

Serial Verb Constructions vs. Secondary Predication

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Serializing languages refer to those demonstrating serial verb constructions (SVCs), while nonserializing languages are those having secondary predicates. Taiwanese is a language that has both constructions and thus hardly can be clearly defined as one or the other type of language. This paper looks into the structures of these two constructions to see how different or similar these two constructions are. It is argued that they appear to have similar structures in that the non-head phrase is either a (pseudo)complement or adjunct. However, they still differ in several aspects. To illustrate, either V1 or V2 can be the head verb in SVCs, while only V1 can be the head in secondary predication. The adjunct in SVCs is positioned preverbally, while that in secondary predication occurs postverbally. These two constructions also differ in several other ways, including the status of the covert NP, and the candidates of the verbs

Key words: serial verb construction, secondary predication, complement, adjunct, Taiwanese

1. The Issue

Serial verb constructions (SVCs) often demonstrate the following sequence: NP1 V1 (NP2) V2 (NP3), as shown in (1), while secondary predicates refer to the APs in the sequence NP1 V (NP2) AP, as illustrated in (2) and (3).

- (1) Kofi naki Amba kiri. Serial Verb Construction (Baker 1989:516 (3a))
 Kofi hit Amba kill
 ‘Kofi struck Amba dead.’
- (2) He washed his hands clean. Resultative Secondary Predicate
- (3) He ate the fish raw. Descriptive Secondary Predicate

Serializing languages refer to those languages that have SVCs, such as the Kwa languages of West Africa and the Caribbean Creoles, and naturally those without SVCs, such as English, are called nonserializing languages. While nonserializing languages do not have SVCs, they do have secondary predicates.

Larson (1991a), however, suggests that actually both serializing and nonserializing languages have secondary predicates. The difference between these two types of language lies in the features of the secondary predicates. “Serializing languages have secondary predicates that are either [-N] or [+V], whereas nonserializing languages have secondary predicates that are either [+N] or [-V].” (Larson 1991a:206) In other terms, the secondary predicates in SVCs are often

verbs such as *kiri* ‘kill’ in (1), while those in nonserializing languages are often adjectives such as *clean* in (2) and *raw* in (3).

Taiwanese is one of the languages that have SVCs as in (4). Thus by definition, Taiwanese is a serializing language. However, like nonserializing languages, Taiwanese also has secondary predicates that are adjectives as in (5) and (6).¹ Thus it is hard to judge whether Taiwanese is a serializing or nonserializing language.

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|--|---------------------------------|
| (4) i tak kang cu png ciah. ² | Serial Verb Construction |
| he every day cook meal eat | |
| ‘He cooks to eat every day.’ | |
| (5) i cau-kah cin thiam. | Resultative Secondary Predicate |
| he run-KAH very tired. | |
| ‘He ran himself tired.’ | |
| (6) i cau-(kah) cin kin. | Descriptive Secondary Predicate |
| he run-KAH very fast | |
| ‘He ran very fast.’ | |

Even though serializing languages have SVCs while nonserializing languages have secondary predicates, Veenstra (2000) argues that these two types of construction have similar structures. Since Taiwanese has both constructions, one may wonder how similar or different these two constructions are in Taiwanese. This is exactly the issue this paper would like to tackle. This paper aims to discuss the headedness, the status of the non-head, and the features of the first verb (V1) and the second verb (V2) in these two constructions.

2. The subjects of study

Prior to beginning the discussion of the structures of these two constructions: serial verb constructions and secondary predication,³ I would like to first talk about their individual properties.

2.1 Serial verb constructions

Serial verb constructions are often loosely defined as a single clause where there

¹ The secondary predicates in Taiwanese differ from those in languages such as English in that they are introduced by a marker *-kah*, which can be optionally omitted only in some instances as in (6).

² Romanization used in this paper is according to the TLPA (Taiwan Language Phonetic Alphabet).

³ In this paper the term “secondary predication” refers to the construction involving secondary predicates.

is a sequence of verbs/VPs with no overt conjunctions intervening in between, with only one structural subject, and with only one specification for tense/aspect (Li 1991, Muysken & Veenstra 1995, Sebba 1987). Under such a wide definition, various unrelated constructions would all be considered SVCs. To illustrate, a pivotal construction such as (7) would be an SVC since it contains two verbs, *chiann* ‘invite’ and *lai* ‘come’. Resultative compounds, which Taiwanese abounds with, would also be taken to be SVCs because they often are composed of a verb and a stative verb such as *ching* ‘wear’ and *phua* ‘threadbare’ in (8). Also coordination in which two verbs/VPs are coordinated as illustrated in (9) would be SVCs.

- (7) *gua chiann i lai.* Pivotal Construction
I invite he come
‘I invited him to come.’
- (8) *i ching-phua hit siang e.* Resultative Compound
he wear-threadbare that pair shoe
‘He wore that pair of shoes threadbare.’
- (9) *in ti hia phau te khai-kang.* Coordination
they at there make tea chat
‘They are making tea and chatting over there.’

To capture the properties of typical SVCs in Taiwanese, this paper discusses a narrow scope of SVCs. In this paper, SVCs are defined as constructions demonstrating not only the properties mentioned above but also those listed in (10).

- (10) a. the verbs/VPs share at least one argument (Baker 1989, Collins 1997)
b. one of the verbs/VPs is not a proper semantic argument of the other (Seuren 1991)
c. the structural relation between the verbs/VPs is one of subordination, not coordination (Seuren 1991)

The shared argument stated in (10a) could be either the external argument as shown in (11), where the Agent role is shared by both verbs, or an internal argument as in (4), where the Theme role, in addition to the Agent role, is shared by both verbs.

- (11) *i theh to-a chiat bah.*
he take knife cut meat
‘He took the knife to cut meat.’

Violating the constraint stated in (10b), pivotal constructions such as (7) are excluded as SVCs. In a pivotal construction such as (7) the second VP is subcategorized by the first verb. Since the occurrence of the second VP is well accounted for through subcategorization, it is not necessary to separate it from other subcategorized constructions and consider it a special construction such as SVC.

Even though Chang (1990) and Hansell (1993) both consider resultative compounds such as the Mandarin⁴ counterpart of (8) a type of SVC, they should be excluded as typical SVCs. As proposed in Lin (2001) and Wu (2002), resultative compounds are derived from a biphrasal D-structure where the verbal phrase headed by the second verb is subcategorized for by the first verb. Since the relationship between the first and the second verb is that of complementation, resultative compounds are not proper SVCs.

The proposition of (10c) then excludes coordinated structures such as (9). Again, coordinated constructions are a well-recognized construction themselves and demonstrate their own properties and constraints such as the Coordinate Structure Constraint proposed in Ross (1968), which states that extraction of an NP out of one of the coordinated conjuncts is not allowed. As shown in (12), the extraction of the NP *te* ‘tea’ out of the coordinated conjunct *phau te* ‘make tea’ results in ungrammaticality. On the contrary, SVCs are not subject to such a constraint as shown in (13), where the extraction of the NP *hit te bah* ‘that piece of meat’ does not result in ungrammaticality. Therefore, typical SVCs, as defined in this paper, are distinguished from coordinated structures.

- (12) **te in ti hia phau kai-kang.* (cf. (9))
 tea they at there make chat
 *‘That tea, they are making and chatting over there.’

