

# 論台灣閩南語有-V 類型形容詞的謂語表現

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## 摘要

本篇論文主要探討有關台灣閩南語帶有‘有+及物動詞’謂語的句型，如：這款衫有穿，尤其是閩南語‘有’在此類句型中所扮演的角色及功能。不論在構詞，句法，或語意上，這類句型都具有其獨特的表現。例如，當‘有’和及物動詞結合，會抑制(suppress)動詞帶有主事者角色的域外論元出現於句子的主語位置；因而促使動詞的其他參與角色提升為主語。此外，我們發現在這類句型中，‘有’和及物動詞的結合無論在句法或語意的表現上都與形容詞相似。謂語‘有+及物動詞’主要用來表達主語的特性，而非動詞所表達的事件。

在本篇論文中，我們主要討論下列幾個問題。第一，到底‘有’在這類句型中扮演什麼樣的角色，使動詞產生詞類上的變化，又帶有去論元化(dethematizing)的特性。第二，哪類的動詞才適合出現在這類句型當中。第三，動詞的哪個參與角色會成為這類句型中的主語。最後，討論有關此類句型的語意表現。

根據前人對形容詞特性的分析，本篇論文提出閩南語‘有’在這裡扮演前綴(prefix)的角色。當其加接到動詞上，形成閩南語中的‘有-V’形容詞，並刪略動詞的域外論元。爲了不違反 Chomsky 的「擴充投射原則(Extended Projection Principle)」，動詞的其他參與角色因此提升至主語位置。此外，因爲‘有-V’形容詞爲一由動詞轉化的程度形容詞(deverbal gradable adjective)並帶有開放尺標(open scale)的語意，根據 Kennedy & McNally (1999, 2005)的分析，僅有不帶自然終結點的動詞能出現於此種形容詞中。另外，本篇論文也提出動詞的任何參與角色都會是此句型主語的候選人，但必須符合的條件是，此參與角色必須在形容詞語意所提供的面向(dimension)上具有可延展的特性。而動詞的語意決定了形容詞的尺標建立的面向，也因而決定了此類‘有-V’形容詞的語意。最後，本論文也提到了閩南語‘有’從主要動詞，動貌動詞(aspectual verb)，到前綴的語法化過程。

關鍵詞: 台灣閩南語；有；由動詞轉化的形容詞

## On the Predicative Use of Taiwanese *U-V* Adjectives

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### Abstract

The purpose of this thesis is to study the syntax and semantics of Taiwanese sentences like *Tsit khuan sann tsin u-tshing* ‘This kind of clothing is quite durable’ and *Tsit-e oann u-te* ‘This bowl has high-capacity’, especially the function of *u* in this NP + *u-V* construction. This construction has its unique morphological, syntactic, and semantic properties. More specifically, the *u* combines with the transitive verb and triggers the suppression of the external argument carrying an agent role. And instead of being a verb, the combination of *u-V* acts as an adjective. Therefore, the predicate expresses the property of the derived subject instead of representing an event denoted by the activity verb like *tshing* ‘wear’ or *te* ‘load’.

In this thesis, we deal with the following questions that any analysis of this construction must address: (A) What kind of function does *u* play in this construction to trigger the categorical change of the verb and the dethematizing property involved in the verb? (B) Why are some verbs incompatible with this construction? (C) How do we identify the derived subject? That is, which internal argument or adjunct of the base verb would be promoted to the subject position? And finally, (D) how do we derive the various semantics of the construction?

We propose that *u* as an adjectival prefix in the deverbal adjective *u-V* changes a verb into an adjective and triggers the dethematizing process of the base verb. Given the fact that the agent role, which always occupies the subject position, is suppressed, following Chomsky’s Extended Projection Principle, other participants of the verb will realize as the surface subject. Next, since *u-V* is a deverbal gradable adjective with an open scale, in line with Kennedy & McNally (1999, 2005), only verbs with no natural ending point are compatible with a *u-V* adjective. As for the derived subject, we propose that any participant of the event denoted by the verb will be the candidate for the subject position. However, there is a condition for the participant: it should have an expandable property associated with the dimension of the scale structure. The semantics of the source verb determines the dimension where the deverbal adjective’s scale establishes on and, therefore, also determines the semantics of *u-V* adjectives. Finally, it is observed that Taiwanese *u* undergoes a grammaticalization process from main verb, aspectual verb, to prefix.

Keywords: Taiwanese Southern Min ; *u* ; deverbal adjective

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## Chapter 1

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### Introduction

The polyfunction of *u* in Taiwanese Southern Min (henceforth Taiwanese) has drawn the attention of many linguists (e.g. Cheng 1981, Tsao and Cheng 1995, Tsao 1999, Tsai 2002), and studies have focused primarily on the following usages: a verb meaning ‘have’, a verb denoting ‘exist’, an auxiliary indicating the presentational reading, an existential aspect, and an emphatic marker, as shown by (1a-e), respectively.

(1) a. Gua u sann kho gin.

I U three CL<sup>1</sup> dollar

我有三籊銀

‘I have three dollars.’

b. Tshu lai u langkheh.

house inside U guest

厝內有儂客

‘There are guests in the house.’

c. U lang lai a.

U person come SFP

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<sup>1</sup> Abbreviations used in this paper are as follows: V: verb; NP: noun phrase; DA: degree adverb; CL: classifiers; G: gradable adjectives; d: degree argument; Deg(P): degree (phrase); ASP: aspect marker; SFP: sentence final participle; DE: verbal suffix or marker for modifying phrases like genitive phrases, relative clauses, and noun complement clauses.

有儂來啊

‘Someone’s coming.’

d. Gua u be Lim kausiu e tsheh a.

I U buy Lin professor DE book SFP

我有買林教授的冊啊

‘I have bought professor Chao’s book.’

e. Hue u ang.

flower U red

花有紅

‘This flower is quite red.’

However, there exists another usage, as shown by (2a-b).

(2) a. Tsit khuan bi u-tsu. (henceforth NP + *u*-V construction)

this kind rice U-cook

這款米有煮

‘This kind of rice when cooked produces more servings’

b. Tsit khuan sann tsin u-tshing.

this kind clothing very U-wear

這款衫真有穿

‘This kind of clothing is quite durable.’

This construction has its unique morphological, syntactic, and semantic properties.

More specifically, the *u* combines with the transitive verb and triggers the suppression of the external argument carrying the agent role. In addition, the internal argument, as

(2) shows, is promoted to the subject position. Furthermore, the sentence expresses the property of the derived subject instead of representing an event denoted by the activity verb like *tsu*/煮 ‘cook’ in (2a) or *tshing*/穿 ‘wear’ in (2b).

The purpose of this thesis is to study the syntax and semantics of sentences like (2a-b), especially the function of *u* in this NP + *u*-V construction. We propose that *u* as an adjectival affix prefixes to a transitive verb and forms the adjective *u*-V. Also, in this deverbal adjective, the base verb of *u*-V plays an important role in determining the derived scale structure implied in the deverbal adjective.

This thesis proceeds as follows. In Chapter 2, we will discuss the properties of the NP + *u*-V construction, and this discussion will help us to crystallize the questions that this paper addresses. In Chapter 3, some previous studies of the NP + *u*-V construction will be discussed, in particular the in-depth discussion proposed by Lien (2006). In Chapter 4 we will introduce some basic assumptions about adjectives and deverbal adjectives. Finally, we shall present our proposal. In Chapter 5, we relate the prefix *u*- with other usages of *u* in Taiwanese, and find that there is a grammaticalization process involved in Taiwanese *u*. The conclusion will be stated in Chapter 6.

## Chapter 2

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### The Characteristics of NP + U-V Construction in Taiwanese

The NP + *u*-V construction has the following syntactic and semantic characteristics: First, there is a category-changing affixation involved in this construction (cf. Lien 2006). More specifically, the combination of *u* and the verb forms an adjective. According to Zhu's (1982: 55) criterion for distinguishing verbs from adjectives in Chinese, an adjective must be modified by the degree adverb *hen* 'very' and can not take an object as its complement. Given this criterion, we find that the *u*-V combination in Taiwanese is categorically an adjective because we should use degree adverbs like *tsin*/真 'very', *khah*/較 'more', *siong*/上 'most' etc., to modify it as shown in (3). Also, it can not take an object like *sann*/衫 'clothing' as its complement as illustrated by the ungrammaticality of (4).

(3) *Tsin/khah/siong u-tshing.*

Very/more/most U-wear

真/較/上 有穿<sup>2</sup>

'Very/more/most durable'

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2 It is noticed that the degree adverb seems to be optional in this construction, as (i) illustrates.

(i) *Tsit-nia sann u-tshing.*  
this-CL clothing U-wear  
這件衫有穿  
'This article of clothing is durable.'

We will show that there is a haplology phenomena involved in (i). A further discussion will be shown in Chapter 4.

(4) \*Tsin u tshing sann.

very U wear clothing

\*真有穿衫

Moreover, *u-V* can appear in many other syntactic positions or constructions where adjectives can appear, for example, in a prenominal position like (5) and comparative construction, a property that is true only for gradable adjectives as shown in (6).

(5) a. Gua beh tsit te khah u-tshing e poo. (Prenominal position)

I want one CL more U-wear DE cloth

我欲一塊較有穿的布

‘I want a more durable piece of cloth.’

b. Gua suiau tsit kha kha u-te siunn-a lai te mihiang

I need one CL more U-load DE box come load thing

我需要一卡較有裝的箱子來裝東西

‘I need a high-capacity box to load things.’

(6) a. Tsit nia sann pi hit nia sann u-tshing. (Comparative construction)

This CL clothing than that CL clothing U-wear

這件衫比那件衫有穿

‘This article of clothing is more durable than that one.’

b. Ang te pi lik te khah u-phau.

black tea than green tea more U-brew

紅茶比綠茶較有泡

‘Black tea can be infused more repeatedly than green tea.’ (Li 1996: 157)

In comparative constructions like (6a), the predicate signals the property along which the two items are being compared. Since activity verbs such as *tshing/穿* ‘wear’ denote events instead of properties, they are incompatible with this construction. The grammaticality of (6a) indicates that the combination of *u* and the activity verb *tshing/穿* ‘wear’ doesn’t form a verb phrase that denotes an event, but shows the property of the subject. Furthermore, *u*-V can undergo the coordination test as shown in (7), where the conjuntor *koh/攞* ‘and also’ is used to connect two phrases with the same category. Because *sui/水* ‘beautiful’ is an adjective, it is predicted that the phrase that can conjoin with it should be also an adjectival category. Therefore, *u-tshing/有穿* is also an adjective.

- (7) Tsit nia sann sui koh u-tshing. (Coordination)  
 this CL clothing beautiful and U-wear  
 這件衫水攞有穿



‘This article of clothing is beautiful and durable.’

As discussed above, the activity verb *tshing/穿* ‘wear’ undergoes the process of category conversion when it combines with *u*. This empirical fact leads to the following questions: what is the factor that causes this categorical change, and what is the role that *u* plays in this construction?

Second, transitive verbs which can combine with *u* to form adjectives are restricted to atelic verbs (cf. Lien 2006). Thus, accomplishment verbs and achievement verbs are excluded by this construction. This is illustrated by the

ungrammatical sentences in (8).

(8) a. \*Taipak tsin u-kau.

Taipei very U-arrive

\*台北真有到

b. \*Lau lang tsin u-si.

old person very U-die

\*老人真有死

Furthermore, we find that atelic verbs without agent roles are also ruled out by this construction, as exemplified by (9).

(9) a. \*Hit e tsaboo gin-a tsin u-khuann.\*

that CL girl child very U-look

彼個女孩真有看

b. \*Tsit siu kua tsin u-thiann.

this CL song very U-listen

\*這首歌真有聽

c. \*Tsit tiau tsua khah u-kiann.

this CL snake more U-fear

\*這條蛇較有驚

d. \*In tau e lang tsin u-hun.

his family DE people very U-hate

\*他家的人真有恨

The verbs in (9) are perception verbs like *khuann/看* ‘look’ and *thiann/聽* ‘listen’, and psych-verbs such as *kiann/驚* ‘fear’ and *hun/恨* ‘hate’. These verbs are non-agentive verbs, and their external theta roles are experiencers instead of agents. Thus, in addition to accomplishment and achievement verbs, non-agentive verbs are excluded by this construction. So, the question immediately presents itself: Why are these verbs incompatible with this construction, or, why are verbs that appear in this construction restricted only to atelic verbs with agent roles?

Third, the argument structure of the verb is changed in this construction. More specifically, the internal argument of the verb is promoted to the subject position while the external argument carrying the agent role is suppressed, as (10) shows.

(10) a. I tshing tsit khuan sann.

He wear this kind clothing

伊穿這款衫

‘He wears this kind of clothing.’

b. \* Tsit khuan sann i u-tshing.

this kind clothing he U-wear

\*這款衫伊有穿

c. Tsit khuan sann u-tshing.

this kind clothing U-wear

這款衫有穿

‘This kind of clothing is durable.’

(10a) shows that the two-place predicate verb *tshing/穿* ‘wear’ presents two

arguments: the external argument *i/伊* ‘he’ and the internal argument *tsit khuan sann/這款衫* ‘this kind of clothing’. When *u* prefixes to the transitive verb, the subject *i/伊* is suppressed and its internal argument *tsit khuan sann/這款衫* is promoted to the subject position, as (10c) indicates. The syntactic realization of the external argument *i/伊* would produce the ungrammatical sentence (10b). More interestingly, when the verb has more than one internal argument, what will be promoted to the subject position is not always the direct argument, as illustrated by (11).

(11) a. I ti tsit e uann laibin te tsui.  
 he at this CL bowl inside put water

伊在這個碗裡面裝水

‘He poured water into this bowl.’

