

A Typological Study of Causatives in Taiwan Southern Min*

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0. INTRODUCTION.

Typologically causatives are generally held to consist of three major types: (1) lexical causatives, (2) synthetic (or morphological) causatives and (3) analytic (or syntactic, periphrastic) causatives.¹ Lexical causatives involving the use of lexical elements to indicate causativity fall into two subtypes: (1a) labile causatives or covert causatives with zero derivation, and (1b) suppletive causatives where inchoative and causative meaning are realized as two lexical items with no derivational link. Synthetic causatives are formed by morphological processes such as affixation or phonological alternation. Analytic causatives are complex constructions that divide into two subtypes: (3a) specific causative verbs plus transitive or intransitive verbs and (3b) resultative constructions that encode a complex notion denoting an event and a resulting situation.

In the majority of cases causativity is supposedly expressed by a single labile verb with zero modification or morphological alternation in the Old Chinese period whereas it is expressed periphrastically in modern Chinese. Needless to say, labile causatives have long been attrited leaving only a few stray forms in modern Taiwan Southern Min (TSM). Although the morphological way of expressing causativity is no longer productive in modern times, there are still some residues attesting to the existence of the former productive rules of morphological alternation. This paper is in part an attempt to look into these morphological alternations by comparing good candidates of cognates with respect to their initial, final and

* This paper is partially supported by NSC 84-2411-H-007-016 N3. An earlier version of this paper was presented at ICCL-4/NACCL-7, June 26-July 1, 1995. I benefited from insightful comments by Hsin-I Hsieh, Tsu-lin Mei, Shangfang Zheng-Zhang and William S-Y Wang. It also forms a topic in a talk given in a research workshop organized by Benjamin Tsou at Language Information Sciences Research Centre, City University of Hong Kong, on February 15, 1996. I would like to thank Thomas Lee, Yun Mai, M-C Paris, Feng Shi, Benjamin Tsou and William Wang for helpful comments, suggestions and discussion. Thanks are also due to two anonymous reviewers for constructive comments that save me from traps of inconsistency. Needless to say, errors and shortcomings are solely my own.

¹ Here we follow Comrie's (1985) classification of causative verbs. The typological study of causatives in Taiwan Southern Min attempted here is much inspired by Cheng's pioneer works (Cheng 1974 & 1985). Causatives are defined in terms of events (Parson 1990: 109-111); a causative denotes a complex situation consisting of two events, that is, an initial event brings about a resultant event.

tonal alternation in TSM. In particular, the tonal alternation denoting morphological relationship may be a residual form of affixation in earlier stages. The segmental alternation may be pan-Chinese or Southern Min-specific.

In modern TSM, as in other modern Chinese dialects, there is a tendency to shy away from labile lexical and morphological causatives in favor of analytic causatives. Specifically, there are two major types of analytic causatives: (1) a special causative verb plus another transitive or intransitive verb, and (2) the resultative consisting a verb denoting an event and another event denoting the resulting situation. For type 2 unlike modern English where the action can be implied without being morphologically realized, the event or action has to be realized as an independent verb in a resultative construction in TSM. Likewise, unlike Old Chinese the action verb cannot express an complex notion by itself in TSM. In short, the typological evolution of the Chinese language is a change from lexical/synthetic causatives to analytic causatives in tandem with a change from monosyllabicity to polysyllabicity induced by a simplification of phonotactic structure.

It may be assumed that in the Proto-Chinese period when Chinese was a synthetic language morphological causatives were still active. In studies of morphology of Old Chinese Mei (1980, 1988, 1989 & 1992) proposes the prefix *s- inspired by Yakhontov (1960) and the suffix *-s in this period. *s- has the causative, denominative, directive and intensive functions, whereas *-s is a nominalizer and an inverse marker. The two affixes were still active in the early part of the Old Chinese period (Mei 1980, 1989) and the exact date of their disappearance is held in abeyance, albeit no later than the Han times. Mei (1989: 39) regards the voicing alternation in the initial consonants as a kind of transitivity rather than causativity. However, in a later article (Mei 1991) he also indicates parenthetically the voicing contrast as a kind of causativity. In this paper we will take the voicing contrast as indicating a causative link between the simplex verb and the causative verb, and there is evidence that some instances of tonal alternation in TSM signaling a causative relation are a result of rephonologizing earlier voicing contrast in which simplex verbs bear voiced initials and causative verbs, voiceless initials. One can entertain by the method of internal reconstruction the hypothesis that the asymmetric match between form and meaning as manifested in the voicing alternation in initials of the causative pair attested in written documents can be traced back to a still earlier stage when both the roots of simplex and causative verbs are identical and share the voiced initial with the exception that the causative verb is preceded by a causative prefix which has the effect of devoicing the voiced initial. It is quite plausible that the root-internal alternation, be it segmental and/or tonal, may bear the imprint of affix.

This paper is organized into 6 sections. Between (0) introduction and (5) closing words, the bulk of this paper consists of 4 sections: (1). synthetic causatives:[(1.1.) tonal alternation, and (1.2.) initial alternation], (2) analytic causatives:[(2.1.) ho.⁷ + V, (2.2.) phah + V, (2.3.)

& other specific verbs + complement], (3) lexical causatives: [(3.1.) labile causatives & (3.2.) suppletive causatives] and (4) the development of synthetic causatives.

1. SYNTHETIC CAUSATIVES.

Synthetic or morphological causatives involve causativity indicated by morphological processes. Syntheticity in language as a typological category is defined in terms of the form-meaning relationship manifested in a word.² In a synthetic language, more than one concept is packed into a word, whereas in an analytic language one form (or word) corresponds to one concept.