- (13) *hit te bah i theh to-a chiat a.* (cf. (11))
 that CL⁵ meat he take knife cut PRT
 ‘That piece of meat, he took the knife to cut.’

Under a narrow scope of definition, typical SVCs as defined in this paper include cases like (11), which is an instance of external argument sharing, (4), which demonstrates internal argument sharing, in addition to external argument sharing, and (14), which appears to be a case of internal argument sharing, but in fact is only an

⁴ Like Taiwanese, Mandarin Chinese belongs to the Han language. Most of the discussion on SVCs in Chinese has been done on Mandarin data, rather than Taiwanese data.

⁵ Abbreviations used in this paper are listed below:

ASP: aspect marker, ASPP: aspect phrase, ASSOC: associative, CL: classifier, EXP: experiential aspect marker, PER: perfective aspect marker, PRG: progressive aspect marker, PRT: particle

instance of external argument sharing.

- (14) i e nia cinn hing li.
he will withdraw money return you
'He will withdraw money to pay you back.'

2.2 Secondary predication

Similar to nonserializing languages such as English, Taiwanese has both resultative and descriptive secondary predicates, as shown in (5) and (6). Resultatives in languages such as English can only be predicated of the direct object as shown in (15-16) (Simpson 1983). However, resultatives in Taiwanese may be predicated of either the object or the subject as in (17-18).

- (15) He washed his clothes clean.
(16) *He danced tired.
(17) i ciong sann se-kah cin cingghi. Object-Oriented Resultative
he CIONG clothes wash-KAH very clean
'He washed his clothes clean.'
(18) i thiau-kah cin thiam. Subject-Oriented Resultative
he dance-KAH very tired
'He danced himself tired.'

Descriptives in Taiwanese also differ from depictives in other languages in that they modify the (stative) verb rather than the subject or object as in (19), where *ukau giamtiong* 'very serious' refers to the degree of the person's being ill rather than the state he is in.

- (19) i penn-kah ukau giamtiong e. Descriptive
he sick-KAH very serious PRT
'He is seriously ill.'

Besides being different from secondary predication in other languages, these two types of secondary predication in Taiwanese still further differ from each other in aspects such as word order and passivization. As shown in (5) and (6), resultative and descriptive constructions have the same surface structure when the main verb is intransitive; for instance, in this case the main verb is *cau* 'run'. However, these two constructions demonstrate different word orders when the head verb is transitive, as

shown in (20) and (21). In the resultative construction (20), the object of the main verb may either precede (as in (20a)) or follow (as in (20b)) the verb, while in the descriptive construction (21), the object of the main verb must precede it.

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|---------|--|-------------|
| (20) a. | i e-a ching-kah phuakhi.
he shoe wear-KAH threadbare
'He wore the shoes threadbare.' | Resultative |
| b. | i ching-kah e-a phuakhi.
he wear-KAH shoe threadbare | |
| (21) a. | i ji sia-kah cin kin.
he word write-KAH very fast
'He writes very fast.' | Descriptive |
| b. | *i sia-kah ji cin kin.
he write-KAH word very fast | |

In terms of passivization, resultative and descriptive constructions also behave differently. Resultative constructions allow passivization, whether the main verb is transitive or intransitive. In (22) the object of the transitive verb *ching* 'wear' undergoes passivization. In (23) even though *pit* 'pen' is not the object of the transitive verb *sia* 'write', but the subject of the resultative clause, it can still undergo passivization. An intransitive verb in resultative constructions as in (24) also allows passivization. Descriptive constructions, however, do not have passive counterparts as shown in (25), where the descriptive *cin kin* 'very fast' modifies the head verb *sia* 'write'.

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|---------|--|
| (22) a. | i ciong e-a ching-kah phuakhi.
he CIONG shoe wear-KAH threadbare
'He wore the shoes threadbare.' |
| b. | e-a hoo i ching-kah phuakhi.
shoe HOO he wear-KAH threadbare
'The shoes were worn threadbare.' |
| (23) a. | i sia-kah pit bo cui a.
he write-KAH pen not-have ink PRT
'He wrote so much that the pen ran out of ink.' |
| b. | pit hoo i sia-kah bo cui a.
pen HOO he write-KAH not-have ink PRT
'The pen ran out of ink because he wrote so much.' |

- (24) a. i chio-kah ehai lauhkhi a.
he laugh-KAH jaw drop PRT
'He laughed so much that his jaw dropped.'
- b. ehai hoo i chio-kah lauhkhi a.
jaw HOO he laugh-KAH drop PRT
'His jaw dropped because he laughed so much.'
- (25) a. i ji sia-kah cin kin.
he word write-KAH very fast
'He writes very fast.'
- b. *ji hoo i sia-kah cin kin.
word HOO he write-KAH very fast
*'Words are written very fast.'

3. The head

Now that we have fully understood the subjects of this study, the following sections will focus on the internal structures of SVCs and secondary predication. Since more than one verb is involved in these two constructions, whether the first or second verb is the head is a question needing to be answered when discussing the structure. Again the following discussion will be divided into two subsections, one on SVCs and the other on secondary predication.

3.1 The head in SVCs

On analyzing SVCs from either West African languages or Creoles, Collins (1997), Law & Veenstra (1992), Muysken & Veenstra (1995), Sebba (1987), and Seuren (1991) all consider the first verb as the head, while Baker (1989) considers both verbs heads. Discussing SVCs in Mandarin Chinese, Li (1991) and Law (1996), however, propose that the verb with aspect markers attached is the head since it is often stated that serial verbs, that is the non-head verbs, are bare verbs (Sebba 1987). To illustrate, in (26a) the second verb is attached with the aspect marker *-le* and is considered the head, while in (26b) the first verb with *-le* attached is the head.

- (26) a. ta na dao qie-le rou. (Li 1991:104 (11))
he take knife cut-ASP meat
'He cut the meat with a knife.'

- b. ta na-le dao qie rou. (Li 1991:112 (13a))
 he take-ASP knife cut meat
 'He took the knife to cut meat.'

In Taiwanese, however, the attachment of aspect markers does not seem to provide much information as to which verb is the head. The reason is that most aspect markers in Taiwanese have to occur clause-finally, while those in Mandarin can occur more freely, as discussed in Lin (2001). The Taiwanese example (27b) is ungrammatical exactly because the aspect marker *-a* does not occur in the clause-final position. On the contrary, its Mandarin counterpart as shown in (28b) is well-formed. Since the placement of aspect markers does not help much in determining the head verb, this paper would like to offer other diagnostic tests based on negative markers and modals.

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|---------|---|-----------|
| (27) a. | i cianghakkim nia-tioh-a.
he scholarship receive-arrive-PER
'He received scholarship.' | Taiwanese |
| b. | *i nia-tioh-a cianghakkim.
he receive-arrive-PER scholarship | |
| (28) a. | ta jiangxuejin ling-dao-le.
he scholarship receive-arrive-PER
'He received scholarship.' | Mandarin |
| b. | ta ling-dao-le jiangxuejin.
he receive-arrive-PER scholarship | |

Before introducing other diagnostic tests, a few words regarding aspect markers are in order. Even though as discussed above, aspect markers in Taiwanese such as the perfective aspect marker *-a* and the durative aspect marker *-leh* must occur clause-finally, exceptions to this generalization can be found. For example, the experiential aspect marker *-kue* does not have to occur clause-finally, as shown in (29).