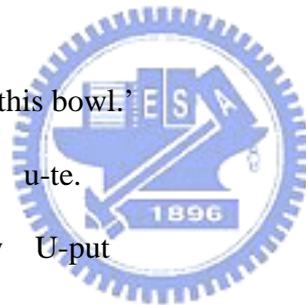
b. Tsit e oann tsin u-te.  
 this CL bowl very U-put

這個碗真有裝

‘This bowl has high-capacity.’

c. \*Tsia e tsui tsin u-te.  
 these DE water very U-put

\*遮些水真有裝



In (11), the verb *te/裝* ‘put’ has two internal arguments: the direct argument *tsui/水* ‘water’ (the theme role) and the indirect argument *uann/碗* ‘bowl’ (the location role). Only the location role *uann/碗* can be promoted to the subject position. So far, it is always the internal argument that becomes the subject of the sentence. Surprisingly,

however, in some cases, like (12), it is not the internal argument *tsheh/冊* ‘book’, but the adjunct *bikim/美金* ‘US dollar’, that is realized as the subject, as shown in the contrast between (12b) and (12c).

(12) a. A-ming iong bikim be tsheh.

Ming use US dollar buy books

阿明用美金買冊

‘Ming used US dollars to buy books.’

b. \*Tsheh khah u-be.

Books more U-buy

\*冊較有買

c. Bikim khah u-be.

US dollar more U-buy

美金較有買

‘US dollars are more valuable.’



Given the observations above, we shall question what triggers the change of the verb’s argument structure, and what follows immediately is how to determine the subject in this construction.

Fourth, the examples in (13) represent the semantic variety of this construction. In addition to describing the durable property of the subject NP, the interpretation of this construction varies between expressing the high degree of quantity (volume) to expressing the value of the subject, as shown by (13a-d), respectively.

(13) a. Tsit khuan khoosin u-tshing. (Durability)

this kind pants very U-wear

這款褲真有穿

‘These kinds of pants are durable.’

b. Tsit khuan bi u-tsu. (Quantity)

this kind rice U-cook

這款米有煮

‘This kind of rice when cooked produces a lot of servings.’

c. Tsit tai pingsiunn tsin u-te. (Volume)

this CL refrigerator very U-put

這台冰箱真有裝

‘This refrigerator has high-capacity.’

d. Bikim tsin u-be. (Value)

US dollar very U-buy

美金真有買

‘The value of the US dollar is high.’



This empirical fact leads us to the question of what determines the interpretation of this construction.

Looking at what has been introduced so far, we find that there is a categorical changing process involved in this construction. That is, when *u* combines with a verb, it would form an adjective. We can also see that the transitive verbs that are permitted in this combination are restricted to atelic verbs with an agent role. It is plausible to relate the change of a verb’s argument structure with the categorical conversion; what we should pay attention to, however, is the question of how to derive the subject. More specifically, both the internal argument of the verbs as well as the adjuncts can

be realized as the subject. Finally, this construction shows its semantic variety. The interpretation can vary from expressing the high degree of durability, quantity, volume, as well as the value of the subject.

Having looked at the characteristics shown by the NP + *u*-V construction in Taiwanese, we can next deal with the following questions which any analysis concerning this construction must address: (A) What kind of function does *u* have in this construction to trigger the categorical change of the verb and the dethematizing property involved in the verb? (B) Why are some verbs incompatible with this construction? (C) How can we identify the derived subject? That is, which internal argument or adjunct of the base verb would be promoted to the subject position? Also, what is the factor that causes it to happen? And finally, (D) what is the factor that determines the semantics of this construction, as the examples in (13) illustrate? In the following section, we shall first review previous analyses of this topic, and discuss the problems in these works. Finally, we will propose our analysis in Chapter 4.



## Chapter 3

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### Previous Analyses

In this chapter we will review previous works about the NP + *u*-V construction. This construction has long been mentioned (e.g., Chen 1934, Zhang 1983, Zhou 1991, Yang 1991, Li 1996, Hsu 2003, Lien 2006), but the in-depth discussion was presented until Lien (2006). Lien treats this construction as a kind of middles. Hence, in section 3.1 we shall first introduce English middles as an introduction to Lien's analysis. Next, in section 3.2 we will first review Lien's middle analysis for the NP + *u*-V construction in Taiwanese, then make a comparison between middles and this construction. Following this, we will look at some other previous studies on the combination of *u* and a transitive verb.

### 3.1 Preliminary

#### 3.1.1 Middle Constructions: Syntax and Semantics

English middles are illustrated in the following examples:

- (14) a. Bureaucrats bribe easily.  
b. These clothes wash readily.  
c. The book reads fluently.  
d. The car steers badly.

The important property of middles is that the verb loses its subject, and the logical

object appears as the grammatical subject, just as in passives. In other words, in the sentence '*Bureaucrats bribe easily*', it is not the bureaucrats who are doing the bribing, but rather some unspecified agent acting on the bureaucrats. In this way a transitive verb becomes an intransitive verb. Middle verbs have active but not passive morphology. Another difference is that although there is an implicit argument (namely the understood logical subject), it is only in the passive that this agent can be expressed, as the contrast between (15a) and (15b) shows.

(15) a. Bureaucrats are often bribed by managers.

b. \*Bureaucrats bribes easily by managers.

In this section, we will review some studies of English middles whose derivation and characteristics are examined as follows.

There are two types of analyses concerning the formation of middle constructions in various languages. The first type, which is also called 'syntactic' approach, assumes that there is NP-movement in syntax in order to account for the fact that the logical object appears in the grammatical subject position in a middle (Keyser & Roeper 1984, Stroik 1992, Hoekstra & Roberts 1993, Hale & Keyser 1993 and many others). On the contrary, the other type is a 'lexical' approach, which states that syntactically there is no NP-movement involved in middles. In the lexical approach, it is assumed that the logical object is the D-Structure subject of the middle verb (Roberts 1985, Fagan 1988, 1992, Zribi-Hertz 1993, and Ackema & Schoorlemmer 1994, 1995, etc.). In addition, analyzing middles also concerns whether the external argument (the Agent  $\theta$ -role) is syntactically suppressed. In the following, we will review the crucial discussions about English middle formation, and

the syntactic and semantic characteristics of middles.

To begin with, we'll look at how the syntactic approach accounts for the middle construction. It has been argued by Keyser & Roeper (1984) that middles are formed by a syntactic rule of Move  $\alpha$  and are transitive while in lexicon, in much the same way that passives are assumed to be derived in the syntax. They provide essentially four arguments as evidence to demonstrate that middles are syntactically transitive, the first sister argument being the repetitive *away*, *out* prefixation, and the deletion and stranding of prepositions<sup>3</sup> (Keyser & Roeper 1984). Since middles are transitive

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<sup>3</sup> The four evidences proposed by Keyser and Roeper (1984) are as follows:

A. The first sister argument: Roeper and Siegel (1978) argue that the Compound Rule of English that governs verbal compounds takes the first sister of the verb and preposes it to form a compound. Consider (ia)-(ic).

- (i) a. The wall paints easily.
- b. wall-painting
- c. \*easily-painting wall

(Keyser and Roeper 1984: 392)

Because *the wall* can undergo compound formation, as (ib) shows, its underlying position is considered to be the first sister (or object position) of the main verb *paint*. In addition, the ungrammaticality of (ic) shows that *easily* is not the first sister of *paint*.

B. Repetitive *away*: Williams (1980) notes that *away* in sentences such as '*The soldiers are dying away like flies*' appears only with intransitives. Following Williams, Keyser and Roeper suggest that middle verbs are transitive in lexicon, because sentences will be ungrammatical when middle verbs co-occur with *away*.

- (ii) a. \*The chickens kill away easily.
- b. \*The room paints away easily.

(Keyser and Roeper 1984: 392)

C. *Out* prefixation: The rule of *Out* Prefixation creates transitives from intransitives (e.g. *John runs*) and from transitive verbs with zero objects (e.g. *John kills*) (Bresnan 1982). Based on this rule of *out* prefixation, Keyser and Roeper argues that middle verbs are not intransitive verbs or transitive verbs with zero objects, because they can not undergo the rule of out prefixation.

- (iii) a. \*Trees outplant flowers easily.
- b. \*Bureaucrats outbribe managers easily.

(Keyser and Roeper 1984: 395)

D. The deletion and stranding of prepositions: Syntactic rules allow preposition stranding via exceptional operation of reanalysis, such as *The bed was [<sub>v</sub> slept in]*. But, lexical rules do not reanalyze to include prepositional phrases, but eliminate them instead. For example, '*laughable*' is good while '*laughatable*' is odd. If middles were lexical, then they should delete the preposition, but they do not.

- (iv) a. \*Jokes laugh easily.
- b. ?John laughs at easily.

(Keyser and Roeper 1984: 400)

Therefore, it is concluded that middle verbs are syntactic. For further discussion, please refer to Keyser and Roeper (1984).

in lexicon and the surface subject is derived from the logical object position, following Chomsky and Burzio's (1981) account for passives, Keyser & Roeper assume that the external  $\theta$ -role of a middle verb is absorbed and the verb also loses the ability to assign case. The consequence of this constraint is that an NP is generated in object position without case. To avoid the violation of Case Filter, the NP must move to case position to receive case. Therefore, Move  $\alpha$  is applied in syntax, as illustrated by (16).

- (16) a. \_\_\_\_ bribe bureaucrats easily. (D-S)  
b. Bureaucrats<sub>i</sub> bribe t<sub>i</sub> easily. (S-S)

Keyser & Roeper also mention that Fiengo (1980) and others have observed middles to retain an 'implicit agent' For instance, the middle sentence '*The wall paints easily*' clearly presupposes a painter. However, the difference between middles and passives is that the implicit agent is optionally expressed with a *by*-phrase in passives but it is absolutely prohibited in middles. In addition, middle sentences, sometimes called generic sentences, state propositions that are held to be generally true. They do not describe particular events in time (Keyser & Roeper 1984: 384):

- (17) a. ?Yesterday, the mayor bribed easily, according to the newspaper.  
b. ?At yesterday's house party, the kitchen wall painted easily.

Stroik (1992) establishes that middle formation involves two interrelated syntactic processes: External  $\theta$ -role demotion and Theme promotion. In addition, he argues that the external argument (the Agent  $\theta$ -role) of middle verbs is in fact not

syntactically suppressed, but is instead expressed as a VP adjunct. It can be lexically overt or lexically covert. If it is nonovert, then it is expressed as PRO. His discussion is based on two types of evidence. First, he manifests that the subject-contained anaphors can appear in a middle construction, and (according to Binding Principle A), that an anaphor must be bound in its governing category. Therefore, he proposes that the anaphor must be coindexed with a nonovert NP argument at some syntactic level. Second, he gives an example (18) to demonstrate that the external argument in middles can be expressed overtly in the adjunct *for*-phrase:

- (18) a. That book reads quickly for Mary.  
b. No Latin text translates easily for Bill. (Stroik 1992: 131)

However, Stroik's arguments are falsified by Zribi-Hertz (1993) and Ackema & Schoorlemmer (1995). They manifest that the anaphors which Stroik uses in his subject-contained anaphor argument are in fact logophors, which are syntactically free. As for Stroik's *for*-phrase argument, Zribi-Hertz shows that the *for*-phrase can not be evidence of the syntactic presence of the external  $\theta$ -role in middles:

- (19) a. The book is heavy/expensive for Mary.  
b. The concert lasted too long for Mary. (Zribi-Hertz 1993: 587)

The examples in (19) are evaluative statements, and the *for*-phrases surely do not bear an Agent role assigned by VP. They are instead 'point-of-view' adverbials. Ackema & Schoorlemmer (1995) also provide examples to show that the syntactically present external arguments in *for*-phrases are excluded. In short, Stroik's (1992) data is not

compelling evidence for the structural analysis of English middles.

Contrary to the syntactic analyses, Roberts (1985), Fagan (1988, 1992), Zribi-Hertz (1993), Ackema & Schoorlemmer (1994, 1995) and others propose the lexical approaches, which state that syntactically there is no NP-movement involved in middles. Fagan (1988) claims that middles are lexically derived and that they are syntactically intransitive. She opposes Keyser & Roeper (1984) by showing that their tests do not provide unambiguous proof that middles are syntactically transitive (see Fagan 1988: 184-194). Fagan (1988), following Levin (1982: 624), claims that middles result from two processes. The first process is to assign a generic interpretation, that is, the interpretation of ‘arbitrary entity’ to a  $\theta$ -role that is subsequently left unrealized. This accounts for why the sentence ‘*This book reads easily*’ has the meaning ‘*People in general can read this book easily*’. According to Rizzi (1986), she assumes that when an argument position is given a particular interpretation in the lexicon, then that position can’t appear in syntactic structure. Therefore, the agent role is left unrealized. The second process is the externalization of the direct internal  $\theta$ -role, accounting for the fact that the direct  $\theta$ -role of the verb is realized externally.

Ackema & Schoorlemmer (1995, henceforth A&S) argue that in a middle the logical object is in fact the D-Structure subject, (namely that middle verbs are unergatives), by using the diagnostics for the unaccusative/unergative distinction in Dutch. Later, A&S (1994), based on Grimshaw (1990) and Jackendoff (1990)’s Lexical Conceptual Structure<sup>4</sup>, proposed that middles should be derived at a pre-

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<sup>4</sup> A&S assumes that arguments are projected to D-structure from a level of representation of the sentence’s semantics. This level of representation is called Lexical Conceptual Structure (LCS), which is built from semantic primitives in the way described in Jackendoff (1990). The primitives are semantic predicates that take arguments. There are two kinds of semantic information represented at two different tiers: a thematic tier and an action tier.

The thematic tier of LCS represents only spatio-temporal information. Take the sentence ‘*John ran*

syntactic level of representation. Because the middle formation assigns an arbitrary interpretation to the agent role, then it is not projected to the D-Structure. This explains the major property of middles: the suppression of the logical subject. It also accounts for the fact that the logical subject is not active syntactically, but implicit in middles semantically. To account for the property that middles are individual level predicates, A&S propose that this property is followed by the fact that the verbs in middles lose their e-roles<sup>5</sup>. ‘E-roles’ are what Kratzer (1989) uses to distinguish stage-level predicates from individual-level predicates. Thus, all middles are individual predicates. That is to say, they express a permanent property of their grammatical subject. What follows this property is the fact that middles often require additional modification, regardless of manner adverbs, focus intonation or a modal. When there is no modification, an appropriate context should be made. Moreover, A&S further mention in their footnote (14) that the substitution of ARB<sup>6</sup> for an Actor would

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*into the room*’ for example. Its representation at the thematic tier is as follows (Jackendoff 1990: 45, A&S 1994: 66):

(i) [EVENT GO ([THING JOHN]<sub>A</sub>, [PATH TO ([PLACE IN ([THING ROOM]<sub>A</sub>)])])]

The subscript A marks the syntactic arguments. Thus, (i) encodes that this LCS projects two arguments (Theme and Location).