Morphological causatives are morphologically related causatives. Apart from affixation the morphological link may be manifested in segmental (i.e., consonantal and vocalic) and tonal alternation. Unlike affixal causatives which express causativity by affixation root-internal causatives realize causativity by internal modification or rather symbolic processes of the root (Sapir 1949: 126-7). Both types of causativity involve derivational morphology. The underlying causative meaning of a root-internal causative is coded as a segmental or suprasegmental (i.e., tone) incorporated into the root and does not surface as an independent verb or an affix. In this section we will only deal with morphological alternation as manifested in a comparison of formal difference between a simplex verb and its causative counterpart. The formal difference bears the morphological (i.e., causative) function. To forestall confusion a distinction between form and substance should be made (Saussure 1959: 111-135). Substance is a physical matter whereas form underscores its function in a linguistic system. For example, a phonetic shape as a physical substance, be it a segmental or a suprasegmental, may have a set of formal properties or rather take on different functions. Tone in Chinese dialects may function as a phonological element (referred to as toneme) that is not significant, i.e., does not have any meaning at all, but it is distinctive, i.e., can tell the difference between lexical items. Tone as the same physical substance may also be used as a morphological element that plays a role in morphological processes. In short, tone can be a phonological element or a morphological element, and it is the latter function that is our main concern in this paper. Logically speaking, there are eight types of difference in phonetic shape between them, as shown in the following matrix:³

tp	in	fn	tn
A)	+	+	-
B)	-	+	+

² For the notion of analytic and synthetic languages defined in terms of the meaning-form relation in words see Sapir (1949: 128–146).

³ 'tp' = type, 'in' = initial, 'fn' = final, 'tn' = tone, '+' = identical and '-' = different'.

C)	+	-	+
D)	+	-	-
E)	-	+	-
F)	-	-	+

The difference is in tone in (A), in initial in (B), in final in (C), in final and tone in (D), in initial and tone in (E) and in initial and final in (F). Unlike (C), (D), (E) and (F) examples of (A) and (B) are far easier to come by and establish in TSM. In what follows we will therefore be confined to these two types to be elaborated on in 1.1. and 1.2.

1.1. TONAL ALTERNATION.

In Type A the morphological link between simplex and causative verbs are expressed by tonal alternation. The tonal alternation may be a residual form of earlier morphological alternation going back to earlier affixal elements.⁴

On the basis of the four tone systems, viz., level tone 平聲(Tone I), ascending tone 上聲(Tone II), departing tone 去聲(Tone III) and entering tone 入聲(Tone IV), which had been well-established in the Middle Chinese period epitomised in the rime book of Qie Yun (601 AD), there is a variety of tonal alternation witnessed in modern southern Min as shown in the following matrices:⁵

⁴ See Zhou (1981a), Downer (1959), Chou (1972b) and Mei (1980, 1988 & 1992).

⁵ Each of MC four tones has developed into upper (u) and lower (v) tone categories. Southern Min forms are given in the church romanization of Douglas (1873). The tone marks are represented as diacritics, as in a^1 (Iu), a^2 (IIu), a^3 (IIIu), ah^4 (IVu), a^5 (Iv), a^7 (IIIv) and ah^8 (IVv).

	simplex	gloss	causative	gloss
1a	lang ¹ •	sparse	lang ³ •	leave a space
1b	khang ¹ 空	empty	khang ³ 空	make empty
1c	tiu ⁿ¹ 張	stretch out	tiu ⁿ³ 脹	swell
1d	tng ¹ 當	to bear	tng ³ 當	to put in pledge
1e	ho. ⁿ² 好	good	ho. ⁿ³ / hau ⁿ³ 好	to desire, be fond of
2a	sam ³ 散 ⁶	disheveled	sam ² 散	to sprinkle
2b	tng ⁷ 斷	break	tng ² 斷	cause to break
2c	tng ⁵ 長	long	tng ² 長	grow

These are presumably vestiges of once productive ways of derivation where tonal alternation is used to denote causativity. There are basically two groups of tonal alternation: (1) the alternation between non-departing tones (simplex verbs) and departing tone (causative verbs), and (2) the alternation between non-ascending tones (simplex verbs) and ascending tone (causative verbs). These two types of tonal alternation may well belong to two different chronological strata; nevertheless, it is difficult to pin down their exact chronology. Grammatical processes involving the tonal alternation as a morphological functor must have been consummated well before the subtonal split of each of four tone categories, since there is no evidence that subtonal difference of each tone category (i.e. 1/2, 3/7, 4/8) is used as a morphological process.

Voicing alternation of obstruent initials is claimed to be once a very productive grammatical process. If that is the case, pitch difference might not have been as significant as voicing contrast. It is only after the voicing distinction as a morphological process had spent itself that pitch difference became significant and four tones turned into full-fledged categories.

1.2. INITIAL ALTERNATION.

In Type B it is through initial alternation that the morphological link of causativity is established. As shown in the following matrix, initial alternation is typically realized by the presence and absence of aspiration:

simplex	gloss	causative	gloss
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⁶ The graph 散 forms an etymon consisting of such etymologically related words as (1) *soa*ⁿ² 'scattered, powder', (2) *soa*ⁿ³ 'to scatter', (3) *sam*³ 'disheveled', (4) *sam*² 'to sprinkle' and (5) *san*² 'powder'. At least three chronological strata can be detected. The nasalized forms (i.e., 1 & 2) belong to the native stratum, the forms with the *-m* ending (i.e., 3 & 4), the earlier literary stratum, and the form with the *-n* ending, the later literary stratum closely related to Mandarin.

chiu ⁿ⁷ 上	ascend	chhiu ⁿ⁷	cause to ascend
ke/e ⁷ 下	low, beneath	khe/he ⁷⁷	put, to lower
pin ⁵ 平	even	phin ⁵	get even
chian ⁿ⁵ 成	complete	chhian ⁿ⁵	to make complete
tit ⁸ 直	straight	thit ⁸	to straighten

All the examples showing aspiration alternation belong to the lower registered tone categories, i.e., the words with MC voiced obstruent initials.⁸ Although voiced obstruents have been devoiced in modern Southern Min as well as most Chinese dialects, the aspiration contrast bearing morphological function must have existed before devoicing took place. This suggests that Norman (1973) may be partially right in postulating a two-way distinction of voiced series in Proto-Min.⁹ There are therefore two types of aspiration contrast associated with the words with MC voiced obstruent initials. The ones that we discuss here are the aspiration that has morphological function. Another type that can be found in Mandarin does not involve any morphological process and it is merely the result of phonological development, as in *t^huⁿ2* 傳 ‘to transmit’ and *t^huⁿ4* 傳 ‘biography’ where verb-noun derivational link is based on a tonal difference whereas aspiration being a result of phonological development plays no role in nominal derivation.¹⁰

Synchronically there is no tuition linking the simplex and causative verbs. Some causative verbs have undergone semantic drift with the result that the relation between them has become blurred. The oft-quoted examples in English are *drink/drench* and *rise/rear* where the causative verbs have drifted apart as a result of further semantic change. Sound change may obscure the morphological relationship. (Sturtevant 1947: 109) In short, the combined effect of semantic shift and sound change is responsible for the disruption of morphological link.