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|---------|---|
| (29) a. | i bat khi-kue litpun.
he ever go-EXP Japan
'He has been to Japan.' |
| b. | i litpun bat khi-kue.
he Japan ever go-EXP |

As such, the experiential aspect marker *-kue* can still be used as a diagnostic for determining the head. To illustrate, the first verb *theh* ‘take’ in (30a) is the head verb since the experiential aspect marker *-kue* can attach to it, while the second verb *chiat* ‘cut’ in (30b) should be the head as *-kue* attaches to it.

- (30) a. i theh-kue to-a chiat bah.
he take-EXP knife cut meat
‘He took the knife to cut meat.’
- b. i theh to-a chiat-kue bah.
he take knife cut-EXP meat
‘He cut the meat with a knife.’

Among aspect markers, *-a*, *-leh*, and *-kue* are all suffixes and only *-kue* does not have to occur in a clause-final position. In addition, the progressive aspect marker *leh-* is another aspect marker that does not have to occur clause-finally as it is a prefix as demonstrated in (31). In consequence, the prefix *leh-* can also be applied to test the headedness of a verb. For instance, the first verb *theh* in (32a) is considered the head as *leh-* is prefixed to it, while in (32b) the second verb *chiat* with *leh-* attached to it is the head.

- (31) i leh-chionnkua.
he PRG-sing
‘He is singing.’
- (32) a. i leh-theh to-a chiat bah.
he PRG-take knife cut meat
‘He is taking the knife to cut meat.’
- b. i theh to-a leh-chiat bah.
he take knife PRG-cut meat
‘He is cutting the meat with a knife.’

As is well recognized, serial verbs, that is the non-head verbs, are bare verbs and thus are not directly negated (Sebba 1987). In (33a) below *behiau* ‘cannot’ negates the first verb, which then cannot be the serial verb but should be the main verb; on the contrary, the second verb in (33b) is negated and thus is the main verb.

- (33) a. i behiau iong to chiu sia ji.
he cannot use left hand write word
‘He cannot use his left hand to write.’

- b. i iong to chiu behiau sia ji.
 he use left hand cannot write word
 ‘When using his left hand, he cannot write.’

Modals are also used with head verbs only. In (34a) the modal *ehiau* ‘can’ occurs with the first verb *iong* ‘use’, which is then the head verb; in (34b) the second verb *sia* ‘write’ which *ehiau* is used with is the head.

- (34) a. i ehiau iong to chiu sia ji.
 he can use left hand write word
 ‘He can use his left hand to write.’
 b. i iong to chiu ehiau sia ji.
 he use left hand can write word
 ‘When using his left hand, he can write.’

To sum up, SVCs in Taiwanese can have either V1 or V2 as the head verb. The diagnostic tests include the placement of aspect markers, negative markers, and modals. The verb that has one of these markers attached to is the head verb.⁶

3.2 The head in secondary predication

In recent literature for secondary predication in Mandarin Chinese, the first verb is often taken to be the head verb (Dai 1992, Ernst 1996, Huang 1988, 1992, Tang 1990, Tang 1992). As discussed in subsection 3.1, the attachment of aspect markers in Taiwanese does not provide much information as to which verb is the head. When it comes to secondary predication, even those exceptional aspect markers such as the experiential *-kue* and the progressive *leh-* cannot attach to the first verb as shown in (35) and (36).

⁶ One of the reviewers points out that the tests proposed here seem to fail to account for sentences like (i), where both an aspect marker *leh-* and a modal *beh* occur in an SVC. Even though *beh* in (ii) is clearly an instance of a modal, *beh* in (i) is not a modal; rather it functions more like a conjunction and expresses the meaning ‘in order to’. As defined in subsection 2.1, no overt conjunctions intervene between the verbs/VPs in SVCs. Since the verbs in (i) are intervened by an overt conjunction, it is not an instance of SVC. Not being an SVC, (i) naturally does not pose a problem for the tests provided here.

- (i) i leh-theh to-a beh chiat bah e si, ...
 he PRG-take knife want cut meat ASSOC time
 ‘When he is taking the knife to cut meat, ...’
 (ii) i beh theh to-a chiat bah.
 he want take knife cut meat
 ‘He wants to take the knife to cut meat.’

- (35) a. *i cau-kue-kah cin thiam. (cf. (5))
 he run-EXP-KAH very tired.
 ‘He ran himself tired.’
- b. *i penn-kue-kah ukau giamtiong e. (cf. (19))
 he sick-EXP-KAH very serious PRT
 ‘He was seriously ill.’
- (36) a. *i leh-cau-kah cin thiam.
 he PRG-run-KAH very tired.
 ‘He is running himself tired.’
- b. *i leh-penn-kah ukau giamtiong e.
 he PRG-sick-KAH very serious PRT
 ‘He is being seriously ill.’

However, diagnostic tests based on negative markers and modals can still be constructed to judge the headedness in secondary predication. As shown in (37) and (38), the negative marker *bo* ‘not’ and modal *e* ‘will’ can occur with the first verb in secondary predication, and thus the first verb should be taken to be the head.

- (37) a. i bo cau-kah cin thiam.
 he not run-KAH very tired
 ‘He did not run himself tired.’
- b. i bo penn-kah cin giamtiong.
 he not sick-KAH very serious
 ‘He is not seriously ill.’
- (38) a. i e cau-kah cin thiam.
 he will run-KAH very tired
 ‘He will run himself tired.’
- b. i e penn-kah cin giamtiong.
 he will sick-KAH very serious
 ‘He will be seriously ill.’

Even though as shown in (39), aspect markers (*leh-* in (39a)), negative markers (*bo* in (39b)), and modals (*beh* in (39c)) can also occur with the second verb in resultative constructions, the second verb is not taken to be the main predicate but the verb in a complement clause subcategorized for by a resultative *V-kah*, which will be argued for in subsection 4.2.

- (39) a. *i phah-kah gin-a leh-khau.*
 he hit-KAH child PRG-cry
 ‘He hit the child so much that the child is crying.’
- b. *i sia-kah pit bo cui a.*
 he write-KAH pen not-have ink PRT
 ‘He wrote so much that the pen ran out of ink.’
- c. *i sia-kah pit beh bo cui a.*
 he write-KAH pen will not-have ink PRT
 ‘He wrote so much that the pen will run out of ink soon.’

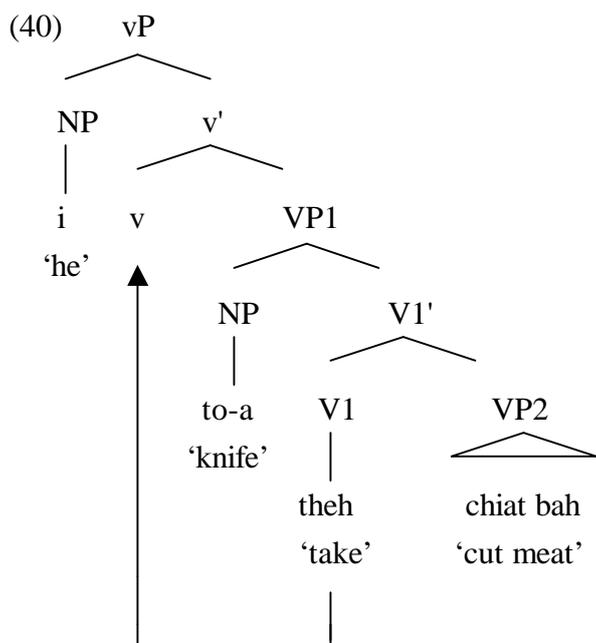
In sum, even though in SVCs either V1 or V2 can be the head, in secondary predication only V1 could be the head. As to the status of the non-head, it will be discussed in the following section.