The action tier expresses the way arguments act upon each other. It encodes the affectedness relations between arguments of a predicate. It uses a function AFFECT, like (ii) shows.

(ii) AFF [A, B]

The first argument of this function is Actor, while the second is Patient. The status of a semantic argument can be determined by testing whether the argument fits in the scheme ‘what X did was...(X is Actor)’ or ‘what happened to Y was...(Y is Patient)’.

It should be noticed that there is no fixed correspondence between an argument position at the action tier and an argument position at the thematic tier. For instance, an argument may be Theme and Actor at the same time, as shown in (iii).

(iii) *John* went for a jog. (thematic tier: Theme; action tier: Actor)

Various combinations are possible. Also, the action tier can contain only an Actor or only a Patient, while, some verbs do not have an action tier at all.

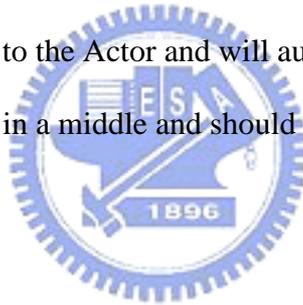
<sup>5</sup> That is, ‘event-role’. A&S (1994:71) which proposes that ‘a verb has a syntactic e-role if it has a fully specified ‘Action tier’. ‘Full specification’ entails that if a predicate has an argument that is underspecified, i.e. if it contains ARB, it does not trigger an e-role.

<sup>6</sup> ARB represents ‘arbitrary entity’.

induce a generic interpretation, because the ARB element is in the scope of a universal quantifier. This is the reason why middles are generic. A&S's analysis can also explain why different types of argument can be affected by middle formation, as shown in (20).

- (20) a. Hay loads easily. (Theme)  
b. This truck loads easily. (Location)  
c. Children scare easily. (Experiencer)

A&S suggest that although the subjects in (20) bear different roles at a thematic tier, they all are Patients at an action tier. Thus, following the thematic hierarchy provided in (21), Patient is next-highest to the Actor and will automatically become the external argument, since Actor is ARB in a middle and should not be projected to syntactic level.



- (21) Actor-Patient-Agent-Theme-Goal (A&S 1994: 67)

Considering the arguments above, we can conclude that the properties of middles can be summarized as follows. English middles are generic sentences, which do not express particular events and are thus individual level predicates. Also, there is an implicit argument typically denoting the agent role of the verb involved in middles, and they may not appear overtly. Furthermore, English middles generally need some form of modification (manner adverb, focus intonation or a modal, etc.) to modify the predicate. The syntactic characteristic of English middles is that the internal argument of the verb is realized as the surface subject, and the logical subject is 'suppressed'.

Following Roberts (1985), Fagan (1988, 1992), Zribi-Hertz (1993), and Ackema & Schoorlemmer (1994, 1995), we see that the surface subject is base-generated and the agent role of the verb is not realized syntactically. That is, the transitive verb is converted to an intransitive verb in this middle formation.

### 3.2 Previous Analyses

For expository convenience, the literatures reviewed in this section are not going to be organized chronologically. We start by reviewing Lien (2006) in section 3.2.1. The analyses before Lien will be reviewed in section 3.2.2.

#### 3.2.1 Middle Analysis: Lien (2006)

After examining the syntax and semantics of middles, we will review the middle analysis for the NP + *u*-V construction in Taiwanese proposed by Lien (2006).

Lien (2006) treats the NP + *u*-V construction, (for example *Tsit khuan sann khah u-tshing/這款衫較有穿* ‘This kind of clothing is durable’), as a kind of middles in Taiwanese. More specifically, Lien calls it ‘pluractional middle’. He points out that *u* as the generalization operator triggers a change of two-place predicate to one-place predicate. That is, the internal argument becomes the subject of the sentence while the external argument is suppressed. Consider (22) for example:

(22) a. A-ming tshing tsit khuan sann.

Ming wear this kind clothing

阿明穿這款衫

‘Ming wears this kind of clothing.’

b. Tsit khuan sann khah u-tshing.

this kind clothing more U-wear

這款衫較有穿

‘This kind of clothing is durable.’

The internal argument *tsit khuan sann* ‘this kind of clothing’ of the transitive verb *tshing* ‘wear’ in (22a) becomes the subject of the sentence in (22b), while the external argument *A-ming* is suppressed in (22b). The external argument *A-ming* bearing the semantic agentive role is not realized syntactically. However, as we have observed, even an adjunct can be realized as the subject in this construction as in (12), and repeated as (23).

(23) a. A-ming iong bikim be tsheh.

Ming use US dollars buy books

阿明用美金買冊

‘Ming used US dollar to buy books.’

b. \*Tsheh khah u-be.

Books more U-buy

\*冊較有買

c. Bikim khah u-be.

US dollar more U-buy

美金較有買

‘US dollars are more valuable.’

Lien (2006) further claims that the suppressed agent in the pluractional middle can be taken as a covert form of free choice, which is licensed by the generic operator *u*. It implies that there is a generic quantification over the agent, which can be interpreted as ‘anyone’ or ‘people in general’ (cf. Levin 1982: 624, and Fagan 1988: 196). This accounts for why the sentence ‘*This book reads easily*’ means that ‘*People in general can read this book easily*’. However, in Taiwanese the NP + *u*-V construction such as *Tsit khuan sann khah u-tshing*/這款衫較有穿 ‘These clothes are more durable’ does not have the same interpretation as (24), where *takke*/逐家 stands for the ‘people in general’ reading in Taiwanese:

- (24) *Takke long u tshing tsit khuan sann.*  
 People all U wear this kind clothing  
 逐家攏有穿這款衫  
 ‘People in general wear this kind of clothing.’



The fact that people in general wear certain kinds of clothing does not imply that this kind of clothing is durable.

Next, Lien mentions that the whole predicate *u*-V forms an adjectival category denoting a scalar entity, because the whole predicate can be modified by degree adverbs like *tsin*/真 ‘very’, *tsiok*/足 ‘extremely’, or *khah*/較 ‘more’, as (25) shows.

- (25) *Tsit khuan sann tsin/tsiok/khah u-tshing.*  
 this kind clothing very/extremely/more U-wear  
 這款衫 真/足/較 有穿

‘This kind of clothing is very/extremely/more durable.’

As we can see in section 3.1.1, regardless of whether or not the verbs in the middles are lexically transitive (Keyser&Roeper 1984) or lexically intransitive (Fagan 1988), they are categorically verbs. That is to say, there is no categorical change involved in English middles. Therefore, the middle treatment of the NP + *u*-V construction in Taiwanese would be a problem.

Moreover, it is stated that pluractional middles bear the quantifier ‘pluractional’ because they involve unbounded pluractionality (Lien 2006: 3). For example, the generic operator *u* in a pluractional middle like *Thit siang e tsin u-tshing*/這雙鞋真有穿 ‘The pair of shoes are durable’, generalizes the recurrent events of wearing. This implies a fussy set of iterative subevents of wearing with no terminal point. However, we find the following example that can not have the pluractional reading. Consider (26):

(26) Tsit khuan bi u-tsu  
This kind rice U-cook  
這款米有煮

‘This kind of rice when cooked produces a lot of servings.’ (Zhou 1991: 240)

We know that the rice can only be cooked once. After cooked, the rice would become boiled rice, and we could not cook it again. That is to say, the rice can not be cooked repeatedly. In addition, (26) means that this kind of rice, when cooked, would produce a lot of servings, but it does not indicate that there are a lot of cooking events involved.

This shows that we can not always derive a pluractional reading from this construction. Besides, it is natural to treat a recurring event as derived activity, which is dynamic. But, since middles have the feature of predicating the property of subjects, they should be stative. It seems unclear how a sentence can be dynamic and static at the same time.

Furthermore, in pluractional middles, as Lien claims, the semantics of durability result from a speaker's personal experience of undergoing the recurring event, although we find that the statement is not always expressed based on speakers' personal experiences. The following examples show that the statement can also be made from speakers' inferences.

(27) a. Tsit nia sann ingkai tsin u-tshing.  
 this CL clothing should very U-wear  
 這件衫應該真有穿



‘This cloth should be very durable.’

b. Tsit tiunn i-a kholing tsin u-tse.  
 this CL chair probably very U-sit  
 這張椅子可能真有坐

‘It is possible that this chair is durable.’

The expressions *ingkai*/應該 ‘should’ and *kholing*/可能 ‘probably’ show the uncertainty of the utterance. Without experiencing the recurrent wearing events as in

(27a), the speaker can still infer that the article of clothing possesses the durable property.

However insightful Lien's (2006) middle analysis is, we can see that there remain some holes in it. Furthermore, there are still some questions that should be dealt with but are untouched in Lien (2006). For example, as we discussed in Chapter 2, what will be realized as the subject (since direct object, indirect object, and adjunct are all possible candidates), and what causes the semantics to vary from expressing a high degree of durability, quantity, and volume to the value of the subject.

### 3.2.2 Studies Before Lien (2006)

Before Lien (2006), there is some research that explores the semantics and syntax of the combination of *u* with a transitive verb in Taiwanese. Most of these works only describe the property of the *u* + V construction, but they do not give an adequate explanation.

Chen (1934) observed that the construction of *u* + V expresses the degree of the effect of something. For instance, (28a) means that the subject *tsit-nia sann*/這領衫 'this article of clothing', can undergo the event of wearing for a long time, and therefore the article of clothing is durable. In the same way, *tsit-pang bi*/這幫米 'the rice produced this season' in (28b), is suitable for consumption for a long period of time.

(28) a. Tsit nia sann khah u-tshing.

this CL cloth more U-wear

這領衫較有穿

'This article of clothing is more durable.'

b. Tsit pang bi put-tsi u-tsiah.

this time rice not only U-eat

這幫米不只有食

‘The rice produced this season lasts pretty long.’

In other studies, Zhang (1983: 149), Zhou (1991) and Hsu (2003) claim that *u* in a construction with verb functions as an adverb to denote a certain degree that action attains, as in (29):

(29) a. Tsit siang e khah u-tshing, hit siang e khah bo-tshing.

This pair shoe more U-wear, that pair shoe more NEG-U-wear

這雙鞋較有穿,彼雙鞋較無穿

‘This pair of shoes is durable while that pair of shoes is not.’

(Zhang 1983: 149)

b. Tsit khuan bi u-tsu.

This kind rice U-cook

這款米有煮

‘This kind of rice produces a lot of servings when it is cooked.’

(Zhou 1991: 240)

c. Jitpun tshia u-sai.

Japanese car U-drive

日本車有駛

‘Japanese cars are durable.’

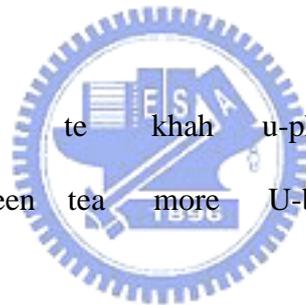
(Hsu 2003: 172)

Based on Chen (1934), Zhang (1983), Zhou (1991), and Hsu (2003), *u* serves as an

adverb to express the degree that the action attains. Therefore, *u* in this construction functions as a degree adverb. Following Li and Thompson (1981: 339), degree adverbs, in Chinese, can only modify adjectives and experiential verbs. Experiential verbs signal the mental disposition of an animate being, such as *think* or *fear*. However, the verbs in this construction are always activity verbs. Degree adverbs must not be used to modify activity verbs. Hence, it is plausible for us to question this point of view.

Li (1996) proposes that there is a process of categorical change involved in the *u* + V construction. He states that *u* is an adjective that denotes the quantity or the degree of the quality. When this adjectival *u* combines with verbs, it will change into an adverb, as shown below:

- (30) Ang    te    pi    lik    te    khah    u-phau.  
       black tea than green tea more U-brew  
       紅茶比綠茶較有泡



‘Black tea can be infused more repeatedly than green tea.’ (Li 1996: 157)

However, treating *u* as an adverb would again lead us to the problem that what Zhang (1983, 149), Zhou (1991) and Hsu (2003) encountered. Furthermore, if the *u* in NP + *u*-V construction is analyzed as an adverb, why the occurrence of *u* is obligatory? This is illustrated by (31). In addition, the question of why the adverb can not be replaced by other degree adverbs, as in (32), remains:

- (31) Ang    te    pi    lik    te    \*(u)    phau.  
       black tea than green tea \*(U) brew

紅茶比綠茶\*(有)泡

- (32) \*Ang te pi lik te khah/siong phau.  
black tea than green tea more/most brew

\*紅茶比綠茶 較/上 泡

Li (1996) also provides some evidence to support his argument that *u* and its negative form, *bo*, are adjectives before they change into adverbs in this construction<sup>7</sup>. With careful investigation, however, we find that the examples used by Li to show the adjectival property of *u* are all *u* + NP complex. It is possible that the *u* in the *u* + NP

<sup>7</sup> Li (1996) provides some evidence to support his argument that *u/bo* here functions as an adjective:  
1. In (i) *u* and *bo*, served as a monosyllabic adjective, and can be paraphrased by *tse/濟* ‘abundant’ and *tsio/少* ‘little’, respectively, in (ib).

- (i) a. Ku ni siu u, kin ni siu bo.  
last year harvest U, this year harvest NEG-U  
舊年收有,今年收無  
‘Last year we had a good harvest, but this year the harvest was bad.’  
b. Ku ni siusing tse, kin ni siusing tsio.  
last year harvest abundant, this year harvest less  
去年收成多,今年收成少  
‘Last year we had a good harvest, but this year the harvest was bad.’

However, take *Kin am khah u than tsinn/今晚較有賺錢* in (iic) for example. We find that *u* in (iic) can not be paraphrased as *tse*: \**Kin-am khah tse than tsinn/\*即方較多賺錢*.