⁷ *he⁷* is the widely used form in Southern Min, but *khe⁷* is identified as a Chinchew (晉州) form., a variety of Southern Min.

⁸ *Chio³* 照 ‘shine’ and *chhio⁷* 耀 ‘to illuminate’ should not belong here, since there is tonal alternation as well as aspiration contrast. The voicing contrast that gave rise to the subtonal difference between them through rephonologization following the devoicing of MC voiced obstruent initials might well represent a productive means of derivation in early time. Aspiration in the initial of 耀 is a phonological (not morphological) element resulting from the devoicing of MC (or even earlier) voiced obstruent initials.

⁹ The present author remains neutral with respect to the issue of whether two or even three voiced series should be posited for Min dialects in early stages or modern reflexes can be accounted for in terms of dialectal strata.

¹⁰ See Li (1960) for the discussion of the phonological nature of aspiration as a reflex of MC voiced obstruents.

2. ANALYTIC CAUSATIVES.

Analytic causatives are complex constructions that divide into two subtypes: (2.1) specific causative verbs plus transitive or intransitive verbs and (2.2., 2.3., 2.4. and 2.5.) resultative constructions denoting a complex notion made up of an event and a resulting situation.

2.1. HÒ. 與 + V.

As shown in the following examples, hò. as a syntactic causative verb introducing a patient object and a predicate.

Examples	gloss
Ho. ⁷ lang ⁵ kian ³ -siau ³ ¹¹	embarrass some one
與儂見笑	
Li ² tloh ⁸ ho. ⁷ i ¹ kong ²	You should let him talk
汝著與伊講	
M ⁷ thang ¹ ho. ⁷ i ¹ hoan ⁵ -lo ²	don't worry him
唔通與伊煩惱	
Goa ² beh ⁴ ho. ⁷ i ¹ liah ⁸ chhat ⁸ -a ²	I will let him comprehend
我卜與伊錄賊仔	the thief.

The object noun functions as the underlying object of the main verb and the underlying subject of the subordinate clause. Unlike *phah* and *chhōng* to be discussed in 2.2., *hò*. occurs in a bi-clausal construction in which the object noun represents a sentient being who can not carry out an volitional action. Thus, it involves the indirect control of the execution of the activity by the subject of the sentence in question.

2.2. PHAH 拍 + V

The simplex intransitive verb may become transitive when preceded by a dummy verb *phah*⁴. In other words, *phah*⁴ serves to change the argument structure of the simplex verb. The simplex verb is a one-place predicate and the compound verb made up of *phah*⁴ + the simplex verb has been turned into a two-place predicate. The compound verb is a newly rising construction superseding the old causative verb. One can see in the following examples the depletion of the core meaning of the verb phah 'strike, beat', which has

¹¹ The examples here are taken Iwasaki (1916).

become a general verb with a wide range of collocation, and even a prefix-like element that functions pretty much like a causative prefix *en-* in English.¹²

Phah ⁴ 拍 + intransitive verb		
	examples	Gloss
1a	phah ⁴ kiu ¹ 拍勾	Shrink
2a	phah ⁴ phoa ³ 拍破	Break
3a	phah ⁴ tng ⁷ 拍斷	Break
4a	phah ⁴ soa ⁿ³ 拍散1	Scatter
5a	phah ⁴ sam ³ 拍散	Put in disorder
6a	phah ⁴ jiau ⁵ 拍皺	Crumple
7a	phah ⁴ sit ⁴ 拍熄	Extinguish
8a	phah ⁴ kian ¹ 拍驚	Scare
9a	phah ⁴ chhin ¹ -kian ¹ 拍青驚	Frighten
10a	phah ⁴ tsau ² khi ³ 拍走去	Drive away
11a	phah ⁴ phai ² 拍否	Spoil
12a	phah ⁴ ka ¹ lauh ⁸ 拍落	Let fall
13a	phah ⁴ chhin ² 拍醒	Wake
14a	phah ⁴ sit ⁸ loh ⁸ 拍失落	Lose

Some of the above intransitive verbs as shown in the following table still retain their transitive function only in fossilized expressions that take on idiomatic senses:

limited 'transitive' use		
	examples	Gloss
1b	kiu ¹ chhiu ² 勾手	to draw one's hand back
2b	phoa ³ chha ⁵ 破樵	to split firewood
3b	tng ⁷ khui ³ 斷氣	breathe one's last
4b	soa ⁿ³ oh ⁸ 散學	dismiss a class
7b	sit ⁴ he ² 熄火	fire goes out
8b	kian ¹ sen ¹ -sin ¹ 驚先生	scare/be scared of the doctor
13b	chhin ² chhui ³ 醒喙	to whet an appetite

¹² One piece of evidence in support of *phah⁴* being grammaticalized is that the compound verb in question cannot be separated by an object noun. Examples given here are gleaned from Douglas (1873: 389).

Except for (2b) and (8b) the apparent V-O constructions can be looked upon as an inverse Predicate-Subject construction containing unaccusative verbs as argued in Lien (1997).