4. Complements vs. adjuncts

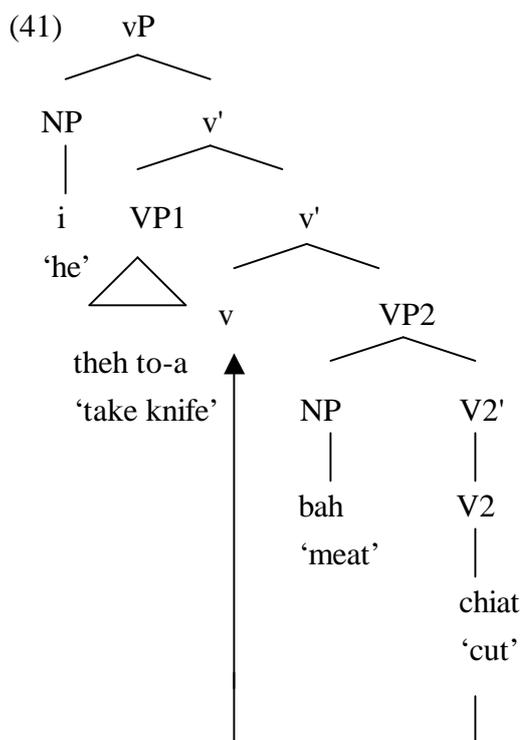
It has been argued that the head in SVCs and secondary predication can be identified through some diagnostic tests. The remaining question regarding the internal structure of these two constructions is: what is the status of the non-head? Would it be a complement or an adjunct? As discussed in subsection 2.1, the non-head in SVCs cannot be a proper complement of the head. As such, the non-head cannot be a real complement. Following Seuren (1991), I will adopt the concept of pseudocomplements for SVCs in Taiwanese. The following discussion on (pseudo)complements and adjuncts will again be divided into two parts, SVCs and secondary predication.

4.1 Pseudocomplements vs. adjuncts in SVCs

Sentence (11) is an example of SVC that shows external argument sharing. In (11) both V1 *theh* ‘take’ and V2 *chiat* ‘cut’ share the external argument, Agent, which is assigned to the subject *i* ‘he’. As discussed in subsection 3.1, V1 *theh* is the head when the experiential aspect marker *-kue* is attached to it as in (30a). (40) is proposed to be the D-structure for an SVC with V1 as the head. Following Kayne’s (1984) principle of binary branching and Larson’s (1988) VP-shell structure, the object of V1 takes the SPEC of VP1 position, while the verbal phrase VP2 takes the complement of V1 position. V1 has to move up to the *v* position to assign Case to the object *to-a* ‘knife’, which otherwise is not Case-marked, if we assume that Case is assigned from left to right in Chinese (Li 1990, Travis 1984).



When the aspect marker is attached to V2 as in (30b), V2 is considered the head with the D-structure as in (41), where VP1 is an adjunct adjoined to v'.



The two structures in (40) and (41) differ not only in the headedness but also in the status of the non-head. The non-head in (40) is proposed to be a pseudocomplement following the head verb, while that in (41) is an adjunct preceding the head.

The difference in the status of the non-head can be substantiated through the following extraction fact that adjunct extraction out of an adjunct island is banned. In (42) V1 *iong* ‘use’ is the head verb while V2 *sia* ‘write’ is the non-head since the modal *esai* ‘can’ occurs with V1. For the *wh*-question in (42b), (42a) is a possible answer. That means in (42b) the *wh*-adjunct *an-cuann* ‘how’ is extracted out of the non-head, VP2, at LF⁷ and the sentence is still grammatical. In (43), V2 *sia* is the head since the modal *esai* occurs with V2. On the contrary, the *wh*-question in (43b) shows island effects and the extraction of *an-cuann* ‘how’ out of the non-head phrase, VP1, results in ungrammaticality. It then follows that the two non-head phrases in (42b) and (43b) have a different status; the non-head in (42b) is a pseudocomplement while that in (43b) is an adjunct.⁸

- (42) a. i esai iong to chiu banban-a sia ji.
 he can use left hand slowly write word
 ‘He can use his left hand to write slowly.’
- b. i esai iong to chiu an-cuann sia ji?
 he can use left hand how write word
 ‘How can he use his left hand to write?’
- (43) a. i banban-a iong to chiu esai sia cin sui e ji.
 he slowly use left hand can write very beautiful ASSOC⁹ word
 ‘Slowing using his left hand, he can write beautifully.’
- b. *i an-cuann iong to chiu esai sia cin sui e ji?
 he how use left hand can write very beautiful ASSOC word
 *‘How can he use his left hand to write beautifully?’

Internal argument sharing is a common property of SVCs. SVCs in Taiwanese also abound with instances showing internal argument sharing. One of the examples is demonstrated in (4). In (4), the NP *png* ‘meal’ is an argument for both V1 *cu* ‘cook’ and V2 *ciáh* ‘eat’. Moreover, the shared argument often occurs between V1 and V2. Since an object can occur either before or after its verb in Taiwanese as shown in (44), it seems that the object between V1 and V2 in SVCs can either go with V1 or V2.

⁷ As proposed by Huang (1982), *wh*-movement in Chinese occurs at LF.

⁸ Veenstra (2000) takes a pseudocomplement to be an adjunct and argues that adjunct extraction out of a pseudocomplement is not possible. However, as shown in (42), adjunct extraction out of a pseudocomplement does not give rise to *wh*-island effects. Therefore, pseudocomplements are argued to differ from adjuncts.

⁹ One of the functions of *e* is as an associative marker, which associates or connects two elements.

