire (or end up with) the property of being an x," where the property of x is described in the clausal complement. A natural question that arises is how this passive *hoo* is related to the causative *hoo*. Our answer is that the 'acquire' reading of passive *hoo* is precisely the inchoative/ergative counterpart of the 'cause' reading of causative *hoo*. In the following pair, (a) is understood to be causative and (b) is understood to be passive:

(109) 伊 *hoo* 我打死伊矣。
(110) 伊 *hoo* 我打死矣。

(109) means that he brought about (or allowed to happen) some event e such that I killed him in e, whereas (110) means that he ended up being an x such that I killed x. A clear descriptive generalization to be captured is that a sentence is causative if the embedded object is overt, but passive if it's empty (modula the comment above about resumptive pronouns). In this section, we want to see how this generalization can be captured. We also want to show how our characterization of the passive as an ergativization of a causative ("end up" vs. "bring about") fits into a general theory of argument structure and transitivity alternation.

Normally, the causative-ergative alternation is characterized as the addition or reduction of an external argument, the Causer. The causative sentence *I broke the window* is paraphrasable by "I caused the window to acquire the property of being an x such that x broke", and the ergative sentence *The window broke* is paraphrasable by exactly the same sentence, minus "I caused". This is the "long-short" 長言 -- 短言 alternation we saw earlier in connection with a large number

of verbs in Archaic Chinese (see the discussion surrounding examples (32)-(37)).

One way of describing this alternation in derivational terms is to say that the ergative is derived from the causative by eliminating the external argument (A) and moving the internal argument B into the position vacated by A. This applies to verbs like *break* (and numerous such in Archaic Chinese).

(111) a. A broke B.
b. B broke.

A similar kind of alternation that involves the elimination of an external argument and the promotion of an internal argument is the standard *be*-passive:

(112) a. A kicked B.
b. B was kicked.

There are some differences between the active/passive pair and the causative/ergative pair.[15] Their essential common property is that they both involve the alternation of two-place predicate with a one-place predicate, where the single argument of the one-place predicate can be identified with the internal argument of the two-place predicate.

Now, we have argued above that the Taiwanese-type passives cannot be analyzed as part of the active/passive alternation depicted in (112). On the other hand, given the fact that both the causative and the passive sentences in Taiwanese involve *hoo*, any theory of Taiwanese passives must somehow characterize them as part of a causative/ergative alternation. From this point of view, Taiwanese passives are really "ergativized" versions of some causative counterparts. We think that this point provides a key explanation for a familiar restriction on Taiwanese-type passivization that has bewildered linguists for decades: that passivization is possible only with verbs that are accomplishments. Thus, in Taiwanese, it is impossible to passivize a pure transitive activity:

(113) a. 伊看我。
b. 我 *hoo* 伊看。

(114) a. 汝讀這本書。

b. 這本書 *hoo* 汝讀。

The (b) sentences above cannot be considered the passive counterpart of their (a) counterparts. They are grammatical only on the causative reading. (113b) means that I let him look at me or something else, and (114b) means that this book is for you to read (a purposive reading), not that this book is read by you. A passive interpretation becomes possible if a resultative component is added to the verb, making it an accomplishment (which entails the meaning of causativity):

(115) 我 *hoo* 伊看到矣。

(116) 這本書 *hoo* 汝讀完矣。

This restriction clearly does not hold of the English *be*-passive: *John was looked at by me, Bill is very much liked by us*. This difference between English and Taiwanese-type passives, and the fact that the restriction is on the latter type of passives, follows from the fact that while the *be*-passive is part of an active/passive alternation, the Taiwanese-type passive is part of a causative/ergative alternation.

Can we then describe the Taiwanese passives in terms of the alternation depicted in (111), though not as in (112)? Unfortunately this is not possible either, since as we have argued above. Taiwanese passives are not derived by NP-movement.[16] But, then, how do we capture the basic idea that a causative/ergative alternation involves the reduction of one argument in the argument structure of a predicate?

We propose that UG in fact allows for two ways in which to reduce a causative template to an ergative template, one by knocking off the external argument, thus triggering NP-movement that promotes the internal argument, in the familiar way; and one by knocking off the internal argument by depriving it of the status of an argument, with a concomitant demotion of the thematic status of the original external argument. The latter case can happen in a periphrastic causative structure like our (109), repeated below:

(109) 伊 *hoo* 我打死伊矣。

Here *hoo* is a two-place predicate, meaning 'cause' in the strong causative sense or 'let' in the weak causative sense. The internal argument takes the form of a proposition denoting an event caused or permitted by the external argument. From such a structure, we cannot obtain argument reduction by eliminating the subject 伊 and raising the clausal complement, as the result is ill-formed:

(117) *[我打死伊]$_i$ *hoo* t$_i$ 矣.