2. *U* and *bo* can be further modified by a degree adverb, such as *khah/較* ‘more’ in *Am-bi tsu khah u png/晚米煮較有飯* ‘Thoroughly-ripe rice produces more servings when it is cooked’ modifies the adjective *u*. But Li doesn’t exclude the possibility that *khah/較* ‘more’ is severed to modify the whole *u+V*. And in this example, *u* is in the pronominal position, which is different from the combination *u* + *V* in our discussion.  
3. The syntactic position for *u* is free. Li shows that there are four syntactic patterns to express ‘Someone makes more money this time’, where the only difference is lies in the position of *u*. But these are also examples of the *u* + NP pattern.

- (ii) a. Kin-am tsinn than khah u.  
Tonight money earn more U  
今晚錢賺較有  
b. Kin-am than tsinn khah u.  
今晚賺錢較有  
c. Kin-am khah u than tsinn.  
今晚較有賺錢  
d. Kin-am khah u tsinn than.  
今晚較有錢賺

For an explicit discussion, please refer to Li (1996).

is different from the *u* in *u + V*. Also, Li (1996) argues that *u* can serve as verbs, adjectives, and auxiliary verbs, but he does not explain why the *u* in the *u + V* combination is derived from an adjective but no other category. Moreover, Li does not show explicitly how an adverb can be derived from an adjective.

Differing from the above viewpoints, Yang (1991) claims that *u* in combination with a verb forms adjectival compounds, which can be further modified by degree adverbs such as *tsin/真* ‘very’ in (33a), and *khah/較* ‘more’ in (33b).

(33) a. Kimkue    *tsin*    *u-khng*.

Pumpkin    very    U-keep

金瓜真有園

‘Pumpkins keep well.’

b. Tsit    *tsiong*    *tanghun*    *khah*    *u-tsu*.

this    kind    green bean noodles    more    U-cook

這種冬粉較有煮

‘These green bean noodles when cooked produce a lot of servings.’

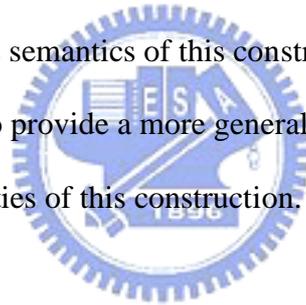
(Yang 1991: 234)

Nevertheless, Yang does not clearly identify the category and function of *u* in this construction. Moreover, if *u + V* forms an adjectival compound, which kind of compound does it belong to? We do not find any further discussion of this in her paper.

To summarize, the above research simply gives a description instead of an analysis with an adequate explanation for this construction.

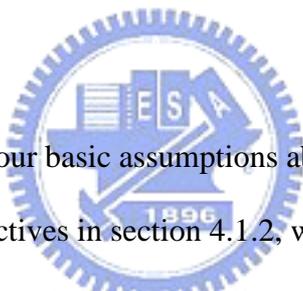
### 3.3 Summary

Before Lien (2006), the studies of NP + *u*-V construction focused on its interpretation and on the category of *u*. Compared with previous studies, Lien (2006) gives a systematic and in-depth analysis for the syntactic and semantic properties of this construction. Lien's analysis is very insightful, and it is not until this work that the NP + *u*-V construction was established as a kind of middles. He points out the following properties of this construction: the categorical conversion involved in *u*-V, the argument structure change of the base verb, the restrictions on the base verb, and the semantics of this construction. However, it is found that a middle analysis is less than satisfactory. Also, there are some questions that are not addressed or that are not given a sufficient explanation. For example, what will the subject be realized as, and how can we derive the various semantics of this construction? In Chapter 4, we will present our proposal and try to provide a more generalized explanation for the syntactic and semantic properties of this construction.



This chapter will first briefly introduce some basic assumptions about adjectives and deverbal adjectives as preliminaries of our analysis for the NP + *u*-V construction. Then, in section 4.2, the details of our proposal will be shown and will provide an explanation for the questions discussed in previous works and the questions left unanswered in them.

### 4.1 Preliminaries



In section 4.1.1, we state our basic assumptions about adjectives. We introduce the properties of deverbal adjectives in section 4.1.2, where the English adjectival passive serves as a representative. Section 4.1.3 discusses Kennedy and McNally's (2005) proposal to deverbal gradable adjectives that relate the event structure of the source verb to the scale structure of the deverbal gradable adjective.

#### 4.1.1 Basic Assumptions about Adjectives

Zhu (1956, 1982) classifies Chinese adjectives into two categories: the absolute (i.e. non-gradable) adjectives, and the gradable adjectives. The absolute adjectives, such as *zhen* 'true', *jia* 'fake', *dui* 'true', *cuo* 'false', *heng* 'transverse', *shu* 'upright', *wen* 'warm', *zi* 'purple', are incompatible with any degree modifier (for example *hen* 'very' or *zui* 'most'). Gradable adjectives, however, such as *gao* 'tall', *da* 'big', *guei*

‘expensive’, *piaoliang* ‘beautiful’, etc., can be modified by degree modifiers. (34)

and (35), respectively, illustrate these two types of adjectives.

(34) a. \*Zhe bei shuei hen wen.

this CL water very warm

b. \*Hen wen de shuei

very warm DE water

(35) a. Zhe ge niuhai hen piaoliang.

this CL girl very beautiful

‘This girl is very beautiful.’

b. piaoliang de niuhai

beautiful DE girl

‘beautiful girl’



Notice that in the predicative use of gradable adjectives, the degree modifier is obligatory, as illustrated in (36).

(36) a. Zhe ge niuhai \*(hen) piaoliang.

this CL girl \*(very) beautiful

‘This girl is very beautiful.’

b. Zhe ke shu \*(tzuei) gao.

this CL tree \*(most) tall

‘This is the tallest tree’

In another study, Kennedy and McNally (1999, 2005, henceforth K&M) point out that gradable adjectives can be grouped into two types in terms of the distribution of proportional modifiers. Proportional modifiers like *completely*, *partially*, and *half*, can combine with a gradable adjective only if the scale associated with the adjective is closed.

- (37) a. The glass is half full.  
b. Her eyes were completely closed.
- (38) a. ??The rope is half long.  
b. ??The car is partially expensive.

The gradable adjectives in (37), which allow modification by proportional modifiers, appear to involve properties that have both the maximal and the minimal value. The gradable adjectives in (38) do not. Kennedy and McNally call the gradable adjectives in (37) ‘closed scale’ adjectives while adjectives like those shown in (38) are called ‘open scale’ adjectives. Adjectives associated with closed scales have context-insensitive standards, while adjectives with open scales have context-sensitive standards. More specifically, the standard of an open scale adjective will vary from context to context.

Kennedy (1999a, b) assumes that gradable adjectives map their arguments onto abstract representations of measurement or DEGREE, which are formalized as points or intervals partially ordered along some DIMENSION (e.g., height, cost, weight, and so on). The set of ordered degrees corresponds to a SCALE, and propositions constructed out of gradable adjectives define relations between degrees with truth conditions. Given this, there are three crucial parameters involved in adjectival scales:

a set of degrees, which represent measurement values; a dimension, which indicates the kind of measurement (cost, speed, volume, height, etc.); and an ordering relation, which distinguishes between antonym pairs. Semantically, a gradable adjective denotes relation between individuals and degrees (see Seuren 1973, Cresswell 1977, Hellan 1981, von Stechow 1984, Heim 1985, Bierwisch 1989, Klein 1991, Kennedy 1999b). More specifically, just as what Kennedy (2001) proposes, a gradable adjective represents a measure function that takes an entity and returns its degree on the scale associated with the adjectives. Take ‘*expensive*’ for example:

$$(39) \quad \llbracket \mathbf{Expensive} \rrbracket = \lambda d \lambda x. \mathbf{expensive}(x) \geq d$$

The adjective *expensive* denotes a relation between degrees of cost  $d$  and objects  $x$  such that the cost of  $x$  is at least as great as  $d$ .

Moreover, Kennedy & McNally (2005) propose that the value of degree argument is determined by degree morphology (e.g., degree modifiers, comparatives, and measure phrases) that saturates and imposes restriction on the degree argument. That is, there should be a degree morphology to saturate the degree argument of the adjective. In (40), where  $\mathbf{R}$  is a certain restriction on the degree argument of the adjective, it represents the denotation of a degree morpheme:

$$(40) \quad \llbracket \mathbf{Deg(P)} \rrbracket = \lambda G \lambda x. \exists d [\mathbf{R}(d) \wedge G(d)(x)] \quad (\text{K \& M 2005: 367})$$

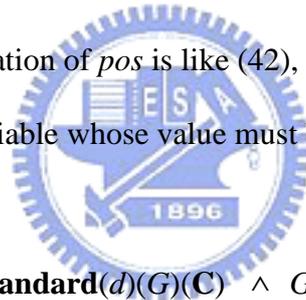
In (40), the value of  $\mathbf{R}$  (which relates the degree argument of the adjective to an appropriate standard of comparison), distinguishes different degree morphemes from each other. Take the degree adverb *very* for example:

$$(41) \quad \llbracket \text{very} \rrbracket^c = \lambda G \lambda x. \exists d [\text{standard}(d)(G)(\lambda y. \llbracket \text{pos}(G)(y) \rrbracket^c) \wedge G(d)(x)]$$

(K&M 2005: 370)

*Very A* is true of an object if the degree to which it is *A* exceeds a norm or average on the *A*-scale which is based on those objects that have the property *pos A* in the context of utterance.

In another study, von Stechow (1984) proposes that unmodified APs contain a null degree morpheme *pos*, namely POSITIVE FORM. The function of *pos* morpheme is to relate the degree argument of the adjective to a standard of comparison. K&M (2005) further assume that *pos* encodes the relation **standard**, that is, *pos* holds a degree *d* that meets the standard of comparison determined contextually. Thus, the denotation of *pos* is like (42), where *G* stands for ‘gradable adjective’, and *C* is a free variable whose value must be fixed contextually.



$$(42) \quad \llbracket \text{pos} \rrbracket = \lambda G \lambda x. \exists d [\text{standard}(d)(G)(C) \wedge G(d)(x)] \quad (\text{K\&M 2005: 350})$$

Therefore, when *pos* is composed with *expansive*, (43) is returned as the denotation of the predicate (*is*) *expansive*.

$$(43) \quad \llbracket \text{pos} \rrbracket (\llbracket \text{expansive} \rrbracket) = \lambda x. \exists d [\text{standard}(d)(\llbracket \text{expansive} \rrbracket)(C) \wedge \llbracket \text{expansive} \rrbracket(d)(x)]$$

So, when we say ‘*the book is expansive*’, it means that the book holds a degree of cost *d*, and *d* reaches to the standard provided by the context.

#### 4.1.2 Deverbal Adjective

Williams (1981b) and Spencer (1991: 192) point out that deverbal adjectives show the morphological process which appeals to the argument structure of the verb.

Consider (44), (45) and (46).

(44) a. Tom read a book to the children.

b. This book is readable.

c. \*Tom is readable.

d. \*The children are readable.

(45) a. These books can fit on this shelf.

b. \*These books are fittable (on this shelf).

(46) a. Tom knows how to swim.

b. \*Tom is swimmable.



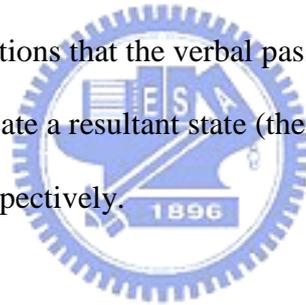
(Spencer 1991: 192)

The suffix *-able* affixes to transitive verbs, then derive an adjective which serves as the predicate of the Theme argument of the original verb. The *-able* adjective cannot be the predicate of the Agent, as in (44c) and (46b). And the subject of an intransitive verb carrying a Theme role is also ruled out like (45b). Besides, if the internal argument of a transitive verb does not carry a Theme role, such as a Goal (44d), it cannot be the subject of a sentence with *-able* adjective being the predicate. Williams (1981b) argues that the process represented by the *-able* affixation basically exhausts the morphological rules which operate on the argument structure of the source verb. He analyses these rules as (i) externalization of an internal argument, and (ii) internalization of an external argument (see Williams 1981b).

The adjectives above are so-called deverbal adjectives, which are adjectives

derived form verbs. Williams (1981b) compares the suffix *-able* with another affix of a deverbal adjective, namely, the adjectival passive *-ed*. He derives the generalization that these affixes (*-able* or *-ed*) attach to transitive verbs and create adjectives whose external arguments correspond to the verbs' internal arguments. In this section, we try to investigate the characteristics of the deverbal adjectives by examining the adjectival passives *-ed* in English.

It has long been agreed that the passive participle has adjectival properties, but it was not until Wasow (1977) that two kinds of passives were distinguished systematically. The one that displays adjectival properties is the adjectival passive, while the one that displays verbal properties is the verbal passive (e.g., Embick 2004, and Emonds 2006). Semantically, the verbal passive and adjectival passive are different. Emonds (2006) mentions that the verbal passives convey an activity sense, while adjectival passives indicate a resultant state (the sense of completed activity<sup>8</sup>), as shown by (47) and (48), respectively.



- (47) a. The door got/was *closed* during the noon hour. (door can be open at noon)  
b. The door is being (*\*un*)*painted*. (painting incomplete)
- (48) a. The door remained/was closed during the noon hour. (door closed by noon)  
b. The door looked (*un*)*painted*. (painting complete)

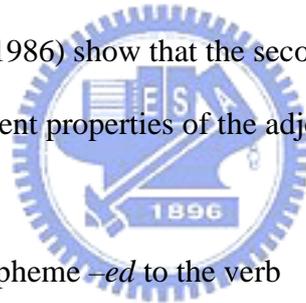
Syntactically, Levin and Rappaport (1986) propose three diagnostic environments for adjectival passives. The first one is the negative *un-* affixation. Negative *un-* attaches to adjectives but not verbs (Siegel 1973), such as *unhappy*,

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<sup>8</sup> Embick (2004) also points out that the resulting adjectival participle refers to a state that is the result of a grammatically represented event.

*unclear*, or *unacceptable*. A great deal of passive participles can also be attached by *un-*, for example, *unopened*, *unlocked*, and *untouched*. Thus, we may conclude that passive participles that are prefixed with *un-* are adjectival passives. Second, in English, if a passive participle can be the complement of a verb that select adjectival complements, for instance, *seem* and *remain*, it is taken to be adjectival. Third, only adjectives may occur as prenominal modifiers, so the passive participles found in a prenominal position are adjectival. In short, these behaviors of adjectival passives are due to their being categorized or labeled as adjectives.