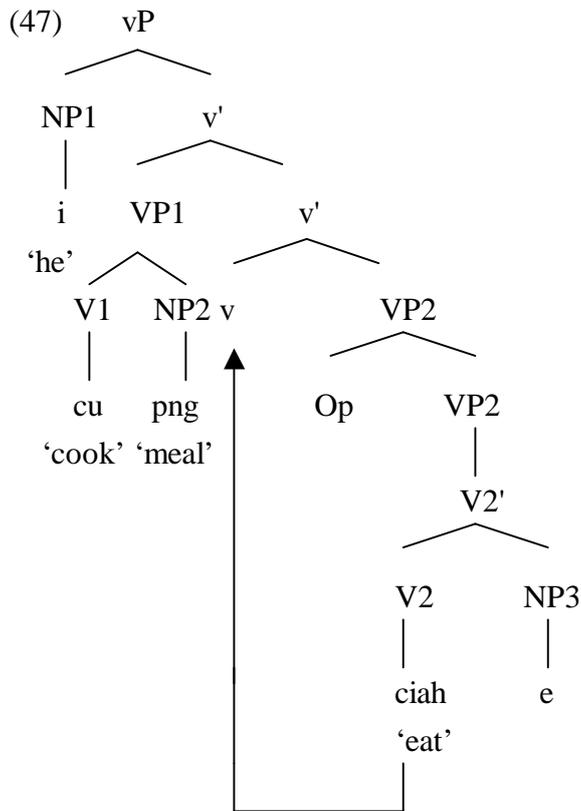
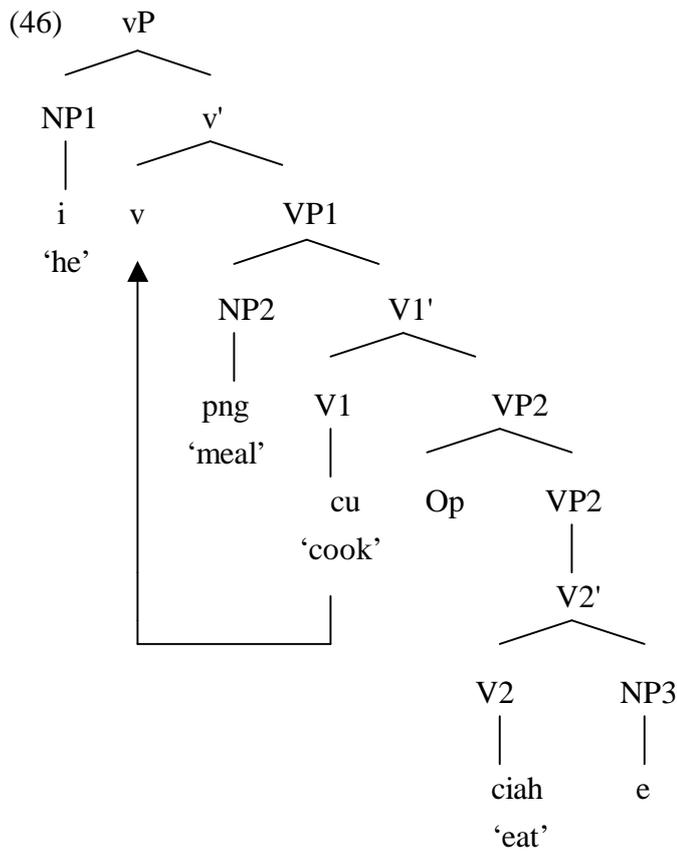
- (44) a. i leh-ciah png.
he PRG-eat meal
'He is eating the meal.'
- b. i png leh-ciah a.
he meal PRG-eat PRT
'That meal, he is eating.'

However, it is argued that the object between V1 and V2 in SVCs in Taiwanese goes with V1 whether V1 is the head or not. In (45a) V1 *cu* is the head verb and *png* is the object of V1 since *png* is overtly separated from V2 *ciah* by *lai* 'come', which has a function similar to *to* in English. (45b) has V2 as the head verb, and still *png* is the object of V1 *cu* as V2 can have its own overt object *citkua* 'some'.

- (45) a. i esai tak kang cu png lai ciah.
he can every day cook meal come eat
'He can cook the meal to eat every day.'
- b. i cu hia e png esai tak kang ciah citkua.
he cook there ASSOC meal can every day eat some
'He can eat some of those meals he cooked everyday.'

With the object between V1 and V2 going with V1, the next question to ask is what is the object of V2 since it is covert and semantically co-referential with the object of V1. Along the lines of argument given above for the structure of SVCs sharing the external argument, SVCs sharing an internal argument are argued to have either (46) or (47) as the D-structure. The non-head phrase is a pseudocomplement when V1 is the head as in (46) and the non-head phrase is an adjunct when V2 is the head as in (47). The object position of V2, NP3 in D-structures (46) and (47), is occupied by a variable as Huang (1989) argues that in Chinese the null element in the object position is a variable. When there is a variable, there exists an empty operator, which is adjoined to VP2 as Veenstra (2000) argues to be the case for SVCs.¹⁰

¹⁰ Another possibility is that the empty operator is in the SPEC of VP2. However, this analysis would wrongly predict that extraction out of a VP would give rise to *wh*-island effects. Thus this possibility has been ruled out by several scholars such as Collins (1993) and Law & Veenstra (1992).



The variable, as Chomsky (1982, 1986) proposes for purposives in English, has to be free in the domain of the operator, which is VP2 in this case, but bound outside the

domain of the operator. The binder of the operator, however, is pragmatically determined. This is also the reason why unlike Collins (1997), this paper does not argue that the empty category in NP3 is a pro. Being a pro, NP3 would have to be controlled by the nearest c-commanding NP, in accordance with Larson's (1991b) version of the Minimal Distance Principle, which states that "an infinitive complement of a predicate P selects as its controller the minimal c-commanding noun phrase in the functional complex of P." (p. 115) That means the covert object of V2 in an SVC with V1 as the head, NP3 in (46), would always be controlled by NP2, which is the nearest noun phrase c-commanding NP3. However, this is proven to be wrong by examples such as (14), repeated here for ease of reference. V2 *hing* 'return' in (14) is a ditransitive verb with a covert direct object. Even though the covert direct object is understood to be *cinn* 'money', it is not necessarily co-referential with the overt object of V1 *nia* 'withdraw'. It is possible that he withdraws one thousand dollars but only pays you five hundred dollars. The direct object of V2 can be overtly shown as in (48).

- (14) i e nia cinn hing li.
he will withdraw money return you
'He will withdraw money to pay you back.'
- (48) i e nia cinn hing li goo pah.
he will withdraw money return you five hundred
'He will withdraw money to pay you back five hundred dollars.'

SVCs with V2 as the head also demonstrate the same pattern of binding as shown in (49).¹¹ The covert direct object of V2 *hing* 'return' again is not co-referential with the overt object of V1 *nia* 'receive'. *Cinn*, the object of V1, in this example can refer to the salary, not simply money, while the covert object of V2 does not refer to the salary, but to the money, which can be overtly shown as in (50).

¹¹ One of the reviewers points out that there seems to be a contrast between the two types of SVC as in (i) and (ii). While *tioh* can be used in (i), its occurrence in (ii) results in ungrammaticality. Unlike *e* 'will' in (49), *tioh* 'then' in (i) and (ii) is actually a conjunction. The verbs/VPs in (i) and (ii) are intervened by an overt conjunction, and thus (i) and (ii) are not SVCs at all. *Tioh* is often used to indicate the sequence of two events which in nature occur in a fixed order. In (i) the event of paying back occurs after the event of receiving the salary and thus the use of *tioh* is suitable. Even though there seem to be two events involved in (ii) also, that is taking/holding the knife and cutting the meat, the two events do not occur one after the other; rather they overlap. While cutting the meat, the event of holding the knife is still going on. The use of *tioh* is thus unjustified in (ii).

- (i) i nia cinn tioh hing li.
he receive money then return you
'After receiving his salary, he will pay you back.'
- (ii) *i theh to-a tioh chiat bah.
he take knife then cut meat

- (49) i nia cinn e hing li.
 he receive money will return you
 ‘After receiving his salary, he will pay you back.’
- (50) i nia cinn e hing li i khiam e cinn.
 he receive money will return you he owe ASSOC money
 ‘After receiving his salary, he will pay you back the money he owes.’

As such, the binder of the empty operator of NP3 is not necessarily NP2, but pragmatically determined, which means the binder could be NP2 or something else as long as it is pragmatically possible.

To sum up, SVCs are argued to have two possible structures. When V1 is the head, the non-head phrase is a pseudocomplement, while the non-head is an adjunct when V2 is the head. As to the NP between V1 and V2 in SVCs sharing an internal argument, it always goes with V1 whether V1 is the head or not. Furthermore, a transitive V2 is argued to have a covert object at D-structure, which has a pragmatically-bound empty operator.