However, we can obtain argument reduction by *converting* the propositional complement into a non-argument, by applying NOP movement to the embedded object if it is base-generated null. This gives us the following:

(118) 伊 *hoo* [OP$_i$ [我踏死 t$_i$]] 矣。

As noted above, NOP movement is the syntactic correlate of lambda-conversion. It has the effect of turning a proposition (denoting an argument) into a predicate (denoting a property). A clause with all its argument positions saturated is an argument of the semantic category <e>. A NOP structure like that contained in (118) is a clause with exactly one 'hole', one argument position unfilled, and is a predicate, of the semantic category <e, t>, hence not an argument. Thus (118) contains only one argument (the subject) and a complex predicate (the primary predicate *hoo* and the secondary predicate headed by the null operator). We have now established that the causative-passive pair shown in (109)-(110) is but a special case of the general alternation between a two-place and a one-place predicate. What's "special" about this alternation is that argument reduction applies not to the external argument, but to the internal argument. This happens in a periphrastic structure when the matrix verb alternates between a causative and an ergative reading. A concomitant demotion of the subject, from Causer to Experiencer, will occur as part of the definition of the ergative template.[17]

Let us now ask why this alternation should happen only when the object is empty (modulo the discussion regarding resumptive pronouns above). That is,

how do we derive the generalization concerning (109)-(110), that these sentences are causative if the object is overt, and passive if empty. Our explanation is that, for independent reasons, NOP movement applies if and only if the object is an anaphoric empty category.

The necessary condition must hold, because only an empty category can both be anaphoric and quantificational. Suppose that the object occurs in the form of an overt pronoun, as in (109). It is a pronoun, and hence does not qualify as an operator. Although an overt quantifier in the object position, say 'someone', would qualify for operator movement, the operator would not be anaphoric, viz., could not be coindexed with the matrix subject under predication. A null object, because of its PRO-like category, has the property of an anaphoric operator, is therefore the unique category that can undergo operator movement and strong binding.

But why the sufficient condition, i.e., why must NOP movement occur in order for the passive reading to obtain? Why cannot the sentence (110) be directly interpreted as a passive on account of the fact that the embedded object is coindexed with the matrix subject? The answer is that, under such an analysis the argument structure of (110) would be no different from that of (109), an ordinary structure of complementation involving inter-clausal coreference. In particular, (110) would involve a two-place predicate on a par with (109), and the causative/passive alternation would be at odds with any coherent theory of argument structure and transitivity alternation.

There remains one more question: what if we don't apply NOP movement in (110)? Why can't it be interpreted as a causative sentence like (109) and not a passive? Why does (109) have only the passive reading? The answer, we think, comes from the general theory of empty categories developed in Huang (1984, 1987, 1989, and 1991). According to Huang, a null pronoun (a Pro) is excluded from the object position at S-Structure and Logical Form, because in that position it cannot jointly satisfy the requirements of Binding Theory and Control Theory. Thus (110) is immediately excluded if the null object is allowed to stay in situ as a Pro. Hence (110) cannot exist with a causative reading. On the other hand, if

the null object undergoes operator movement, as in (118) binding the null object as a variable, it can be bound and controlled by the matrix subject in compliance with all known principles.

Summarizing this section, then, we have seen that the NOP movement analysis developed in this paper receives further support from important semantic considerations. Only under this analysis can we explain why *hoo* may alternate between a causative and a passive reading, within a general theory of argument structure and transitivity alternation in Universal Grammar, under precisely the constraints it obeys. A pure complementation analysis of the passives fails to capture the contrast between causatives and passives shown in (109) and (110). In the mean time, our analysis--to the extent that it is correct--offers additional evidence for the generalization, developed and derived by Huang, that anaphoric null pronominals are excluded from the object position of complement clauses at SS and LF. In a looser theory of empty categories which admits null object pronouns (cf. Xu 1986), we do not see the beginning of an explanation for the obligatory causative/passive alternation as shown in (109)-(110).

8. SUMMARY AND CONCLUDING REMARKS

In this paper, we have examined a range of constructions involving the morpheme *hoo* in order to determine how these various uses may be related to one another. Our conclusion is that all of them can be reduced to one of two alternating uses of the single morpheme *hoo*, causative and ergative.