*Phah*⁴ can not only combine with the intransitive verbs just discussed, but also with the transitive verbs such as *sng*² 損 and *siong*¹ 傷, into compound verbs, as in

<i>phah</i> ⁴ 拍 +transitive verb	
examples	Gloss
<i>phah</i> ⁴ <i>sng</i> ² 拍損	spoil, waste
<i>phah</i> ⁴ <i>siong</i> ¹ 拍傷	Wound

Examples of transitive use are *sng*² *sin*⁵ 損神 'overtax one's nerves', *sng*² *gan*² 損眼 'hurt the eyes', *siong*¹ *tioh*⁸ *kha*¹ *kut*⁴ 傷著骸骨 'hurt one's feet' and *siong*¹ *hong*¹ 傷風 'have a cold', i.e., hurt due to a cold.

Consider now *bo*⁵ 無 and *m*⁷ *ki*ⁿ⁷ 唔見 in the compound verbs *phah*⁴ *bo*⁵ 拍無 and *phah*⁴ *m*⁷ *ki*ⁿ⁷ 拍唔見 as shown below:

<i>phah</i> ⁴ <i>bo</i> ⁵ 拍無	lose
<i>phah</i> ⁴ <i>m</i> ⁷ <i>ki</i> ⁿ⁷ 拍唔見	lose

They should be better treated as complements than transitive verbs, since they also function as complements in other constructions:

<i>khoan</i> ³ <i>bo</i> ⁵ 看無	do not see, do not understand
<i>chhe</i> ⁷ <i>m</i> ⁷ <i>ki</i> ⁿ⁷ 唔見	search for but not find

It seems that both compound verbs have outgrown their causative sense and become full-fledged transitive verbs:

<i>phah</i> ⁴ <i>bo</i> ⁵ <i>mng</i> ⁷ - <i>kia</i> ⁿ⁷ 拍無物件	lose something
<i>phah</i> ⁴ <i>m</i> ⁷ <i>ki</i> ⁿ⁷ <i>mng</i> ⁷ - <i>kia</i> ⁿ⁷ 拍唔見物件	lose something

The fact that *phah*⁴ *m*⁷ in *phah*⁴ *m*⁷ *ki*ⁿ⁷ undergoes phonological contraction attests to its loss of causative meaning.¹³

¹³ Murakami (1981: 321) gives the contracted form *phang*³-*ki*ⁿ³ with an empty slot before the word 見 indicating the avowedly unknown etymology of *phang*³. To be more exact, before *phah*⁴ and *m*⁷ were

As in intransitive verbs, adjectives can be made into transitive verbs when preceded by the dummy verb *phah*⁴. Each of compound verbs as shown below that consists of *phah* and adjective involves an argument structure of two-place predicate:

phah ⁴ +adjective	
Examples	Gloss
phah ⁴ tng ⁵ 拍長	Lengthen
phah ⁴ pi ⁿ⁵ 拍平	Level
phah ⁴ sang ¹ 拍鬆	slacken
phah ⁴ o. ¹ 拍烏	blacken
phah ⁴ lah ⁴ -sap ⁴ 拍垃圾	soil
phah ⁴ üt ⁸ 拍直	straighten

Like *phah*⁴, *chhong*³ 創 serves as a dummy verb to make a causative compound verb out of a simplex verb and an adjective, as shown below:

<i>chhong</i> ³ + adj/v	Gloss
chhong ³ -phai ³ 創壞	Spoil
chhong ³ -ho ² 創好	Finish
chhong ³ =si ² 創死	Kill

2.3. OTHER SPECIFIC VERBS + COMPLEMENT.

In the change of syntheticity to analyticity the causative verbs as opposed to simplex verbs in synthetic causativity may be lexicalized, as in 離 and 散, or simply lost, as in 折, 斷 and 花.¹⁴ However, the simplex counterparts have changed into complements in the verb+complement construction, as in

contracted, *m*⁷ must have first changed to /N/ (romanized as *-ng*) under the influence of the following *k*- through a regressive assimilation. The glottal stop /ʔ/ (romanized as *-h*) in *phah*⁴ should also be dropped before the contraction.

¹⁴ The causative verbs in earlier periods often survive as fossilized expressions, as in *li*⁵ *bo*² 離姥 'to divorce a wife' and *tng*²-*tsai*⁵ 斷臍 'to cut off the navel string of a new born baby'. *bo*² 'wife' is often written as 某, obviously a phonetic loan. (Zhou 1993:52) Shang-fang Zheng-zhang suggests (personal communication) that the etymologically correct graph should be 姥. This graph is a Tone II (ascending tone) word glossed as *mō bù qiè* 莫補切 in *Guang Yun*, an official rime book published in the Song dynasty. (Yu 1993: 264) Wu (1987: 93) also includes 姥 among the script candidates for the lexical entry *bo*² 'wife'. In fact, to my knowledge Chou (1961) is the earliest one identifying 姥 as the most plausible graph for *bo*² on modern etymological principle.

verb + complement	gloss
pang ³ -li ⁷ 放離	to let go; let off
thoat ⁴ -li ⁷ 脫離 ¹⁵	to escape
ta ¹ li ⁷ 焦離	quite dry
chih ⁸ li ⁷ -li ⁷ 折離離 ¹⁶	broken quite in two
koe ² li ⁷ -li ⁷ 解離離	quite cured, of opium
thiah ⁴ -soã ⁿ 3 拆散	to separate forcibly
koan ² -soan ³ 趕散	to drive away and scatter
hun ¹ -soã ⁿ 3 分散	to scatter
kng ¹ =/-chih ⁸ 扛折 ¹⁷	to break by carrying a weight on a pole
che ⁷ =/-chih ⁸ 坐折	to break by sitting on
teh ⁴ =/-chih ⁸ 壓折	to break by a weight
koah ⁴ =/-tng ⁷ 割斷	to cut off with a knife
ka ¹ =/-tng ⁷ 鉸斷	to cut asunder with scissors
ka ⁷ =/-tng ⁷ 咬斷	to bite asunder
pun ⁵ =/-sit ⁴ 盆熄	to blow out
im ³ =/-sit ⁴ 蔭花	to extinguish by covering up

These simplex verbs alone are used intransitively. However, the compound verb consisting of the transitive verb and the simplex verb as its complement has become a transitive verb. In other words, the gap left by the extinct causative verb formed by internal modification of the root has been filled by the newly rising verb+ complement construction.