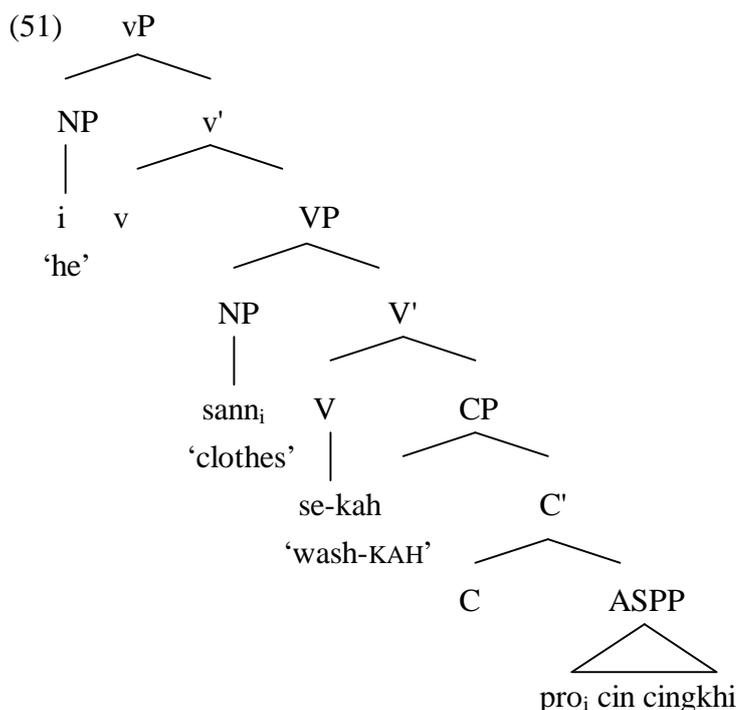
4.2 Complements vs. adjuncts in secondary predication¹²

Adopting Larson’s (1991b) structure for *persuade*-type sentences, Lin (2003) proposes a control analysis for resultatives in Taiwanese, which are argued to be clausal complements subcategorized for by *V-kah* and the subject of the clausal resultative may be occupied by a lexical NP or *pro*. In the case of *pro*, according to the Minimal Distance Principle, it is controlled by the closest potential antecedent which c-commands it. Thus, a resultative construction headed by a transitive verb such as (17) is argued to have (51) as its D-structure. *Se-kah* in (51) is subcategorized for both an NP object, which takes the SPEC of VP position, and a resultative clause, which occupies the inner complement position. The empty subject in the resultative clause is taken to be *pro*, for this position could be occupied by a lexical NP as in (23a), where *pit* ‘pen’ takes the position of the subject of the resultative clause. (17) is derived from the D-structure (51) after the case marker *ciong* is inserted to assign Case to the object *sann* ‘clothes’, since *sann* is not in a Case-marked position.¹³ The *pro* in the resultative clause is controlled by the closest c-commanding NP, which is *sann* in this case. *Cin cingghi* ‘very clean’ predicates on the *pro* subject, which, in turn, is controlled by the object of *se-kah*, and thus (17)

¹² The structure of secondary predication is partly discussed in Lin (2003). The argument is repeated here for comparison with SVCs.

¹³ Another option for the object *sann* to receive Case is to move the verb *se-kah* up to the higher vP shell to assign Case to it.

is a case of object-oriented resultative.



The status of *-kah* being a verbal suffix in resultative constructions still requires some clarification. Some scholars take the counterpart of *-kah* in Mandarin, that is *-de*, as a suffix which is attached to V in the lexicon and V-*de* is considered a complex verb. For instance, Tang (1992) proves that V-*de* works as a single unit by citing examples such as (52),¹⁴ where the whole complement clause after *-de* is omitted. A large number of examples of this type can also be found in Taiwanese as shown in (53),^{15,16} where the whole complement clause after *-kah* can also be omitted. Therefore, it is plausible to take *-kah* as a suffix attached to V in the lexicon.¹⁷

¹⁴ (52) is taken from Li (1963:400).

¹⁵ Example (53) is from Lien, Cheng, & Wang (1996:45).

¹⁶ Tang (1992), however, does not propose that *-kah* in Taiwanese forms a complex verb with the preceding verb. Instead, he posits that *-kah* in the resultative construction, a preposition-like element, heads the PP adjunct at D-structure and then only after reanalysis is *-kah* attached to the V.

¹⁷ Examples like (53) are considered truncated sequences by Li (2002). *-Kah* is used to indicate excessive extent, and in some cases the truncated part can be recovered as in (i). In this paper, this type of example is considered a resultative construction. This proposal is not inconsistent with Li's analysis as resultative constructions often denote the extent reading '...to the extent that...'.
 (i) gua thiam-kah beh si.
 I tired-KAH almost die
 'I almost tired to death.'

Li also discusses truncated sequences like (ii), which may be either a resultative or a descriptive construction since there are two possible ways to restore the truncated part. If the truncated part is restored as (iii), (ii) is an instance of descriptive construction, while if (iv) is the restored sequence, (ii) is then a resultative construction.

(52) haier, kan ni na xie lan-de, ba zhe shuang xie chuan-shang.
 child look you that shoe worn-out-DE BA this pair shoe wear-on
 ‘Child, look, your shoes are all worn out. Put on this pair.’

(53) cau-kah gua thiam-kah.
 run-KAH I tired-KAH
 ‘I got so tired from running.’

In addition, further evidence can be found in Taiwanese data to further strengthen this argument. That is, *V-kah* can take not only a clausal complement but also an NP complement as shown in (54). To give a unifying account of the two sequences [*V kah* Clause] and [*V kah* NP], it is more plausible to say that *V-kah* takes as its complement either a clause or NP, rather than that *V* takes as its complement either *kah* followed by a clause or *kah* followed by an NP.

(54) i cu-kah hiah ce chai.
 he cook-KAH that many dish
 ‘He cooked so many dishes.’

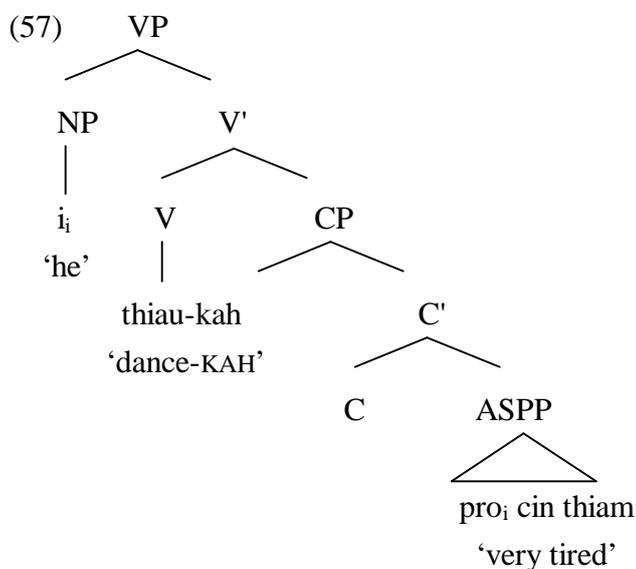
Also *V-kah* has the same argument structure as *V* except for one extra theta-role, that is Result, which is assigned to the resultative clause. For instance, *khau* ‘cry’ is unergative and *khau-kah* is also unergative as in (55); *se* ‘wash’ is transitive and *se-kah* is also transitive as in (56). *Khau-kah* differs from *khau* (and *se-kah* differs from *se*) in that the former assigns an extra theta-role, Result.