There are two important features which distinguish the adjectival from the verbal passive: the adjectival passive form is categorically an adjective, not a verb; and the adjectival passive, unlike the verbal passive, assigns an external theta role (Spencer 1991). Levin and Rappaport (1986) show that the second difference is a result of the first one. They specify the salient properties of the adjective passive, as in (49):



- (49) a. Affix the passive morpheme *-ed* to the verb  
b. Change a verb into an adjective  
c. Suppress the external role of the base verb  
d. Externalize an internal role of the base verb  
e. Absorb the objective Case  
f. Eliminate [NP, VP] position

The rule of the adjectival passive formation (APF) above consists of only the conversion of a verbal passive participle to an adjective. The two properties that the adjectival passive shares with the verbal passive are (49a) and (49c). Following Chomsky (1981), Levin and Rappaport (1986) assume that the essential property of

the passive morpheme is the suppression of the external  $\theta$ -role. That is to say, the affixation of the passive morpheme prevents the verb from assigning its external  $\theta$ -role to the [NP, S] position. Hence, *Burzio's Generalization* (Burzio 1986) predicts (49e), and this will result in (49d) in order for the internal argument to get a Case from a proper position. Finally, the complement position for the verb is eliminated, that is, (49f). In a word, the only difference between the adjectival passive and the verbal passive lies in the categorical difference. That is to say, adjectival passives are adjectives. And the derivation of the adjectival passive participle from the verb involves a number of changes, as illustrated in (49), and these changes are brought about by processes that apply in the lexicon.

Furthermore, Levin and Rappaport (1986) point out the problem of identifying the external argument of an adjectival passive—that is, the question of which argument of the verb can be ‘externalized’ by the adjectival passive formation. Wasow (1977), Williams (1981b) and Bresnan (1982) adopt the *Theme Analysis* and impose thematic restriction on the external argument of adjectival passive. They identify that the argument to be externalized is the one bearing the Theme role of the verbal argument structure. Take the verb ‘*sell*’ for example.

(50) *sell*: Agent <Theme, Goal><sup>9</sup>

(51) a. The salesman sold the car to the first customer.

b. The salesman sold the first customer the car.

(52) a. The car remained unsold.

b. \*The first customer remained unsold.

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<sup>9</sup> The angle brackets enclose VP-internal arguments, while the argument outside the bracket is the external argument.

Example (50) specifies that the verb ‘*sell*’ is associated with three arguments bearing the Agent role, Theme role, and the Goal. The *Theme Analysis* gives an explanation for why (52a) is grammatical while (52b) is unacceptable. More specifically, the Theme role ‘*the car*’ is externalized but not the Goal role ‘*the first customer*’.

Levin and Rappaport (1986) notice, however, that the *Theme Analysis* fails to explain the following examples:

- (53) a. John taught manual skills to children; Theme: untaught skills  
b. John taught children manual skills; Goal: untaught children

The notion of Theme defined in Jackendoff (1972) refers to the argument that undergoes the actual or abstract movement indicated by the verb. Using this criterion, the only one which qualifies as Theme is *manual skills* in (53). But like (53b) reveals, *children* can also act as the external argument of the adjectival passive. This shows that some verbs with two internal arguments, like *teach* in (53), allow externalization of either the Theme or the Goal. In addition, there are also some verbs that allow for the externalization of the Goal, but not the Theme as with the verb ‘*feed*’ in (54):

- (54) John fed the baby carrots.  
a. Theme: \*recently fed carrots  
b. Goal: a recently fed baby

After surveying the entire range of dative verbs, Levin and Rappaport observe that some dative verbs permit both the Goal and Theme arguments as their sole NP

complement as in, for example, ‘*teach*’, ‘*serve*’, and ‘*pay*’ in (55), while other dative verbs permit only the Theme argument to stand as sole NP complement, as seen in ‘*offer*’, ‘*give*’, and ‘*sell*’ (56).

(55) a. teach the children; teach manual skills

b. serve the food; serve the customers

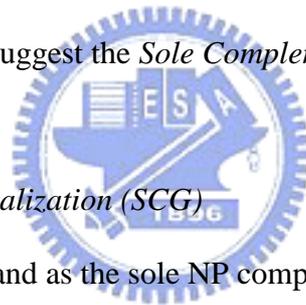
c. pay the money; pay the agent

(56) a. offer a deal; \*offer a customer

b. give the prize; \*give the winner

c. sell the car; \*sell the customer

Hence, Levin and Rappaport suggest the *Sole Complement Generalization* (57):



(57) *Sole Complement Generalization (SCG)*

An argument that may stand as the sole NP complement to a verb can be externalized by APF.

Levin and Rappaport conclude that the argument that can be externalized by APF is not definable in terms of an  $\theta$ -role label. Notice that the ungrammatical AP in (58b) is salvaged when the Location argument is expressed, as in (58c).

(58) a. stuff the pillow; the pillow remained stuffed

(cf. We stuffed the pillow with feathers.)

b. \*stuff the feathers; \*the feathers remained stuffed

(cf. We stuffed feathers into the pillow.)

c. The feathers remained stuffed in the pillow.

Adopting Marantz's (1984) distinction between directly and indirectly theta marked complements<sup>10</sup>, they claim that only a 'direct argument' can be externalized. This is attributed to the existence of two  $\theta$ -role assignment options for the verb, as shown in (59).

(59) a. stuff: Agent <(Theme), *Location*<sup>11</sup>> (58a)

b. stuff: Agent <*Theme*, Location> (58b)

Levin and Rappaport also state that (58b) is ungrammatical because it violates the Projection Principle and the  $\theta$ -Criterion. Namely, (58b) is ruled out because the Location role is not projected.

To summarize, Levin and Rappaport (1986) derive nearly all the features of the adjectival passive from general principles of grammar. They show that the adjectival passive formation is the consequence of the interaction of the lexical-thematic properties of verbs, the properties of adjectives, and general principles of grammar. To form an adjectival passive, a transitive verb is served as an input. The argument structure of the source verb is changed because of the category-changing process and the property of the affix *-ed*. Also, a syntactic condition (namely to 'externalize' the direct argument) also interacts with the lexical argument structure of the verb.

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<sup>10</sup> The distinction between direct and indirect arguments are defined as follows:  
...some of the  $\theta$ -roles selected by a verb may need to be assigned by other  $\theta$ -role assigners... Therefore, an NP may be an argument of a verb yet receive its  $\theta$ -role from a  $\theta$ -role assigner other than the verb. An NP assigned its role directly by the verb will be called its direct argument. An NP that is an argument of a verb but is assigned its  $\theta$ -role indirectly through the use of some other  $\theta$ -role assigner will be called an indirect argument  
(Marantz 1984)(Levin and Rappaport 1986:638)

<sup>11</sup> The italic type indicates that the verb assigns the theta role directly.

### 4.1.3 From Event Structure to Scale Structure: Deverbal Gradable Adjectives

Kennedy & McNally (1999, 2005) argue that the scale structure of deverbal adjectives can be predicted from the event structure associated with the source verb. They show first that there is a correspondence between incremental theme verbs and closed scale. Following Krifka's (1989, 1992) proposal of the homomorphic relationship involved in verbs that introduce incremental arguments, K&M claim that it is precisely the homomorphic relation that is responsible for the scale properties of adjectives derived from this class of verbs. The minimal degree on the scale represents participation in a minimal event of the appropriate sort by the incremental theme, and the maximal degree on the scale represents participation in the maximal event involving the incremental theme. They also show, however, that there is a correspondence between atelic verbs and an open scale. Since atelic verbs describe situations with no natural endpoint, there is no obvious maximal event or state that could correspond to an upper endpoint of the corresponding adjectival scale. The scale should therefore be open.

K&M also show that the dimensional parameter of the derived scale, like the structure of the scale, is a function of the source verb's lexical semantics. Specifically, any of the various aspects of verb meaning that support measurement (temporal extent, number of occurrences, number of participants, intensity, etc.) can be used to fix the dimensional parameter of the derived adjective's scale. The various interpretations of deverbal adjectives are demonstrated as follows:

- (60) a. a much admired statesman (admired by *many people*)  
b. a much talked about program (has been talked about *many times*)

- c. a much despised neighbor (might be despised by only one individual but *with a passion*)
- d. much needed rain (be needed *for a long time*)

(60a) represents the quantity of participants in the event, (60b) the number of occurrences of the event, (60c) the intensity of adjectives denoting the property of being the object of an emotion or the experiencer of an emotion, and (60d) the temporal duration of the event.

## 4.2 The Syntax and Semantics of the Expression *U-V*

Based on the above assumptions, in this section we propose our analysis of the NP + *u-V* construction in Taiwanese. We will account for the syntax and semantics of the *u-V* expression. It is suggested that *u-V* categorically is a deverbal gradable adjective. Further, along the line of Kennedy & McNally's (1999, 2005) analysis of deverbal gradable adjectives, we will show that the scale structure of the deverbal gradable adjective *u-V* is correlated with the semantics of the source verb. This analysis can generalize the characteristics of the NP + *u-V* construction and provide an explanation for the questions raised in Chapter 2.

### 4.2.1 *U-V* as Deverbal Gradable Adjective with Open Scale

We propose that the combination of *u* and a transitive verb in Taiwanese is a deverbal adjective. *U* as a lexical affix prefixes to a transitive verb and converts the verb into an adjective, therefore, a deverbal adjective. Since adjectives do not assign structural accusative Case in general, following Burzio's (1986) Generalization, the agent role is dethematized. More specifically, when the prefix *u* affixes to the verb,

the external agent role of the verb is suppressed. In addition, according to Chomsky's (1986) Extended Projection Principle which requires that all clauses have subjects, one participant of the source verb is realized as the subject.

According to the criteria proposed by Zhu (1956, 1982) and Kennedy&McNally (1999, 2005), *u-V* adjective is a gradable adjective with open scale. It is gradable since it must be modified by degree modifiers like *tsin/真* 'very' and *siong/上* 'most' (Zhu 1956, 1982), as in (61). It is an open scale adjective because it is unacceptable for it to be modified by proportional modifiers such as *puan/半* 'half' or *tsuan/全* 'completely/totally', which can combine with a gradable adjective only if the scale associated with the adjective is closed (K&M 1999, 2005), as exemplified in (62).

(61) a. Tsit nia sann tsin u-tshing.  
 this CL clothing very U-wear  
 這件衫真有穿

'This article of clothing is very durable.'

b. Tsit nia sann siong u-tshing.  
 this CL clothing most U-wear  
 這件衫上有穿

'This article of clothing is the most durable one.'

(62) a. \*Tsit nia sann puán u-tshing.  
 this CL cloth half U-wear  
 \*這件衫半有穿

\*'This article of clothing is half-durable.'

b. \*Tsit nia sann tsuan u-tshing.

this CL clothing completely U-wear

\*這件衫全有穿

‘\*This article of clothing is completely durable.’

#### 4.2.2 The Restrictions on the Source Verb of *U-V* Adjective

Based on our analysis of treating *u-V* as a deverbal gradable adjective with open scale, we can account for the restrictions on the source verb (that is, the question (B) raised in Chapter 2). As a deverbal adjective, following K&M (2005), there is a correspondence between the event structure associated with the source verb and the scale structure of the deverbal adjective. More specifically, an atelic verb, which has no ending point, corresponds to an open scale. Since *u-V* is a gradable adjective with open scale, the source verb must be atelic. Therefore, accomplishment and achievement verbs are incompatible with this construction.

(63) a. \*Taipak tsin u-kau.

Taipei very U-arrive

\*台北真有到

b. \*Laulang tsin u-si.

old people very U-die

\*老人真有死

c. \*Tsit tsiong hue u-khui.

this sort flower U-bloom

\*這種花有開

d. \*Tsit tiunn pangkiu tsin u-iann.

This CL baseball very U-win

\*這場棒球真有贏

Also, we find that the input of this deverbal adjective must be transitive verbs carrying an agent role. This can be explained by associating with the semantics of *u*-V adjectives. Because typical *u*-V adjectival predicate is used to express the durability of the derived subject, the user inevitably plays an important role in determining whether this article is durable or not. The base verb is then necessary to carry an agent role. Therefore, stative verbs (64a-c) and activity verbs without agent role (64d-f) are excluded by this word formation.

(64) a. \*Tsit tiau tsua khah u-kian.

this CL snake more U-fear

\*這條蛇較有驚



b. \*Hit e tsa-boo-gin-a tsin u-ai.

that CL girl very U-love

\*那個女孩真有愛

c. \*In tau e lang tsin u-hun.

his family DE people very U-hate

\*他家的人真有恨

d. \*Tsit e tsa-boo-gin-a tsin u-khuann.

this CL girl very U-look

\*這個女孩真有看

e. \*Tsit siu kua tsin u-thiann.

this CL song very U-listen

\*這首歌真有聽

f. \*Tsit tsiong bi tsin u-phinn.

this kind smell very U-smell

\*這種味真有聞

#### 4.2.3 Deriving the Semantics of *U-V* Adjective

In this section, we are going to discuss how the understood object or adjunct becomes the subject of sentences with *u-V* predicates (Question (C)), and how the semantics of *u-V* adjective derives (Question (D)). We propose that the explanation is highly related to the lexical semantics of the source verb and the property of deverbal adjectives. In the following, we shall first introduce our proposal then present some typical examples to illustrate the operation of the analysis.

We have mentioned that a gradable adjective represents a measure function that takes an entity as its argument and returns its degree (abstract representation of measurement) on the scale associated with a certain dimension. We also showed that the dimension where the scale is located is related to the semantics of the adjective. Based on our argument, since a *u-V* adjective is a gradable adjective, it will represent a measure function. To be the input of this measure function, we suggest that the derived NP subject of the *u-V* sentence must have an ‘expandable property’ on the dimension associated with the adjective. That is to say, it should have a property that can be measured by the scalar dimension. In addition, since a *u-V* adjective is derived from a verb, we consider that the dimension implied in the *u-V* adjective is provided by the verb, and therefore the grammatical subject of *u-V* sentences must be one participant of the verb in order to be associated with the semantics of the *u-V* adjective. In short, the subject NP should be a participant of the event denoted by the

source verb, and should also have an expandable property related to the dimension provided by the lexical semantics of the verb.