3. LEXICAL CAUSATIVES.

Apart from synthetic (morphological) and analytic (syntactic) causatives discussed in §1 and §2, there are also lexical causatives involving the use of lexical elements to express causativity. The two types of lexical causatives (i.e., labile causatives as discussed in 3.1. and suppletive causatives, as treated in 3.2.) are distinguished in terms of commonality and discrepancy of initial, final and tone, as shown in (G) and (H) respectively:

tp	in	fn	tn
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¹⁵ The departing tone of the word 離 has been lost to the level tone, even in the compound 脫離 in modern Mandarin.

¹⁶ The reduplicated form has become a complement denoting degree.

¹⁷ There are individual variations indicated by the signs =/- in the prosody of the complement -折, -斷, -熄 and -花 that wavers between stressed and unstressed template.

G)	+	+	+
H)	-	-	-

3.1.LABILE CAUSATIVES.

Labile causatives are simplex forms used causatives with zero derivation.¹⁸ In other words, causatives are defined structurally and they constitute what is referred to as ergative verbs.

In Old Chinese, nouns, intransitive verbs, transitive verbs and adjectives can be used causatively without any change in outer form. (Yang 1930: 133–142) (Dobson 1959: 63–64) (Chou 1972a: 70–74) In modern Chinese there is also a set of causative verbs derived from simplex verbs with zero modification, as exemplified below:

simplex	gloss	causative	gloss
tsau ² 走	to run	tsau ² 走	to cause to run
phau ² 跑	to run	phau ² 跑	to gallop
khi ² 起	to rise	khi ² 起	to raise
loh ⁸ 落	to fall	loh ⁸ 落	to lower
chhut ⁴ 出	to go out	chhut ⁴ 出	to give/offer
jip ⁸ 入	to enter	jip ⁸ 入	put in (powder)
khi ³ 去	to go	khi ³ 去	to remove
the ³ 退	to recede	the ³ 退	to remove
chin ³ 進	to enter	chin ³ 進	to enter
khit ⁴ 乞	to beg	khit ⁴ 乞	to give
poa ³ 破	to break, broken	poa ³ 破	to break, tear
teng ⁷ 定	hard	teng ⁷ 定	to fix, settle
am ³ 暗	dark	am ³ 暗	to keep secret
kho. ² 洇	thick, dry	kho. ² 洇	to drain
kia ⁿ¹ 驚	afraid	kia ⁿ¹ 驚	make afraid
chheng ¹ 清	clean	chheng ¹ 清	to clean out

However, in modern TSM the range of the use of causative verbs is very much limited and the causative verb and its object is often lexicalized as a unit and may even develop into an idiom chunk. Labile causative verbs are not necessarily residual forms of the Old Chinese

¹⁸ Zero derivation is alternatively called conversion. (Matthews 1991: 65) Put differently, no overt affixation takes place here but there is covert derivation. We can posit an abstract causative element to account for the derivation. (Beard 1993)

period. For example, there are chronological strata in the labile causative verbs. 走 and 入 appear much earlier than 跑 and 進, but the earlier and later forms all have causative meanings.

3.2. SUPPLETIVE CAUSATIVES

Suppletive causatives are the cases in which simplex and causative forms show no morphological relationship as shown in the following matrix:

simplex	gloss	causative	gloss
tok ⁸ /tak ⁸ 毒	poisonous	thau ⁷	to poison
chiah ⁸ 食	eat	chhi ⁷ 飼	to feed
thai ⁵ 治	kill	si ² 死	die
khui ¹ 開	open	thau ² 故	to untie
bo ⁷ 磨	millstone	boa ⁵ 磨	to grind

Suppletive causatives may be residual forms of earlier suffixal causatives. In other words, morphological causatives may become suppletive causatives through semantic shift and phonological change. Suppletive causatives may not be equivalent to periphrastic causatives in meaning.

Fillmore (1978) suggests a typology of causativity in terms of the notion of conceptual compositionality and lexical realization. As shown in the following graph, causativity is regarded as a complex event Z which consists of two parts: (1) the initial event (X), and the resulting event (Y):

Z	
the whole complex event	
X	Y
the initial event	the resulting event

A linguistic sign is a union of the signifier and the signified. X, Y and Z are the signifiers denoting three types of event. At least five types of causativity can be obtained by considering the relation between X and/or Y and Z:¹⁹

type	scheme	example	terminology
1	Z≠X/Y	kill, die	suppletive

¹⁹ ≠ means 'does not equal', = 'equal', and < 'is derived from'.

2	Y = Z	move	labile
3	X = Z	push	labile
4	Z < X	besmeared	morphological
5	Z=X+Y	cry-red, hit-break	analytic(V-C)

In (1) The verb Z bears no morphological relation to either X or Y. Both Z and Y are realized as separate words, say 'kill' and 'die', whereas X as an abstract action has no lexical realization. In (2) Y and Z are expressed by the same verb such as 'move'. In (3) X and Z surface as an identical verb like 'push'. In (4) Z is a derivative of X and is exemplified by 'besmear'. In (5) Z is a morphological product of X and Y realized as a phrasal verb in English and as a resultative construction in Mandarin. Fillmore observes that English is rich in Types (2) and (3), German and Turkish in Type (4), and Chinese in Type (5).