In the canonical causative, represented by Pattern F:

(119) a. 我 *hoo* 伊得第一名。
b. 咱來跳 *hoo* 伊爽，跳 *hoo* 伊勇。
c. 我唱一首歌 *hoo* 伊較好睏。

the causative verb *hoo* takes a complement denoting an event and a subject denoting a Causer. The causative verb may be the main verb of a root sentence, as in (119a), or the entire causative sentence with *hoo* may be embedded as a complement, with a Pro subject controlled by a matrix argument, as in (119b-c).

All the other patterns except the Passive can be seen as representing special instances of the causative structure. The so-called double object constructions, Patterns A and B, involve an event of possession as a special complement of the causative *hoo*:

(120) 我 *hoo* 汝三百塊。

(121) a. 我送 *hoo* 伊一本書。
b. 我丟 *hoo* 伊四根骨頭。

Again, on the surface the causative structure may constitute the main clause (as in (120)), or it may be used to complement a higher verb (as in (121a-b), where *hoo* is assumed to have incorporated into the higher verb).

When a causative structure is itself embedded under another verb, it may be embedded as a purposive complement or adjunct of the verb. The purposive causative clause may also occur in the form of a secondary predicate. This is the case when the embedded object undergoes NOP movement and gets coindexed with a matrix constituent under predication. In the general cases we have the so-called "serial verb construction" exemplified by Pattern D:

(122) a. 我唱一首歌 *hoo* 汝聽。
b. 我跳 *hoo* 汝看。

And in the special cases where the purposive clause contains a possessive event, we have the so-called "dative construction", Pattern C:

(123) a. 我賞一先錢 *hoo* 汝。
b. 我還三百塊 *hoo* 伊。

In 5 of the 6 patterns we have reviewed, then, *hoo* is a causative verb taking a Causer as its external argument and an Event as its internal argument. The passive pattern, on the other hand, is obtained when the verb has its internal argument converted to a secondary predicate and assumes an ergative argument structure, having the Experiencer subject as its single argument.[18]

Our account of the passive construction has made it clear, we hope, that the fact that in Taiwanese, the same morpheme may be either causative or passive, is but a special instance of the well known causative/ergative alternation observed throughout the world's languages, illustrated in English by *break* and numerous other verbs, and in Classical Chinese by a large number of verbs which by and large have only retained their ergative meaning today (醉、大、高、樂, etc.) One question that may arise is why a causative verb can come to assume an ergative reading. We take as a standard answer that this is due to the process of grammaticalization, one aspect of which we take to be the reduction of argument structure over time. The literature on Chinese historical syntax contains ample documentation of the fact that the "passive construction," defined in part by the verb's being a one-place predicate, did not take shape in Chinese-type languages until the verb had been used as a two-place predicate for centuries (cf. Wei 1994, Zhang 1994, inter alia). What we have seen in this paper is that Taiwanese *hoo*, too, has undergone this sort of grammaticalization.

However, we have also shown that grammaticalization in Taiwanese has not gone very far. We have seen that all other uses of *hoo* can be analyzed as involving the causative *hoo*, and found no evidence of additional grammaticalization for treating it as a preposition, agent marker, complementizer, dative case particle, or the like as distinct categories.

This is not to say that the same conclusion must hold of other Chinese languages or dialects. For example, by comparison with Mandarin we saw earlier that Mandarin *gei* seems to have evolved into other categories than a causative verb, a preposition being one such possibility. Tsu-Lin Mei's recent work on the evolution of Modern Mandarin aspectual system points to the conclusion that grammaticalization of particular lexical items proceeds at different degrees in different dialects (Mei 1994 and references cited). In Cheng, Huang, Li, Tang (1995) it is shown that Taiwanese resultative compounds are more "analytic" than Mandarin resultatives, admitting of very limited verb-movement into higher positions (an indication of low grammaticalization in the terms of Roberts 1992[93]). A contrast between Mandarin and Taiwanese light verb construction

(Mandarin 你跳你的 vs. Taiwanese 你做你跳) points to a similar conclusion. Indeed, comparative studies across Chinese dialects might gain substantially by merely comparing their inventories of "empty words" (a.k.a. functional categories), given the general slogan 漢語方言實詞相同虛辭不同. We in fact believe that this slogan holds equally for comparative studies across all languages, as part of a strong theory of UG and language variation, but this is a subject far beyond the scope of this paper.