(55) a. i khau cin ku.
 he cry very long
 ‘He cried for very long.’
 b. i khau-kah chiukina tamkhi a.
 he cry-KAH handkerchief wet PRT
 ‘He cried so much that the handkerchief got wet.’

(ii) ...khi piansoo thoo-kah.
 go bathroom throw-up-KAH
 ‘... throw up seriously at the bathroom.’
 (iii) ...khi piansoo thoo-kah cin lihai.
 go bathroom throw-up-KAH very serious
 ‘... throw up seriously at the bathroom.’
 (iv) ...khi piansoo thoo-kah khia-be-khilai.
 go bathroom throw-up-KAH stand-not-up
 ‘...throw up so seriously that he cannot stand up.’

- (56) a. i leh-se sann.
 he PRG-wash clothes
 'He is washing clothes.'
- b. i ciong sann se-kah cin cingkhi.
 he CIONG clothes wash-KAH very clean
 'He washed his clothes clean.'

One great difference between Taiwanese resultatives and English resultatives is that the former can be subject-oriented as shown in (18), while the latter cannot as shown in (16). The unergative *thiau-kah* in (18) is subcategorized for a result clause and thus the subject-oriented resultative in (18) is proposed to have a D-structure as in (57). *Cin thiam* 'very tired' in (57) predicates on the pro subject, which is controlled by the main subject; (18) is thus a case of subject-oriented resultative.

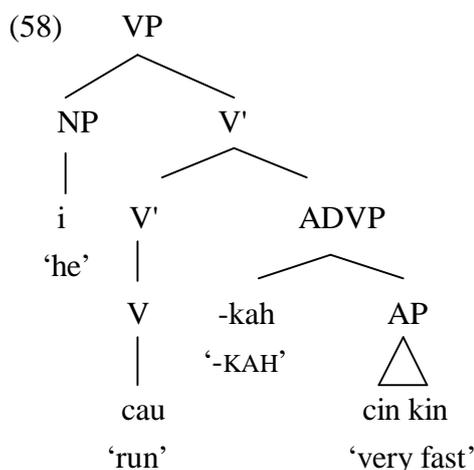


As for the descriptive phrase in descriptive constructions such as *-kah cin kin* 'very fast' in (6), it modifies the head verb. Since only adverbs have the function of modifying verbs, the descriptive phrase, that is *-kah cin kin*, is argued to have the status of an ADVP. The phrase following *-kah*, that is *cin kin* in (6), is an AP. Therefore, *-kah* in descriptive constructions is like an adverbial marker that changes an AP into an ADVP.¹⁸ The D-structure of a descriptive construction such as (6) is

¹⁸ In Taiwanese, preverbal adverbs such as *banban-a* 'slowly' as in (i) are derived from an adjective, *ban* 'slow' in this case, which is suffixed by *-a*, while in a postverbal position, they have to occur in an adjectival form introduced by *-kah*, which converts an AP into an ADVP, as shown in (ii).

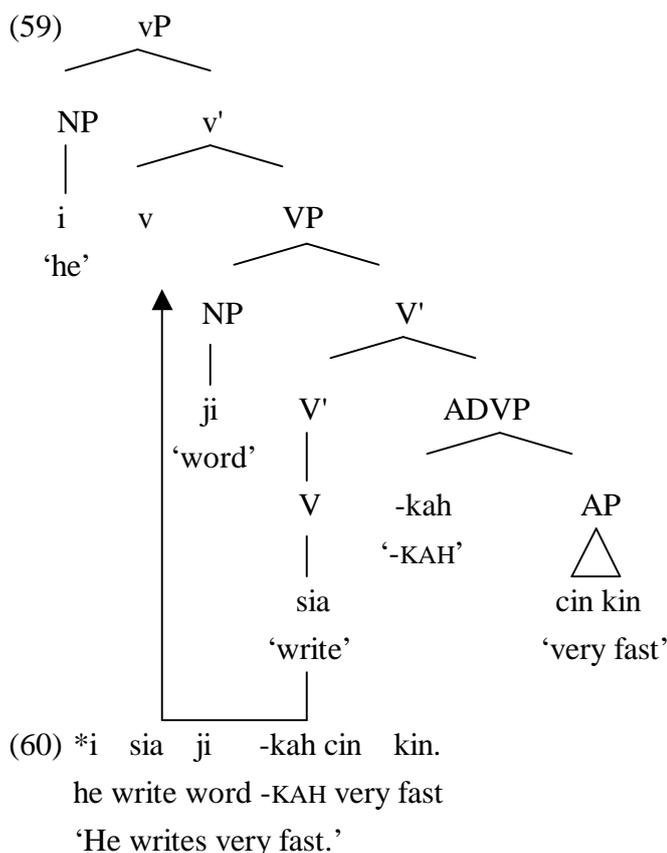
- (i) i banban-a cau.
 he slowly run
 'He ran slowly.'

proposed to be (58), where the descriptive phrase is an adverbial adjunct adjoined to V'. Moreover, *-kah* in descriptive constructions functions differently from *-kah* in resultative constructions. *-Kah* in resultative constructions attaches to V in the lexicon and *V-kah* as a whole is inserted under an appropriate V node in syntax, while that in descriptive constructions attaches to V only at the PF level because it is a clitic-like element which cannot stand alone and must attach to the preceding verbal element.



The difference in the status of *-kah* then explains the difference between resultative and descriptive constructions in terms of word order. As discussed in subsection 2.2, when the main verb is transitive, these two constructions demonstrate different word orders. In the resultative construction (20), the object of the main verb may either precede or follow the verb, while in the descriptive construction (21), the object of the main verb must precede it. The D-structure of the descriptive construction in (21) is proposed to be (59), where the object of *sia* 'write' takes the SPEC of VP position. *Ji* is not in a Case position; the verb *sia* thus moves up to a higher VP shell to assign Case to it. The resultant sentence is (60), which is, however, ungrammatical, since *-kah* as a clitic stands alone and does not attach to the verb. (21b) also cannot be derived from (60) since the NP *ji* stands in between the verb *sia* and *-kah*, and thus *-kah* cannot attach to the preceding verb. From (60), if the NP *ji* is further proposed to be emphasized, it may adjoin to VP, as Ernst & Wang (1995) argue that an NP can move to adjoin to VP for emphasis or contrast, and the derived sentence will be grammatical (21a), where the NP object occurs before the verb and *-kah* attaches to the verb *sia*.

(ii) i cau-kah cin ban.
 he run-KAH very slow
 'He ran slowly.'



As for the resultative construction in (20), its D-structure is something like (51), and after *ching-kah* moves up to a higher VP shell to assign Case to the NP object *e-a*, (20b) is derived. If the NP *e-a* is further preposed to adjoin to VP, (20a) is then derived.

Different *-kah*'s in descriptive and resultative constructions also account for their difference in passivization. As discussed in subsection 2.2, active resultative, but not descriptive, constructions have passive counterparts as shown in (22-25). That *sia* 'write' in the descriptive construction does not have a passive counterpart as shown in (25b) is the same as the case where *sia* in a simple clause does not have a passive counterpart as shown in (61b). This is for reasons such as that passive constructions must signal disposal and both (25) and (61) lack the sense of disposal (Li & Thompson 1981). The resultative *sia-kah* is apparently different from a simple *sia*. As discussed above, *V-kah* assigns an extra theta-role, Result. Precisely because of the extra theta-role assignment, *V-kah* has imposed the sense of disposal on the NP object, and thus *V-kah* can occur in the passive construction. *Sia-kah* in (23a) is thus different from *sia(-kah)* in (25a) and the passive counterpart of the former is grammatical as shown in (23b), while that of the latter is not as in (25b).