Recall that in terms of typological distinction defined with respect to the relation between form and meaning there are basically three types of causatives: (1) lexical causatives, (2) synthetic (or morphological) causatives, and analytic (or syntactic, periphrastic) causatives. Although, like other Chinese dialects, Taiwanese has as a rule undergone a change of syntheticity to analyticity, it still exhibits a variety of relation between form and meaning as shown below:

	Types of relation	Z	X	Y	typology
		the whole complex	the initial	the resulting	
		event	event	event	
1	Z = X	thau ² 𪗇	thau ² 𪗇		lexical/labile
		'untie'	'untie'		
2	Z = Y	iu ⁿ⁵ 鎔		iu ⁿ⁵ 鎔	lexical/labile
		'melt'		'melt'	
3	Z < Y	khang ³ 空		khang ¹ 空	morphological
		'to leave a space'		'be empty'	
4a	Z = X + Y	au ² chih ⁸ 拗	au ² 拗	chih ⁸	analytic
	(X ≠ Y)	'break by bending'	'to bend'	'break'	
4b	Z = X + Y	khui ¹ 開°khui ¹ 開	khui ¹ 開	khui ¹ 開	analytic
	(X = Y)		'to open'	'to be open'	
4c	Z = X + Y	phah ⁴ 拍bo ⁵ 無	phah ⁴ 拍	bo ⁵ 無	analytic
	(X = a dummy V.)	'lose'	'to cause'	'not have'	

Z, X and Y are the forms (or the verbs) that encode the whole complex event, the initial event, and the resulting event respectively. For lexical/labile causatives as exemplified in Types 1 and 2 the interpretation of the form is solely determined structurally or syntagmatically. Labile causatives are covert causatives with zero derivation. That is, whether the form is taken as X or Z, as in Type 1, or Y or Z, as in Type 1, depends on the sentence structure in which it occurs. For morphological causatives the distinction between simplex verbs and causatives are encoded morphologically. The causative meaning in Type 3, for example, is realized by a change of tone that occurs word-internally. However, the syntactic behavior of a causatives and its simplex counterpart is also manifested in a change of argument structure. Taiwanese has plenty of a type of analytic causatives called resultative compounds, as shown in a variety of Type 4 where X, the initial event, and Y, the resulting event, are coded in separate forms. In contrast, it seems to be a result of typological change of syntheticity to analyticity that Taiwanese as well as other Chinese dialects has virtually no monosyllabic words encoding a complex event Z composed of both X and Y. We call this type of semantically complex causatives synthetic causatives, which are quite ubiquitous in English as exemplified below:

	types of relation	Z	X	Y	typology
1	$Z \neq X$ or Y	kill	cause	die	synthetic/suppletion
2	$Z > X$	shoot	shoot at		synthetic
3	$Z < X$	besmear	smear		morphological

kill, *shoot* or *besmear* is a monosyllabic word which has a composite meaning covering both cause and result. But they show a difference in part-whole relationship. While there is a suppletive relationship between *kill* and *cause* or *die* involving no morphological link between them, *shoot* can be used primarily to denote Z but it can also denote only X when an preposition like *at* is added. Of course, the resultative meaning in *kill* can also be suspended by an aspectual verb like *try*, as in *try to kill*. Unlike *kill* and *shoot* where morphology is not at work the synthetic causative *besmear* is a derivative of the activity verb *smear* by prefixation. It seems to be difficult to find a morphological causative derived from an activity root verb in Taiwanese.

There is not necessarily a one-to-one, but usually an asymmetric, correspondence between form and meaning. In analytical languages one form as a rule corresponds to one meaning, whereas in synthetic languages one form may encompass more than one meaning or grammatical category. Due to the asymmetric link between form and meaning it is necessary to set up independent levels of morphology and semantics and study the interaction between them. One can grasp the meaning of synthetic words by lexical

decomposition. We have seen from the above discussion that meaning can be coded word-internally, For example, the resulting event is incorporated in a morphologically simple but semantically complicated word in synthetic languages. Meaning can also be coded word-externally. For example, the resulting event can be realized as a resultative complement in a resultative compound in an analytic language like Taiwanese. There is an interaction between word-internal meaning and word-external meaning.

Meaning inside a word can be cancelled by a word-external element, but an inherent meaning of a word may run into conflict with the meaning of a form outside the word. For example, *kill* that contains the semantic element of *die* can be contradicted by the word *die* that occurs outside. It seems that the combined meanings can be computed in terms of the principle of compositionality.

Although modern Chinese, be it Mandarin or TSM, has developed into an analytic language where a word carries a single concept, it still contains a host of Type-3 words. In my interpretation Type 3 involves the case where $X = X + Y = Z$. In other words, X as a signifier refers both to the initial event and the resulting event, but it can also denote the initial event alone. In the latter case, it can be further followed by Y as a signifier for the result. In the following table all the words belong in Type 3. The left-hand ones are morphologically simple but semantically complex in that they contain the activity and the result. The right-hand ones are the verb-resultative complement construction indicating the hidden resultative meaning can surface as a complement.

Example	gloss	example
X=Z		X + Y
pang ³ 放	let go, set free	放走 pang ³ chau ²
thau ⁷ 毒	to poison	毒死 thau ⁷ si ²
thng ³ 褪	to take off, remove	褪落 thng ³ loh ⁸
pian ⁿ³ 摒	pour out, clean out	摒清氣 pian ⁿ³ chhing ¹ khi ³

By way of concluding our discussion of various types of causative verbs here is a table listing the three ways (i.e., (1) periphrasis (analytic), (2) Verb+Complement phrase (analytic) and (3) lexem (lexical) of expressing the same signified.²⁰

types of causatives			
periphrasis	V+C phrase ²¹	lexeme	gloss

²⁰ The data in this table is based on Macgowan (1885).