The degree of a verb can be measured either by the spatial extent or by the temporal extent. For example, *John walked for two miles* and *John walked for two hours* both show the degree of the walking event<sup>12</sup>. We suggest that the dimensions that the verb can provide are nothing more than temporal or spatial ones. In our proposal, we will therefore use these two abstract concepts, time and space, to discuss the dimension provided by the verb. In addition, since the semantics of the adjectival passive conveys the resultant state of the completed event (e.g., Emonds 2006, Embik 2004), this will be an effective means of distinguishing which dimension the verb correlates to by examining the result of the event. Notice that traditionally, when it refers to the semantics of a verb, people always talk about the situation aspect (also Aktionsart, lexical aspect, or inner aspect) or viewpoint aspect (also grammatical or outer aspect). Situation aspect concerns temporal constituency of events. For example, verbs are divided into state, activity, achievement, and accomplishment in terms of different situation aspects. Conversely, viewpoint aspect provides a temporal perspective of events, meaning it locates events relative to a point of view (reference) time. In this way, verbs are viewed as perfective or imperfective events. However, investigation of the lexical semantics of a verb by referring to its aspectual property is limited to how the event progresses in the temporal schema. In our theory, we have to refer to the thematic-related semantics of the verb. More specifically, they are thematic arguments, quasi-arguments, or related adjuncts associated with the lexical semantics of the verb; all participants of the event denoted by the verb will be our concern. With these assumptions in mind, we will proceed to the analysis for deriving

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<sup>12</sup> Thanks for Professor Jo-wang Lin's reminding in the class of Seminar in Semantics, spring 2007.

the grammatical subject of *u*-V sentences and the semantics of *u*-V adjectives.

The proposal proceeds as follows: First, in Taiwanese, the prefix *u*- is a lexical affix that has the function of changing a verb into an adjective. Following this is the fact that the agent role in the lexical entry of the source verb is suppressed.

Next, because there is no agent role to be projected from lexicon to syntax, other participants of the verb will be the candidates for the subject position of a *u*-V sentence. The condition requires that to be the candidate for the grammatical subject position, the participant should have an expandable property associated with a certain dimension.

Finally, it is the lexical semantics of the source verb that determines which dimension, temporal or spatial, the expandable property is associated with; when the semantics of the verb is associated with a temporal dimension, the participant with an expandable property in temporal dimension will be realized as the subject. When the verb provides a spatial dimension, the participant with an expandable property in spatial dimension will be promoted to the subject position.

Notice that sometimes there is more than one participant that own the expandable property associated with the verb. We suggest that the one which is higher in ‘the semantic hierarchy’<sup>13</sup>, will be the best candidate for the subject position. The so-called ‘higher in the semantic hierarchy’ means that if the degree of the expandable property of participant A is determined by the degree of participant B’s property on the same dimension, participant B is considered to be more prominent than A. Therefore, it is higher in the semantic hierarchy. Hence, there are logically four possibilities for the hierarchy between A and B:

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<sup>13</sup> Thanks Professor Cheng-Sheng Liu for inspiring the dependency-relation between the participants

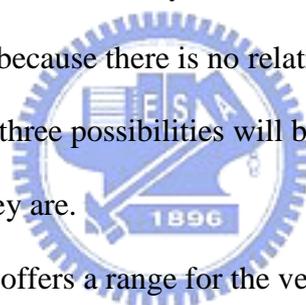
- (65) a.  $A >^{14} B$   
 b.  $B > A$   
 c.  $A \approx B$   
 d.  $A \times B$

Examples (65a) and (65b) are typical representations for the hierarchical ordering.

(65a) shows that participant A is higher than B in the semantic hierarchy; on certain dimensions, the degree of participant A determines the degree of participant B.

Example (65b), however, shows that participant B is higher than participant A in the semantic hierarchy. However, (65c) expresses the possibility that there is a fuzzy dependency-relation between A and B. They are almost on par. We do not have to take (65d) into consideration, because there is no relation between A and B.

Therefore, we predict that the three possibilities will be represented in the natural language, and, empirically, they are.



In short, the noun phrase offers a range for the verb, and the verb will choose the noun phrase that semantically matches the dimension selected by the verb. It is also this dimension that governs the semantics of the *u-V* adjective.

We will now provide some examples to illustrate how to apply this analysis on sentences with *u-V* predicates. The first is an example with the derived subject carrying a Theme role in the verb, as (66b) shows:

- (66) a. I            tshing   tsit   nia   khoo.  
                   he/she   wear   this   CL   pants

---

in an event.

<sup>14</sup> '>' is 'to be higher than', '≈' is 'to be approximately equal to', and '×' is 'to be irrelevant to'.

伊穿這領褲

‘He wears this pair of pants.’

b. Tsit nia khoo u-tshing.

this CL pants U-wear

這領褲有穿

‘This pair of pants is durable.’

In (66a), there are two participants in the event denoted by the verb *tshing* ‘wear’: the Agent role *i* ‘he/she’ and the Theme role *tsit-nia khoo* ‘this pair of pants’. The derivation of (66b) is represented by the following steps:

First, prefix *u-* is attached to the verb *tshing* ‘wear’. The agent role of *tshing* is suppressed during this u-V adjective formation, so the only candidate left for the subject NP is the Theme role *tsit-nia khoo*.

Second, the dimension that the verb *tshing* selects is associated with time, because the result of the wearing event is the state of the pants being on a person. Also, the activity denoted by *tshing* ‘wear’ continues to progress along the temporal flow after it is initiated. Therefore, it is the temporal dimension that the semantics of the verb provides.

Third, it is found that the Theme role *tsit-nia khoo* has an expandable property in the temporal dimension, namely the duration that it can resist being worn. This is also called the durability of the pants. Thus, since the expandable property of the Theme role *tsit-nia khoo* matches the temporal dimension given by the verb, *tsit-nia khoo* is promoted to the surface subject position. Therefore, (66b) is derived.

Accordingly, in (66b), the subject NP *tsit-nia khoo* ‘this pair of pants’ is mapped to the scale built on the temporal dimension, and it would be measured off a degree on the temporal scale. Thus, the interpretation of (66b) is that ‘this pair of pants can be used for certain duration of time’. This expresses the durability of the clothing.

Next, we will present an example where a Location role is realized as the subject, as illustrated in (67c).

(67) a. I            iong    tsit    ka    siunn-a    te        tshe.

he/she    use    this    CL    box        load    books

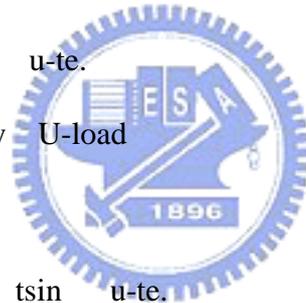
伊用這卡箱子裝冊

‘He/she loaded the box with books.’

b. \*Tsia-e    tshe    tsin    u-te.

these    book    very    U-load

\*遮 e 冊真有裝



c. Tsit    kha    siunn -a    tsin    u-te.

this    CL    box        very    U-load

這卡箱子真有裝

‘This box has high-capacity’

At first, it is shown that there are three participants involved in the event expressed by the verb *te* ‘load’: the Agent *i* ‘he or she’, the Theme role *tshe* ‘book’, and the Locative *tsit-ka siunn-a* ‘this box’. Our proposal can derive (67c) as well:

First, prefixing *u-* to the verb *te* ‘load’ in (67a) triggers the suppression of the Agent role *i* ‘he or she’. Thus, there are two candidates for the derived subject: the

Theme role *tshe* ‘book’, and the Locative *tsit-ka siunn-a* ‘this box’.

Second, the verb *te* offers a spatial dimension in its semantics. This is acquired by the fact that the result of the loading event is to change the location of the Theme or to occupy the space of the container. These are related to the spatial change of the participants; therefore, the semantics of *te* is associated with space.

Third is to investigate if the theme role or the location role has an expandable property on the spatial dimension. We find that they both follow this condition. The expandable property of the Theme role *tshe* associated with the spatial dimension is its size, while the Location role *tsit-ka siunn-a* is the space that it contains. Therefore, in (67a) there are two candidates competing for the subject position. Although the Theme and the Locative both have an expandable property in the spatial dimension, the volume of the container *tsit-kha siunn-a* determines the volume or quantity of the theme *tshe*. More specifically, in (67a), for a loading event, the larger the box is, the more books that can be loaded in the box. Therefore, the Location role is more prominent than the Theme role in the spatial dimension. The Location role, then, is the best candidate for the derived subject, and is realized as the subject as (67c) shows.

Since the scale of *u-te* is set up on the spatial dimension, (67c) is used to express that the degree of the box’s spatial property reaches a certain standard of comparison, and (67c) is translated into that ‘the box has high-capacity’.

Finally, consider (68c) with the Instrument role *bikim* ‘US dollar’ as the derived subject.

(68) a. A-ming iong bikim be tsheh.

A-ming use US dollars buy books

阿明用美金買冊

‘Ming used US dollar to buy books.’

b. \**Tsheh tsin u-be.*

books very U-buy

\*冊真有買

c. *Bikim tsin u-be.*

US dollar very U-buy

美金真有買

‘US dollars are very valuable.’

According to the steps proposed above, we should first examine the participants in the buying event. Besides the buyer (Agent), there are the Theme *tsheh* ‘book’ and the Instrumental role *bikim* ‘US dollar’ participating in the event. Likewise, following our proposal, the operation on (68a) is as follows.

First, the Agent role of the verb *be* ‘buy’ is demoted after prefixing *u-* to the verb.

Hence, the Theme role *tsheh* ‘book’ and the Instrumental role *bikim* ‘US dollar’ are left competing for the grammatical subject of a *u-V* sentence.

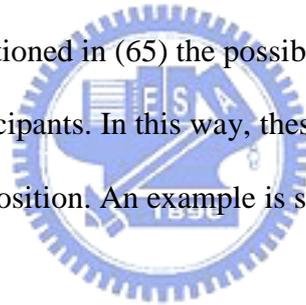
Second, that which the verb *be* ‘buy’ associates with is the spatial dimension, because the result of the buying event is related to the increasing quantity of the things that are being bought, which can be further generalized as a kind of space.

Third, the Theme *tsheh* ‘book’ and the Instrument *bikim* ‘US dollar’ both have the expandable property on spatial dimension. *Tsheh* ‘book’ can be expanded on its quantity, whereas the Instrument *bikim* ‘US dollar’ can be expanded on its value

or volume/quantity. Now, we should rely on the semantic hierarchy for resolution. We find that when people buy things, the quantity of the things they can buy depends on how much money they have. In other words, the volume of the money (namely, its value), determines the volume of the things that can be bought. Thus, the Instrument is higher on the semantic hierarchy than the Theme role. Finally, the Instrument *bikim* ‘US dollar’ is promoted to the subject position, as in (68c).

Example (68c) means that the degree of *bikim* ‘US dollar’ on the spatial dimension reaches the standard of comparison, meaning that the value of *bikim* ‘US dollar’ is high.

Notice that we have mentioned in (65) the possibility for the fuzzy dependency-relation between the two participants. In this way, these two participants can both be the candidate for the subject position. An example is shown in the following.



(69) a. I iong tsit te sabbun se tsit khuan poo  
 he use this CL soap wash this kind cloth

伊用這塊雪文洗這款布

‘He washed this kind of cloth by this soap.’

b. Tsit te sabbun tsio u-se  
 this CL soap very U-wash

這塊雪文足有洗

‘This soap is durable.’

c. Tsit khuan poo tsin u-se  
 this kind cloth very U-wash

這款布真有洗

‘This kind of cloth is durable.’

Either of the two participants in the washing event, namely the Theme *tsit khuan poo* ‘this kind of cloth’ and the Instrument *tsit te sapbun* ‘this soap’, can be realized as the subject.<sup>15</sup>

To summarize, as an input of a measure function, the derived subject must have an expandable property associated with the dimension provided by the verb. This dimension can be temporal or spatial. It is this dimension that dominates the interpretation of the *u-V* adjective.

Semantically, a *u-V* adjective represent a measure function that takes an entity and returns it to a degree on the scale associated with the adjectives (cf. Kennedy 2001). The dimension of the scale involved in the deverbal *u-V* adjective is decided by the lexical semantics of the source verb. When the base verb of a *u-V* adjective is associated with time, the derived subject is mapped onto a temporal scale. When the source verb of a *u-V* adjective is related to space, the derived subject is mapped onto a spatial scale. They will then be measured by their degree on the dimension.

Consider ‘*u-tshing*’ and ‘*u-te*’ in (70):

(70) a. *Tsit nia sann u-tshing.*

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<sup>15</sup> In this thesis, we restrict our discussion to the conventional meaning of *u-V* combination. When sufficient context is given, a *u-V* sentence might have an ambiguous reading, as shown by (i).

(i) Ang bin-tshng khah u-khun  
red bed more U-sleep  
紅眠床較有晒  
‘Red bed is more durable/ The space of red bed is bigger.’

(i) has both temporal and spatial readings. Thanks Professor Jo-Wang Lin, Wei-Tien Tsai, and Chen-Sheng Liu for reminding me that pragmatics might play a role in deciding the interpretations.

this CL clothing U-wear

這領衫有穿

‘This article of clothing is durable.’

b. Tsit kha siunn -a tsin u-te.

this CL box very U-put

這卡箱子真有裝

‘This box has high-capacity’

In (70a), the subject *tsit nia sann* ‘this article of clothing’ is measured by the scale on the dimension of a temporal extent, and its degree is at least as great as the standard. Hence, (70a) can be paraphrased as *This article of clothing can be worn for a long time*. With (70b), the subject *tsit kha siunn-a* ‘this box’ is measured on the spatial dimension. When the volume of the box (that is, its spatial property) exceeds the standard, we can say (70b). Namely, the volume of the box is higher than the volume that the speaker supposes the box can be.

One point remains to be addressed, but first consider the contrast between (71a) and (71b)<sup>16</sup>.