NOTES

[1] As we shall see, we do not follow Larson (1988) in deriving the DOC from its dative counterpart by a process of movement akin to passivization. We consider the DOC to be in its base form, a special case of a canonical causative structure.

[2] The sentence *John caused Bill to die by swallowing his tongue* is ambiguous as regards *who* swallowed Bill's tongue, but the sentence *John killed Bill by swallowing his tongue* is not. We assume that this difference should be automatically derived from a proper theory of decomposition (incorporation), as explained in the text.

[3] This observation is reminiscent of a well-known difference between English *persuade*, *kill* and their common translations into Chinese *quan, sha*, respectively. The English verbs are clearly accomplishments, but the Chinese verbs are activities, though activities intended to bring out some achievements.

[4] Some verbs may involve objects whose ownership can be transferred, in which case they act on a par with non-inherent transaction verbs. Compare the various uses of 開 :

(i) *我開門 *hoo* 伊

(ii) 我開一個藥方 *hoo* 伊

(iii) 我開一台車 *hoo* 伊

[5] It is generally agreed that, at least during the earlier period, not all of such mono-syllabic words were truly ambiguous. Their different transitivity uses were

distinguished on the basis of the voicing feature of the initial consonant of the verb (清濁別義). The voicing distinction has since disappeared, with the result that certain verbs became truly ambiguous (like 借 'lend/borrow' in several dialects), others lost their ambiguity, while still others replaced the voicing distinction with a systematic tonal distinction (like Mandarin 買/賣 *mai3/mai4* 'buy/sell' and Taiwanese *be51/be33*.)

[6] The voicing contrast mentioned in the previous note between causatives and ergatives has been traditionally described as a contrast in utterance length. Words with voiceless initial obstruents were described as 長言whereas their voiced counterparts were described as 短言. The long-short distinction has also been interpreted as referring to the perceptual differences between even and oblique tones. Regardless of whether this somewhat impressionistic distinction is phonetically accurate, it seems that the long-short distinction is entirely appropriate when viewed from the perspective of argument structure and sentence length as well. The causatives are 'long' and the ergatives are 'short' because the former involve one argument position more than the latter.

[7] The sentence would be grammatical with the (irrelevant) meaning 'I let you send a letter [to someone]', where *hoo* serves in the capacity of a pure causative main verb, and not as a goal marker.

[8] See Li (1990) and references cited there for arguments for the prepositional status of certain *gei*'s in Mandarin.

[9] Such examples are often singled out as a kind of 'serial verb construction' (SVC) as a distinct type of *hoo* construction (or the Mandarin *gei* construction) (cf. Tsao 1988). Our contention is that Patterns C and D are fundamentally the same. If Pattern D is an SVC, so is Pattern C. We also believe that SVC as a descriptive term has no theoretical status. Thus Pattern C is an embedding structure that includes Pattern A as a secondary predicate, whereas Pattern D is one that includes Pattern F as a secondary predicate.

[10] As shown in (52) and (54), Pattern D is generally available for these sentences. The less than full acceptability of the following example:

(i) ??我寄一個意見 *hoo* 伊參而。

does not invalidate this claim. This sentence is not fully acceptable presumably because it is unnatural to think of physically mailing an abstract object like 'an idea'.

Note incidentally that the general causative complement does not have to involve null operator movement. This is the case when the matrix verb is not a non-transaction (non-triadic) verb. In such a case we have examples in which a VP in the form of Pattern F is embedded under a matrix verb.

(ii) 咱來跳 *hoo* 伊爽，跳 *hoo* 伊勇。

(iii) 我欲來跳 *hoo* 汝起瘋。

[11] Cf. the following sentences with *in order to*, where an overt pronoun is required:

(i) I bought a book in order to give *(it) to John.

(ii) I wrote a paper in order to submit *(it) to the journal.

The *in order to* construction does not function as a secondary predication on the matrix object and therefore does not involve null operator movement.

[12] The complementation approach for Mandarin passives goes back to Hashimoto 1969, 1987, but it was primarily based on considerations of *bei* being historically a verb, which by itself does not really carry over to support an identical synchronic analysis. The third fact above was pointed out by Wei (1994) in relation to his claim of the verbal status of *bei* in pre-Modern Chinese, but it applies equally to Modern Mandarin and Taiwanese *hoo*. The three facts pointed out here jointly offer a strong argument for a synchronic complementation analysis.