²¹ Cheng (1995) proposes an intermediate level called morphological stratum between syntactic

	chhong ³ si ² 創死		to kill ²²
	i ¹ ho. ² 醫好		to heal
		hang ¹ 烘, thng ⁷ 燙	to warm
	hia ⁿ⁵ sio ¹ 燃燒	hia ⁿ⁵ 燃	to heat
ho. ⁷ i ¹ leng ² /chhin ³ 與伊冷/清			to cool
		chho ³ 鋸	to fell
		thiam ⁷	to sink
	lim ¹ -ta ¹ 飲焦		to drain
		phak ⁸ 曝	to dry
ho. ⁷ i ¹ chhing ¹ -khi ³ 與伊清氣	soe ² chhing ¹ -khi ³ 洗清氣		to cleanse
chhong ³ ho. ⁷ peh ⁸ 創與白	phio ³ peh ⁸ 漂白		to whiten
ho. ⁷ i ¹ tia ⁵ 與伊著		chhoa ⁿ³ 𠵼	to fasten
ho. ⁷ i ¹ o. ¹ 與伊烏	boah ⁴ o. ¹ 抹烏		to blacken
ho. ⁷ i ¹ nng ² -lun ⁷ 與伊軟嫩			to soften
ho. ⁷ i ¹ teng ¹ 與伊定			to harden
	pang ³ sang ¹ 放鬆		to slacken
chhong ³ ho. ⁷ i ¹ ang ⁵ 創與伊紅			to redden
	chhong ³ -tit ⁸ 創直, chhun ¹ -tit ⁸ 伸直		to straighten

We notice in the above table that periphrastic, compounded and lexical forms coexist with some gaps. ho.⁷ 與 as a verb means ‘give, cause’. The periphrastic causative can be realized variously as ho.⁷ + i¹ + adj, where i¹ ‘it’ is an expletive, or as a stratified construction like chhong³ 創 ‘make, cause’ + ho.⁷ + i¹ + adj. In present-day TSM all of V+C constructions listed above can further take an infix-like element ho.⁷- i¹ 與伊 to become periphrastic forms. Therefore the gap in the periphrastic column can all be filled and it further justifies to regard constructions in question as phrases rather than compounds.

4. THE DEVELOPMENT OF SYNTHETIC CAUSATIVES.

stratum and lexical stratum. Unlike those in the lexical level the forms in the syntactic level need not be listed in the lexicon. It is claimed that forms in the morphological stratum are open-ended and need not lexically listed unless they have particular meanings associated with them.

²² I have left out forms in Taiwanese reflecting the corresponding inchoative sense of causative forms in English.

Morphological causatives follow several routs of development in TSM. In some cases as shown below, the simplex and causative verbs attested in the Old Chinese period have disappeared without leaving a trace:²³

SIM	TN	IN	CAU	TN	IN
繫	III	*k	繫	III	* th
假	II	*k	假	III	*k

The signifieds that outgrow their obsolescent signifiers 繫 'tie, fasten' and 假 'borrow, lend' find new hosts in forms such as kat 結 and chloh 借 respectively.

There is a skewed development of the causative pair in some cases, as shown below:

	SIM	TN	IN	CAU	TN	IN
1	折	IV	* \checkmark j	折	IV	* $\text{t}\checkmark$
2	賒	I	* \checkmark j	賈	III	* \checkmark j
3	借	IV	*tsj	借	III	*tsj

Here the simplex verbs survive whereas the causative verbs have perished. 折 as a simplex verb with the MC voiced obstruent initial is kept in such compounds as 扛折, 坐折 and 壓折 discussed in §2.3. The survivors (賒 as a level-toned word in (2)) and (借 as an entering-toned word in (3)) can be used as direct verbs as well as an inverse verb in proper context, thus filling the gap left by extinct causative verbs.²⁴

Likewise, 敗 as shown below provides another case of the survival of the simplex verb only. The survivor is only used in frozen expressions.

SIM	TN	IN	CAU	TN	IN
敗	II	*b	敗	III	*p

²³ SIM = simplex verb, TN = Middle Chinese tone categories (I=level tone, II=ascending tone, III=departing tone and IV=entering tone), IN = initial, CAU = causative verb. The reconstructed values of MC initials are based on Li (1971 & 1976).

²⁴ Mei (1980, 1989) proposes suffix *-s as an inverse suffix marking the subject-object inversion. This strikes us as quite similar to the role of some inflectional endings in inversion in Algonquian languages and Georgian (Anderson 1992: 170-176; 153-156 and Klaiman 1992) By way of internal reconstruction we can further posit that in earlier stages each pair of plain and inverse verbs in Chinese shares the same root form with a difference in the suffix *-s indicating inversion of grammatical relation. The tonal difference that exists between such a pair is a result of conversion of extrasyllabic element (viz., suffix *-s) to intrasyllabic element.

pai ⁷ ke ¹ 敗家 ²⁵	to ruin a family
pai ⁷ hong ¹ -sui ² 敗風水	to injure the good luck of a place
pai ⁷ tsau ³ 敗走	to be put to flight
phoa ³ -pai ⁷ 破敗	wasted away

Not all causative pairs become extinct. In at least two words as shown below, both simplex and causative verbs are still there in their phonological forms only strictly speaking, as in

SIM	TN	IN	CAU	TN	IN
解	II	* t	解	II	*k
乞	IV	*khj	乞	III	*khj

But the causative verb has been grammaticalized. 解 has developed into ㄍ as a modal expressing possibility or capability and 乞 has been grammaticalized as an agent marker in the passive construction, as in: ²⁶

明仔載會落雨 ²⁷	It will rain tomorrow
bin ⁵ -a ² -tsai ³ e ⁷ loh ⁸ ho. ⁷	
乞賊偷 ²⁸	to be stolen by a thief
khit ⁴ -chhat ⁸ -thau ¹	

In still other cases both simplex and causative verbs have been retained, as in

	SIM	TN	IN	CAU	TN	IN
1	斷	II	*d	斷	II	*t
2	離	III	*lj	離	I	*lj

²⁵ The examples in the box are taken from Douglas (1873: 356).

²⁶ In Douglas (1873: 276) the form *khit⁴* 乞 appears in two separate entries. In this paper these two separate lexical items are subsumed under a single entry as they are involved in a derivational relationship. One denoting 'to beg' is a simplex verb; another meaning 'to give' is a causative verb. Given this situation 乞 might have been a bidirectional verb involving no overt affixation in earlier times. However, as attested in written documents the verb took on the departing tone as a general morphological process of causative formation. 乞 may well be the ancestral form of modern 給 as an agentive and patient marker on account of both phonetic and semantic similarity. See the discussion in Jiang (1989), Zhang (1989) and Xu (1992).