- (61) a. i leh-sia ji.
 he PRG-write word
 ‘He is writing words.’
- b. *ji leh- hoo i sia.
 word PRG- HOO he write
 ‘Words are being written by him.’

To sum up, the non-head in resultative constructions is argued to be a clausal complement subcategorized for by *V-kah*, while that in descriptive constructions is an adverbial phrase headed by *-kah*. The difference in structure and status of *-kah* nicely explains the different behavior of these two constructions in terms of word order and passivization.¹⁹

5. The status of V1 and V2

For SVCs, Sebba (1987) proposes that the class of verbs that can be used as serial verbs is highly restricted lexically and they include verbs of movement such as *come*, *go*, etc., verbs denoting taking, giving, killing, hitting, and surpassing. All these are also found in SVCs in Taiwanese. However, there seem to be no such restrictions on serial verbs in Taiwanese. Various kinds of activity-denoting verbs such as *sia* ‘write’ in (33a) and *cu* ‘cook’ in (45b) can all be serial verbs. Likewise, those activity-denoting verbs can also serve as the head verb in SVCs. Compared with other languages, Taiwanese seems to be quite free in terms of the verbs that can occur in SVCs. However, it should be noted that as in other languages, Taiwanese allows only activity-denoting verbs in SVCs.

As for the head verb in secondary predication, Tang (1992) proposes that the head verb in descriptive constructions is restricted to actional verbs such as *cau* ‘run’ in (6). However, in fact a stative verb such as *penn* ‘sick’ in (19) can also be the main predicate in a descriptive construction. Other than these two types of verb, ergative verbs such as *kiann* ‘feel scared’ in (62) and causative verbs such as *kiann* ‘scare’ can be the main predicates in descriptive constructions as well.

¹⁹ As discussed in footnote 17, whatever comes after *-kah* in a descriptive construction as well as in a resultative construction can be omitted. What is omitted in a descriptive construction is an AP, while a truncated resultative construction has a clause omitted. However, the two *-kah*’s are still argued to differ from each other as the omission of the clause in resultative constructions is not the only argument for the analysis that the resultative *V-kah* is formed in the lexicon. The resultative *V-kah* can also subcategorize an NP complement as in (54), which is not possible with the descriptive *-kah*. While the resultative *V-kah* assigns one extra theta-role, Result, the attachment of the descriptive *-kah* to V does not give rise to an extra theta-role. What is more, the difference in the status of *-kah* well explains the difference demonstrated by these two constructions in syntactic behavior such as word order and passivization as discussed above.

- (62) i kiann-kah cin lihai.
he feel-scared-KAH very serious
'He feels extremely scared.'
- (63) i ciong in laope kiann-kah cin lihai.
he CIONG his father scare-KAH very serious
'His father was extremely scared by him.'

All these four types of verb can also be the main predicate in a resultative construction. For instance, the activity verb *cau* 'run' in (5), the stative verb *penn* 'sick' in (64), the ergative verb *huan* 'feel annoyed' in (65), and the causative verb *huan* 'annoy' in (66) are all main predicates in resultative constructions.

- (64) i penn-kah khia-be-khilai.
he sick-KAH stand-not-up
'He is so sick that he can not stand up.'
- (65) i huan-kah beh si.
he feel-annoyed-KAH almost die
'He feels extremely annoyed.'
- (66) i ciong in laope huan-kah beh si.
he CIONG his father annoy-KAH almost die
'His father was extremely annoyed by him.'

The class of verbs that can be used as V2 in descriptive constructions includes only those stative verbs that can modify the main predicate, such as *kin* 'fast' in (6), *giamtiong* 'serious' in (19), and *lihai* 'serious' in (62). As for V2 in resultative constructions, any verb can occur as V2, as long as the verb can be used to express the result.²⁰ To illustrate, the stative verb *thiam* 'tired' in (5), the activity verb *khau* 'cry' in (39a), the ergative verb *huan* 'feel annoyed' in (67), and the causative verb *huan* 'annoy' in (68) can all be V2 in resultative constructions.

- (67) i khi-kah ciok huan e.
he feel-angry-KAH very feel-annoyed PRT
'He is so angry that he feels extremely annoyed.'

²⁰ At first glance, V2 in descriptive constructions seems to be highly restricted, while no such restrictions hold for V2 in resultative constructions. One of the reviewers comments that this seems to be counter-intuitive since adjuncts should have no restrictions while complements should be restricted. However, the expression that only verbs that can modify V1 can be V2 in a descriptive construction is just as restricted/nonrestricted as the statement that only verbs that can express results caused by V1 can be V2 in a resultative construction. It just so happens that only stative verbs can be converted into adverbs to modify the main verb, while many types of verb can be used to express results.

- (68) i khi-kah it-tit leh-huan in laope.
 he feel-angry-KAH continuously PRG-annoy his father
 ‘He is so angry that he keeps annoying his father.’

6. Similarities and differences

To summarize the analysis proposed in this paper, details aside, SVCs and secondary predication in Taiwanese appear to have similar structures. The non-head phrase is either a (pseudo)complement or an adjunct. The (pseudo)complement occurs as the sister of the head verb, while the adjunct is adjoined to *v'/V'*. The two constructions, however, differ in the position of the adjunct. The adjunct occurs preverbally in SVCs while that in secondary predication occurs postverbally. This difference results from the occurrence of *-kah* in secondary predication. Being a clitic in descriptive constructions, *-kah* is required to attach to a preceding verb at PF.

The two constructions also differ in the headedness. While in SVCs either V1 or V2 can be the head verb, in secondary predication only V1 can be the head. Another major difference between these two constructions is in the status of the covert NP related to V2. In SVCs, the covert NP is the object of V2 and is argued to be a variable since it is not obligatorily controlled by the nearest NP. The covert NP in resultative constructions is the subject of the complement clause. Unlike the covert object in SVCs, the covert NP in resultative constructions is argued to be a *pro*, which is subject to the Minimal Distance Principle.

The candidates for the verbs in the two constructions are also different. In general, the candidates for the verbs in secondary predication are quite free, except for V2 in descriptive constructions, while verbs in SVCs are often restricted to activity-denoting verbs.

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連動式相對於次要謂語結構

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連動語是指擁有連動式的語言，而非連動語則擁有次要謂語。臺灣話同時擁有此二結構，因此難以判斷其該屬何種語言。本文探討此二種結構以瞭解他們有何異同之處。本文以為雖然他們的非主要語皆為一（表面）補語或附加語，但在其他方面仍有相異之處。例如，連動式的第一或第二動詞可為主要語，而在次要謂語結構中僅第一動詞可為主要語。又連動式的附加語位於主要動詞之前，而次要謂語結構中的附加語則出現在動詞之後。此外，在探討不可見名詞組的身份以及何類動詞可出現在此二種結構中等問題時，亦可發現此二結構差異之處。

關鍵詞：連動式、次要謂語結構、補語、附加語、臺灣話