[13] In Archaic Chinese, topic-comment sentences like the following abound:

(i) 魚，我所欲也。

There are two competing analyses about such sentences. One analysis treats it as involving A'-movement of the object into topic position. The other treats (i) as an equative sentence, so that 我所欲 is a noun phrase equated with the subject 魚. According to the first analysis, (i) would exemplify a third case of A'

movement involving *suo*. According to the second analysis, (i) is just another example of object relativization, i.e., an object free (or headless) relative.

[14] In Mandarin, the following contrast also obtains:

(i) 張三被我打了*(他)。

(ii) 張三被我打了(他)一下。

(iii) 張三被我發現（他）家裡很有錢。

The acceptability of an overt pronoun in (ii) was noted by Feng (1995) as an argument for the NOP analysis, but Feng failed to take note of the impossibility of an overt pronoun in (i), and thus fell short of providing a full NOP account for Mandarin passives.

[15] For example, whereas the former pair involves passive morphology and a copula, the latter does not. Secondly, the active verb in the active/passive pair is not limited to causative verbs. Thirdly, whereas the passive is generally regarded as being derived from the active, the causative/ergative pair need not be characterized derivationally in only one direction. The latter alternation may involve the superimposition of an external argument on the ergative template, or the reduction of the external argument from the causative template.

[16] English *get* passives also show an alternation with causative *get* sentences:

(i) John got Bill killed.

(ii) Bill got killed.

This alternation does, unlike the Taiwanese alternation, allow a standard NP-movement analysis. There are two ways to account for this alternation. We may assume the string *Bill killed* in (i) to be a small clause, which in turn is a passive structure:

(iii) $[_{SC}$ Bill$_i$ killed $t_i]$

If this small clause is the internal argument of the causative *get*, then we have (i), with the following structure:

(iv) John got $[_{SC}$ Bill$_i$ killed $t_i]$

For the ergative version (ii), the Causer position is vacated, and *Bill* is subject-raised:

(v) $Bill_i$ got [$_{sc}$ t_i killed t_i].

Alternatively, one might assume that *Bill* is not the subject of a small clause as in (iii), but is in fact the *internal argument* of the complex predicate containing *get* and the small clause *[Pro killed t]* (cf. Hoshi 1991). Under this assumption, it is the complex predicate *get killed* which is either ergative or causative. If causative, *Bill* is realized as an object as in (i). If ergative, *Bill* is externalized and becomes the subject, as in (ii). Note that both the ergative and causative above are passive. In both cases we have a passive small clause embedded under either use of *get*. In the Taiwanese cases, the clause embedded under *hoo* is not passive.

[17] This should be automatic result, in fact a matter of definition. It is pretty much agreed among scholars now that teta-role labels are descriptive labels only, and the nature of each theta role is derivative of the event structure (template) which includes them.

[18] Note that even though the "datives" and the "serial verb constructions" also involve NOP movement, the *hoo* in these structures is still causative, not ergative or passive. In these cases the null operator is adjoined to the entire causative sentence headed by *hoo*, so (122a), for example, has the following structure:

(i) 我唱一首歌 [OP_i [Pro *hoo* 汝聽 t_i]]。

In this structure, OP is adjoined to a position higher than *hoo*. The entire NOP structure is a secondary predicate with respect to the higher verb. The string [汝聽 t_i] following *hoo* is not a secondary predicate with respect to *hoo*, but its internal argument. On the other hand, in a passive sentence:

(ii) 彼個查某人 *hoo* [OP_i [伊騙去 t_i]]矣。

OP is adjoined to a position below *hoo,* making the NOP structure a secondary predicate with respect to *hoo*. In other words, *hoo* is a one-place predicate in passives, but a two-place predicate in the "datives" and "serial verb" structures.

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中文提要

台灣話動詞「與」hoo 的使用範圍很廣，包括致動、被動、雙賓、與格和連動等句式。本文以一貫性的方式分析「與」字在這些句式裡的參項結構，從而解釋為何這些句式都能因使用「與」字而「物以類聚」。依作者之見，雙賓句式其實是致動句式的一種特例，含「與」字的連謂結構則是一般的致動式包孕於母句之下充作次要謂語，而與格句式則又是連謂結構的一種特例。至於被動結構，我們認為它們來自致動句式的作格化。不過這種作格化和一般致動式的作格化不同。一般的作格化刪除了致動動詞的外項論元，但台灣話被動式則是將致動動詞的內項化為次要謂語的結果。本文沿用 Feng (1995), Chiu (1995), Chomsky (1980) 等的分析，以「空運符移位」來形成以上各類次要謂語，並提出相關証據來支持這種分析。最後我們指出這種分析對一般參項結構研究方面的理論意義。