²⁷ 會 is a commonly used demotic graph for the etymologically correct graph 解^{e7}.

²⁸ Douglas (1873: 276).

tŋg ² -tsai ⁵ 斷臍	cut off the navel string
li ⁵ -bo ² 離姥	divorce one's wife
siu ⁷ -chheh ⁴ 授冊	give lessons

When we talk about morphological derivation, we mean that the root and the derived form belong to the same lexical item. However, phonological and semantic change at times destroy the morphological link between them and bring about a split of a single lexical item into two or more separate words. Since morphological causatives are no longer productive, the native speakers are not sensitive to the morphological link between simplex and causative verbs from the synchronic point of view. Representation of causative pairs by different graphs is a sure indication of the lexical split, as in (1) *boe²* 買 ‘buy’ / *boe⁷* 賣 ‘sell’, (2) *tiah⁸* 糶 ‘buy (grain)’ / *tio³* 糶 ‘sell (grain)’, (5) *lip⁸* 入 ‘enter’ / *lap⁸* 納 ‘pay (rent), receive’ and (6) *chiah⁸* 食 ‘eat’ / *chhi⁷* 飼 ‘to feed’. But the link is still not tangible even when the same graph is used for them, since the etymological link is based on the reflection of linguistic knowledge rather than the intuition of native speakers.

The development of synthetic causatives should not only be studied from the perspective of the morphological link of causativity, but also in terms of the paradigmatic relation among simplex or causative verbs. As discussed in §1.1., there are examples of causativity by tonal alternation, as exemplified in a triplet of homophones (txg b, d, e) which come from three etymological sources (i.e., b 斷, d 長 & e 轉):²⁹

斷	sound	initial	tone category	gloss
A	toan ³	*t	III	make a decision 決斷
B	tŋg ²	*t	II	break off 斷絕
C	tŋg ⁷	*d	II	
長				
D	tŋg ²	*tj	II	

轉	sound	initial	tone	Gloss
E	tŋg ²	*tj	II	revolve 運轉
F	tŋg ²³⁰	*tj	III	rotate 輪轉

The graph 斷 represents an etymon consisting of three etymologically related words such as *toan³*, *tŋg⁷* and *tŋg²³¹*, while the etymon in 轉 is made up of a doublet *tŋg⁷* and *tŋg²*.

²⁹ The phonological categories in Middle Chinese in the matrix are based on Yu (1993: 285).

³⁰ The slot in f (i.e., 'revolve, turn, rotate [third tone/intransitive]') is filled by *seh⁸* or *go⁵*.

The relation between b and c, as in *tng²-tsai⁵* 斷臍 'cut off the navel string of a new born baby' and *tng²-sim¹* 斷心 'trim the delicate leaves of a bud' vs *tng⁷-lin¹* 斷奶 'wean', *tng⁷-khui³* 斷氣 'stop breathing' and *tng⁷-lo.⁷* 斷路 'break off the relation' is a morphological link between causative verb and simplex verb or viewed in a different light between voluntary action and involuntary action. (cf. Chao 1968: 308) Like 折h (but not 折g) in the following matrix which can occur in *kng¹=chih⁸* 扛折 'to break as a pole', c. rather than b can also be used as a complement of the V-C construction, as in 拍斷.

折chih ⁸	initial	Tone	gloss
G	*t[ɕ]j	IV	break
H	*✓j	IV	break but still connected

Consider the form *tng²*. It constitutes a homonymic class consisting of a triplet: 斷 *tng²* 長 *tng²* and 轉 *tng²*. The three homonyms stand in a paradigmatic relationship and may engage in homonymic clash. In the case of taboo a taboo word enjoys a more resilient life than its homonymic counterparts. (See Stimson 1966) However, in the present case, word frequency seems to play a role; that is, high-frequency words will be the fittest in the competition among the homonymic set. When used as causative verbs 斷 *tng²* and 長 *tng²* occur much rarer than 轉 *tng²*. Therefore, native speakers tend to reinterpret the first two words as the third word. For example, native speakers with no knowledge of etymological history will think of 斷 *tng²* in *tng²tsai⁵* 斷臍 and 長 *tng²* in *tng²toa⁷-lang⁵* 長大儂 'become an adult' as 轉 *tng²*. In this way the more frequent word come to eclipse other rarely used contenders. That is why I claim earlier on that paradigmatic pressure also plays a role in the development of synthetic causative verbs.

5. CLOSING WORDS.

In this paper I have discussed synthetic, analytic and lexical causatives as well as the development of synthetic causatives in TSM. In language typology defined in morphological terms the evolution of causatives in this language can be viewed in broad outlines as one involving a change of syntheticity to analyticity. Even though synthetic causatives are no longer productive, our study reveals that TSM retains vestiges of synthetic causatives that

³¹ Southern Min is unique in preserving the three Middle Chinese words (i.e., a, b & c) of the etymon 斷. On the other hand, b has been lost and the reflexes of a & c have been merged into a single lexical item 斷 *duān*. (Chao 1946) The merger of a and b is accomplished in Mandarin dialects through a sweeping phonological change called *Zuo Shang Bian Qu* 濁上變去 that turns the ascending tone words with voiced obstruent initials to the departing tone words. (See Wang and Lien 1993)

have long become obsolescent in other dialects.³² TSM, a language famous for being rich in chronological strata, promises a fertile land to uncover and reconstruct the linguistic past of the Chinese language. Our endeavor in this regard is a small step toward that goal.

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³² However, southern dialects such as Cantonese still retain impressive traces of synthetic elements. (Tsou 1979) I owe a debt of gratitude to William S-Y Wang for bringing this paper to my attention. It dwells on homorganic nasal/stop alternations in Cantonese specifically, equivalent to Types C and D given in § 1, viz., the forms differing in final or both final and tone. However, it also addresses issues on a broader scale such as pan-Chinese and Sino-Tibetan comparison of morphological alternation. It would be a worthwhile project to make a dialectal and crosslinguistic comparison in this regard.

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