(71) a. Tsit nia sann (\*tsin) u sui

this CL clothe (\*very) U pretty

這領衫(\*真)有水

‘This article of clothing is pretty.’

b. Tsit nia sann (tsin) u-tshing

this CL clothe (very) U-wear

這領衫(真)有穿

‘This article of clothing is pretty.’

In (71a), the predicate *u sui* ‘to be pretty’ can not be further modified by the degree adverb *tsin* ‘very’, while in (71b), *tsin* ‘very’ can appear to modify the adjective *u-tshing*. (71) shows that the prefix *u-* in (71b) is different from *u* in (71a).

Following Huang (1990), Liu (1988), Tsao & Cheng (1995), Tasi (2002), Lin (2003), Cheng (2004), and many others, we assume *u* in Taiwanese corresponds to the Chinese verbal suffix *-le*. Also, as Liu (1988) observes, the verbal suffix *-le* behaves as a realization aspect marker<sup>17</sup> in Chinese. We must therefore assume that the Chinese *-le* ‘s corresponds to the Taiwanese *u* as a realization aspect. To realize a gradable adjective means to guarantee that the degree argument of the adjective is saturated. We may conjecture that the realization aspect *u* functions to induce the *pos* morpheme, which provides the adjective a default standard value of comparison. It relates the argument to the standard of comparison (cf. Liu’s (2005) discussion of the realization aspect marker *-le* in Mandarin Chinese). Here, we suggest that this default standard value of comparison is given by the speaker in terms of his personal experience, his inferences based on some direct or indirect evidence, or other ways that can provide clues for the speaker to set the standard. (71a) is ungrammatical because the degree adverb can not be used to modify a light verb<sup>18</sup>. However, since the degree argument of a gradable adjective should be saturated, we predict that the degree morpheme *tsin/真* ‘very’ is necessary in sentences like (71b). In the NP + *u*-V construction, we see something different: the occurrence of the degree morphemes

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<sup>16</sup> Thanks Professor Wei-Tien Tsai for the examples.

<sup>17</sup> We will go into this issue in Chapter 5.

<sup>18</sup> Thanks Professor Chen-Sheng Liu for pointing this out.

like *tsin/真* ‘very’, *khah/較* ‘more’ or *siong/上* ‘most’, do not seem to affect the acceptability of the sentences, as exemplified in (72).

(72) a. *Tsit nia sann (khah) u-tshing.*

this CL clothing (more) U-wear

這件衫(較)有穿

‘This article of clothing is (more) durable.’

b. *Tsit tiunn i-a (tsin) u-tse.*

this CL chair (very) U-sit

這張椅子(真)有坐

‘This chair is (very) durable.’

c. *Tsit tsiong bintshng (siong) u-khun.*

this kind bed (most) U-sleep

這種眠床(上)有睏

‘This kind of bed is the most durable.’



Given that the degree argument in a gradable adjective should be saturated, we suggest that there is a haplology phenomena involved in the NP + *u*-V construction. In Taiwanese *u*- V sentences, when the realization aspect marker *u* and *u*-V adjective occur to be adjacent, one of them is omitted<sup>19</sup>, as illustrated by (73). (73b) is derived form (73a) following the haplology constraint.

<sup>19</sup> This phenomenon is not unique. It also happens in other language usages. Take *-le* in Mandarin Chinese for example. Chao (1980: 133) points out that there are two *-les*, *-le<sub>1</sub>* is the perfective aspectual suffix and *le<sub>2</sub>* represents a sentence final participle to mark the appearance of a new state. Consider the conversation between A and B.

(i) A: *Chi-le fan mei you?*  
Eat-le rice not have

(73) a. Tsit khuan ian-pit u \_\_\_\_\_ [Au-sia].

this kind pencil ASP U-write

這款鉛筆有有寫

‘This kind of pencil is durable.’

b. Tsit khuan ian-pit u-sia.

this kind pencil U-wear

這款鉛筆有寫

‘This kind of pencil is durable.’

The evidence is shown in the following sentences:

(74) a. Tsit nia sann u khah u-tshing.

this CL clothing ASP more U-wear

這件衫有較有穿

‘This article of clothing is more durable.’

b. Tsit nia sann u gua u-tshing?

this CL clothing ASP much U-wear

這件衫有多有穿 ?

‘How durable is this article of clothing?’

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‘Did you have a meal?’

B: Chi-le.

eat-le

‘Yes.’

Chao claims that,  $-le_1$  and  $le_2$  contracts into one in the speech of speaker B.

As illustrated in (74), when we insert *khah*/較 ‘more’ or *gua*/多 ‘how much’ into the two *u*’s, both of the *u*’s should show up. Therefore, (72a-c) sentences are grammatical without the appearance of the degree adverbs like *khah* ‘more’, *tsin* ‘very’, and *siong* ‘most’, because the invisible (due to haplology) aspectual *u* appears to induce the *pos* morpheme which then saturates the degree argument implied in the adjective.

#### 4.2.4 Summary

Our proposal provides an explanation for the questions that arise from the NP + *u*-V construction in Taiwanese. (A) *u*- as an adjectival prefix in the deverbal adjective *u*-V triggers the dethematizing process of the base verb and also converts a verb into an adjective. Given the fact that the agent role, which always occupies the subject position, is suppressed, the subject position is left empty, and other participants of the event denoted by the verb will be promoted to fill the subject position. (B) We find that the input of this word formation process is restricted to an atelic verb carrying an agent role. Since *u*-V is a deverbal gradable adjective with open scale, (in line with Kennedy & McNally’s mapping approach), only verbs with no natural ending point are compatible with the *u*-V adjective. (C) With regards to the derived subject, it is natural for us to propose that any participant of the event denoted by the verb will be promoted to the subject position if and only if it has the expandable property in the aspect associated to the dimension of the scale structure that is going to be measured; this dimension is highly related to the semantics of the source verb. Finally, (D) the semantics of *u*-V adjectives are determined by the lexical semantics of the source verb.

## Chapter 5

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### Taiwanese *U*: A Generalization

#### 5.1 Preliminary: *U* in Taiwanese Southern Min

Tsao and Cheng (1995) indicate that there are five common usages of *u* in Taiwanese Southern Min. The first is the possessive *u* which denotes the existence of an object as belonging to, in possession of, a part of, or an attribute of the subject. It shows the relationship between possessor and possessee:

- (75) Gua u sann khoh gin  
I U three CL dollar  
我有三箍銀  
'I have three dollars.'



In the second usage, *u* serves as an existential verb. The NP preceding *u* is usually a locative or temporal phrase, as shown in (76a) and (76b) respectively.

- (76) a. Tshu lai u langkkeh  
House in U guest  
厝內有儂客  
'There are guests in the house.'
- b. Kinnajit u langkkeh  
Today U guest

今天有儂客

‘There are guests today.’

The third usage is the presentational *u*. The characteristic of this *u* is that the NP following *u* is indefinite, such as *lang* ‘person’ in (77); this NP is also one argument of the second verb. For example, in (77), *lang* ‘someone’ is the subject of *lai* ‘come’:

- (77) U lang lai a  
U person come SFP  
有儂來啊  
‘Someone’s coming.’

Fourth, they state that when *u* precedes a non-stative verb, like (78), it functions as an existential aspect, which denotes the completion or existence of the activity; it is usually paraphrased as the perfective marker *-le* in Mandarin Chinese, as (78b) shows.

- (78) a. Gua u be Tio kau-siu e tsheh a (Taiwanese)  
I U buy Chao professor DE book SFP  
我有買趙教授的書阿  
‘I have bought professor Chao’s book’  
b. Wo mai le Chao jiao-shou de shu le (Mandarin Chinese)  
I buy ASP Chao professor DE book ASP

Fifth, Tsao & Cheng, following Cheng (1981), point out that *u* in (79) behaves as an emphatic-assertive marker. It emphasizes the following state denoted by the stative

verb (or adjective), such as *ang* ‘red’, as in (79):

- (79) Tsit lui hue u ang  
This CL flower U red  
這蕊花有紅  
‘This flower is quite red.’

In the following, we further generalize the Taiwanese *u* into two states: verbal *u* and aspectual *u*.

### 5.1.1 Verbal *U*

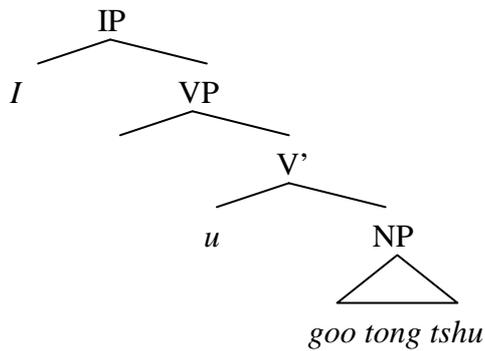
In this section, we will see two kinds of verbal *u*, that is the possessive verb *u*, as in (75), and the existential verb *u*, like the *u*’s in (76) and (77).

The possessive verb *u* is represented in (80):

- (80) I u goo king tshu  
he U five CL house  
伊有五間厝  
‘He has five houses.’

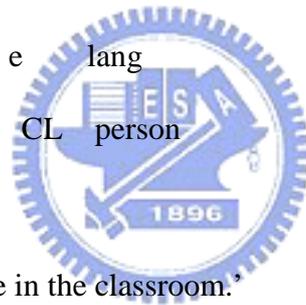
In (80), the subject *i* ‘he’ plays a role in the argument structure of the possessive *u*, meaning that it has the thematic role of possessor; *goo king tshu* ‘five houses’ is the possessee. The syntactic structure of (80) is as follows:

(81)



Sentences with the existential verb *u* are the closest counterparts to *there be*-sentences in English, as the examples in (82) show:

(82) a. Kaosit    u    goo    e    lang  
classroom    U    five    CL    person  
教室有五個儂  
‘There are five people in the classroom.’

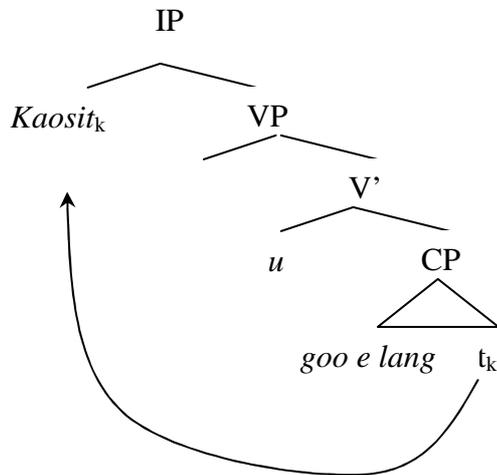


b. U    goo    e    lang    lai    a  
U    five    CL    person    come    SFP  
有五個儂來啊  
‘There are five people coming.’

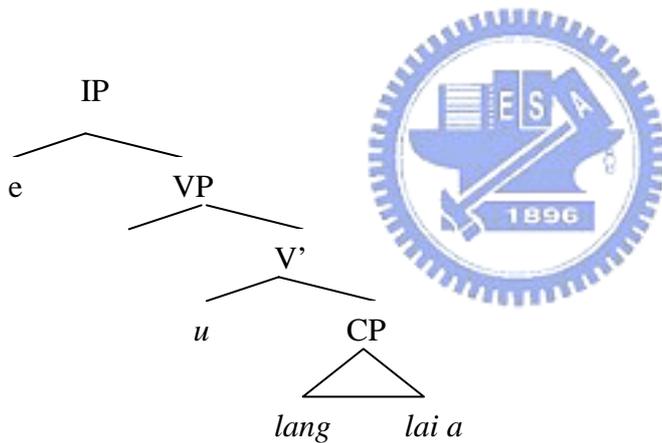
According to Huang (1987: 240), it is assumed that as in (82a), the subject position is in an expletive position before the locative NP *kaosit* ‘classroom’ moves into it. As for (82b), the surface subject position is left empty. The difference between the English *there be*-sentence and (82b) is that the English has the dummy *there* subject placed in the subject position. Therefore, sentences with the existential verb *u* have

the following syntactic structure:

(83)



(84)



Tsao and Cheng (1995) find that possessive verb  $u$  and the existential verb  $u$  are very similar semantically. Some  $u$ 's can be interpreted as both 'possess' and 'exist' (Zhan, 1981). Take (85) for example. We can paraphrase it as 'there are three crocodiles in the zoo' or 'those three crocodiles belong to the zoo'.

(85) Pakkiann tong-but-hng u sann jiah khok-hi  
 Beijing zoo U three CL crocodile

北京動物園有三隻鱷魚

Likewise, Lyons (1967, 1977) proposes that existential sentences work as deixis to designate the space or time where the object exists. Moreover, the possessors in the possessive sentences can be regarded as the location where the object exists metaphorically. Further, Tsao & Cheng observe that with morphological modification the possessor subject in (75), repeated as (86a), can become a locative phrase, such as *gua tsia* as in (86b):

(86) a. Gua u sann kho gin

I have three CL dollar

我有三籊銀

‘I have three dollars.’

b. Gua tsia u sann kho gin

I here have three CL dollar

我遮有三籊銀

‘I have three dollars.’



Thus, the possessive *u* and the existential *u* are categorically main verbs; their semantics are also closely related.

### 5.1.2 Aspectual *U*

Based on Liu (1988) and Liu (2005), we can further see that the existential aspect *u*, as in (87), and the so-called ‘emphatic marker’ *u*, as in (78), as the realization

aspect *u*<sup>20</sup>.

- (87) Gua u be Tio kausiu e tsheh a  
i U buy Chao professor DE book SFP  
我有買趙教授的書阿  
'I have bought professor Chao's book'

- (88) Tsit lui hue u ang  
this CL flower U red  
這蕊花有紅  
'This flower is quite red.'

It has been shown that in Mandarin Chinese, the distribution of *mei* (*you*), which is the negative form of *you*, is closely related to the aspectual marker *le*<sup>21</sup>. In Chinese, the aspectual suffix *le* changes into *mei* (*you*) as its negative counterpart, and they are in complementary distribution. This is illustrated by (89a), (89b), and (89c) respectively.

- (89) a. Lisi pian-le Zhangsan (Mandarin Chinese)  
Lisi cheat-ASP Zhangsan  
'Lisi has cheated Zhangsan.'

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<sup>20</sup> Thanks Professor Chen-Sheng Liu for pointing this out.

<sup>21</sup> There is a sentence-final *le* homophonous with the verbal suffix *le* in Chinese. It is illustrated in (i).

- (i) Ta chi-le fan le  
he eat-ASP rice ASP  
'He has eaten the meal.'

*Le* occurring in the sentence-final position is different from the verbal suffix *le* in that the function of the sentence-final *le* is to indicate a change of state from the state of not eating the meal to the state of eating the meal. Here, we only discuss the verbal suffix *le*.

b. Lisi mei (you) pian Zhangsan

Lisi not (have) cheat Zhangsan

‘Lisi has not cheated Zhangsan.’

c. \*Lisi mei (you) pian-le Zhangsan

Lisi not (have) chest-ASP Zhangsan

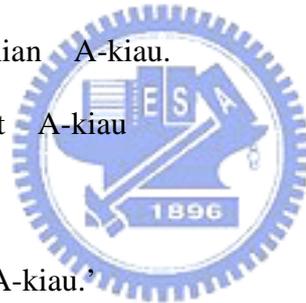
Therefore, since Wang (1965), many scholars have suggested that in Mandarin Chinese, *-le* is a suppletive allomorph of *you*, and in a positive clause, *-le* undergoes Affix Hopping to attach to the main verb. In Taiwanese, on the contrary, *u* is realized in both positive and negative sentences<sup>22</sup>, as represented in (90) below:

(90) a. A-bing u phian A-kiau.

A-bing have cheat A-kiau

阿明有騙阿嬌

‘A-bing has cheated A-kiau.’



b. A-bing bo phian A-kiau.

A-bing not cheat A-kiau

阿明無騙阿嬌

‘A-bing has not cheated A-kiau.’

Based on the above findings, many people consider that the Taiwanese *u* corresponds with the verbal suffix *le* in Mandarin Chinese because they are both positive counterparts of *mei (you)/bo* ‘have not’ (Huang 1990, Liu 1988, Tsao & Cheng 1995,

<sup>22</sup> In Mandarin Chinese the negative form of *you* is *mei-you*, while in Taiwanese *bo* is the negative form of *u*.

Tsai 2002, Lin 2003, Cheng 2004, among others); I will take this position in what follows. Thus, understanding the syntax and semantics of *le* will be very helpful in determining what *u* in Taiwanese really is. Notice that the difference between *-le* and *u* is that *u* in Taiwanese presents in the form of an aspectual verb (that is, a light verb), while *-le* in Mandarin Chinese becomes a suffix or aspectual marker which attaches to the main verb<sup>23</sup>.

Compare *V-le* with *V-wan*. Where *wan* means ‘complete’, it has been argued by Liu (1988) that the Chinese verbal suffix *le* does not express the completion, but the realization of the event; it asserts that the event happened. This is shown by the contrast between (91a) and (91b):

- (91) a. Chi-wan    cai    juede    you-dian    xiang-wei  
           eat-finish   then    feel    a little    fragrant-smell  
           ‘Finishing the food, then I smelled the fragrance.’
- b. Chi-le    cai    juede    you-dian    xiang-wei  
           eat-le    just    feel    a little    fragrant-smell  
           ‘After eating it, I smelled the fragrance then.’

In (91a), the meal has been finished and then the eater smells the fragrance.

Conversely, in (91b), while the eater ate the food, he smelled the smell. That is to say, the focus of *le* is not on the completion of the event.

Indeed, in Taiwanese the aspectual verb *u* has the same behavior as the verbal suffix *le* in Mandarin Chinese. Tsao (1999: 322) provides the following examples:

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<sup>23</sup> Thanks Professor Chen-Sheng Liu for this point.

(92) a. I tsheh u thak, m koh thak ia-beh liau  
he book have read, but read still not finish  
伊冊有讀, m koh 讀猶未了

‘He has read the book, but he has not finished it.’

b. A-tsu u khi be tshai, m koh ia-beh tng lai  
A-tsu have go buy vegetable, but still not back come  
阿珠有去買菜, m koh 猶未轉來

‘A-tsu has gone to buy vegetables, but she has not come back.’

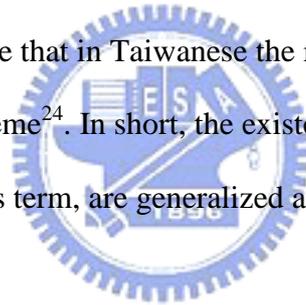
(92a) shows that the subject *i* ‘he’ has read the book, but whether he has finished it or not is not clear. The second clause offers the information that he has not finished reading the book. Namely, the event indeed happened, but we are not sure whether the event is completed or not.

Therefore, when the aspectual *u* co-occurs with a verb to form a predicate, it indicates that the event denoted by the verb is realized; however, whether the event is completed or not is not guaranteed. The generalization that the aspectual *u* marks the realization of its complement can also explain the cases of predicates with adjectives. Illustrated below is an example in which *u* co-occurs with an adjective (or stative verb):

(93) Tsit nia sann u sui  
this CL clothe have pretty  
這領衫有水

‘This article of clothing is pretty.’

To realize an adjective like *sui* ‘pretty’ in (93) means that the aspectual *u* functions to guarantee that the degree argument of the adjective is saturated. In addition, the interpretation of (93) shows that the prettiness property of the subject *tsit-nia sann* ‘this article of clothing’ is at least equal to the standard which is built-in to the adjective. Von Stechow (1984) assumes that unmodified APs actually contain a null degree morpheme *pos* (for POSITIVE FORM) whose function is to relate the degree morpheme of the adjective to an appropriate standard of comparison. Kennedy & McNally (2005) further assume that *pos* encodes the relation **standard**, which holds of a degree *d* in case it meets a standard of comparison for an adjective with respect to a comparison class determined by the context. Based on the interpretation of (93) and the function of the *pos* morpheme proposed by von Stechow (1984) and Kennedy & McNally (2005), we conjecture that in Taiwanese the realization aspectual verb *u* induces the covert *pos* morpheme<sup>24</sup>. In short, the existential aspect *u* and the emphatic marker *u*, in Tsao and Cheng’s term, are generalized as a realization aspectual verb.



### 5.1.3 Summary

Here we can generalize the usages of *u* into the verbal *u* and aspectual *u*. First, the main verb *u*, meaning ‘possess’, takes a noun phrase as its object, and the subject in the sentence with verbal *u* plays a role in the argument structure of *u*. In addition, sentences with the existential verb *u* can be treated as *there*-existential sentences in English. Next, the aspectual verb (or light verb) *u* functions to mark the existence or realization of an event or state. The realization of an event means that it guarantees that the event is initiated, but whether it is completed or not is not certain. To realize an adjective is to guarantee that the degree argument of the adjective is saturated.

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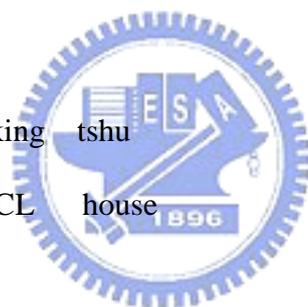
<sup>24</sup> Thanks Professor Chen-Sheng Liu for this point.

## 5.2 Grammaticalization of *U*

Grammaticalization is a process of linguistic change by which a content word changes into a function word or further into a grammatical affix. Involved in the process are various semantic changes (especially bleaching) and phonological changes. We find that *u*, in Taiwanese, undergoes two steps of a grammatical process from the main verb to the aspectual verb, and then from the aspectual use to an affix.

Chen (2004) points out that if the statement of *Wen Yuan* is on the right track, the original meaning of the verb *u* is ‘to possess’. It denotes the relationship between the possessor, namely the animate subject, and the possessee object. This is illustrated by (94):

(94) Tiunn-e u sann king tshu  
Tiunn-e have three CL house  
張仔有三間厝



‘Tiunn-e has three houses.’

Since ‘to possess something’ usually implies the existence of something (Tsao & Cheng 1995), the possessive *u* is gradually extended to a verb meaning ‘to exist’. In addition, the animate subject of the possessive *u* is extended to inanimate, for example, the location or temporal expression to designate the space or time where the object exists, as (95) and (96) show, respectively. It might also be left unexpressed, as in (97).

(95) Tshu lai u nng e lang

house in have two CL person

厝內有兩個人

‘There are two people in the house.’

(96) Kinnajit u langkhek

Today have guest

今天有儂客

‘There are guests today.’

(97) U goo e lang lai a

Have five CL person come SFP

有五個人來了

‘Five people are coming’.



The *u*-sentences in (95)-(97) are the closest counterparts to *there*-existential sentences in English (Huang, 1987: 226-227), especially in (97) where an empty surface subject is much like English existential sentences with a dummy *there* subject. Tsai (2002) states that semantically the possessive meaning of *u* is lost in sentences like (97), and it has grammaticalized into an existential quantifier.

Next, the existential *u* is grammaticalized into the realization aspect *u*. In section 5.1, we mentioned that the aspectual verb *u* functions to mark the realization of its complement. Compare (98) and (99).

(98) Gua u khi Taipak

I have go Taipei

我有去台北

‘I had gone to Taipei (and now I’m back).’

(99) I       ji           u       sia ,    m-koh   bo   sia-liau  
 he/she character U   write, but   not   write-finish  
 伊字有寫, m koh 無寫了

‘He/she have written his/her homework, but has not finished it.’

In (98), the event of ‘going to Taipei’ is completed, and the speaker is not in Taipei now. In (99), *u* marks that the event is initiated, but the event is not completed yet. Therefore, we can conclude that the aspectual verb *u* is a realization aspect marker which marks the realization of the event, but does not guarantee the completion of the event. We find that the aspectual *u* is an extension of the notion ‘exist’. More specifically, if an event is realized, regardless of whether or not the event is completed or not, it absolutely exists. Likewise, the existence of an event also implies that the event has been realized or initiated.

In *u*-V adjectives, *u* is no longer an aspectual verb because *u* and the following verb are lexicalized as an adjective. When *u* prefixes to the verb, the verb will lose its verbal status and change into an adjective. This is much like the adjectival passive *-ed* in English, which affixes to a verb and forms an adjective; this *V-ed* adjective (namely, the combination of a verb and the resulting participle argued by Embick (2004)) refers to a state that is the result of a grammatically represented event. We suggest that this function of prefix *u-* is grammaticalized from the realization aspect *u*. The combination of *u*-V denotes the result after initiating the event designated by the verb. Take *Tsit-nia sann u-tshing*/這領衫有穿 ‘this article of clothing is durable’ for example. First, the prefix *u-* realizes the event designated by the verb *tshing* ‘wear’. Next, the result of wearing the article of clothing is the state of the clothing being on a person. Therefore, the semantics of *u-tshing* is associated with a temporal dimension.

To summarize, the Taiwanese *u* undergoes two steps of a grammatical process from the main verb to aspectual verb, and then from the aspectual use to an affix. At first, the existential verb *u* is grammatically changed to the realization aspect *u*, since the existence of an event implies that the event has been initiated. Next, the aspectual verb *u* is de-categorized into a grammatical prefix. When *u-* prefixes to the verb, the verb will lose its verbal status and change into an adjective.



In this thesis, we examined the NP + *u*-V construction in Taiwanese Southern Min. For example, *Tsit tiunn i-a u-tse/這張椅子有坐* ‘This chair is durable’, or *Tsit khuan sann u-tshing/這款衫有穿* ‘The article of clothing is durable’.

In Chapter 2, we discussed the syntactic and semantic characteristics of this construction. First, there is a process of categorical change involved in this construction. Second, it is noticed that the verbs that are permitted in this combination are restricted to atelic verbs with an agent role. Third, the argument structure of the verb is changed in *u*-V sentences. Finally, its interpretation can vary from expressing a high degree of durability, quantity, and volume, to the value of the subject. Having looked at the characteristics shown by the NP + *u*-V construction in Taiwanese, we dealt with the following questions that any analysis of this construction must address: (A) What kind of function does *u* play in this construction to trigger the categorical change of the verb and the dethematizing property involved in the verb? (B) Why are some verbs incompatible with this construction? (C) How do we identify the derived subject? That is, which internal argument or adjunct of the base verb would be promoted to the subject position? And finally, (D) how do we derive the various semantics of the construction?

Next, we reviewed previous works on the NP + *u*-V construction in Chapter 3. We focused on the in-depth analysis proposed by Lien (2006). Lien analyzes this construction as a middle in Taiwanese. We showed that there will arise some

problems in this middle analysis. Therefore, in Chapter 4, we gave our proposal and attempted to offer a more generalized explanation for the syntactic and semantic properties that lie in this construction.

We proposed that (A) *u-* as an adjectival prefix in the deverbal adjective *u-V* changes a verb into an adjective and triggers the dethematizing process of the base verb. Given the fact that the agent role, which always occupies the subject position, is suppressed, following Chomsky's Extended Projection Principle, other participants of the verb will be promoted to fill the subject position. (B) Since *u-V* is a deverbal gradable adjective with an open scale in line with Kennedy & McNally's 'mapping approach', only verbs with no natural ending point are compatible with a *u-V* adjective. (C) As for the derived subject, it is natural for us to propose that any participant of the event denoted by the verb will be promoted to the subject position. However, there is a condition for the participant: it should have an expandable property associated with the dimension of the scale structure; also, this dimension is highly related to the semantics of the source verb. Finally, (D) the semantics of *u-V* adjectives are determined by the lexical semantics of the source verb.

At last, we observed that the Taiwanese *u* undergoes two steps of grammatical process from the main verb to the aspectual verb, and then from the aspectual use to an affix. The existential verb *u* is changed grammatically to the realization aspect *u*, since the existence of an event implies that the event has initiated. Next, the aspectual verb *u* is de-categorized into a grammatical prefix. When *u-* prefixes to the verb, the verb will lose its verbal status and change into an adjective.

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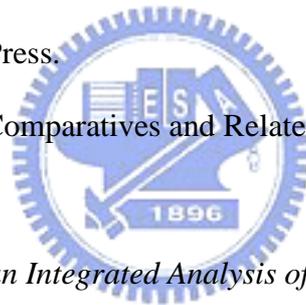
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