

THE VERB-COMPLEMENT (V-R) COMPOUNDS IN MANDARIN CHINESE

Fu-Wen Lin

Computing Center, Academia Sinica

V-R compounding is a rich source of new verbs in Mandarin Chinese. It presents a puzzle all along in the interpretation and construction of subcategorization frames for lacking of a rule-governed process to deal with how the function of a V-R compound is related to the functions of its constituents. This work aims at investigating the restrictions on stem collocation and the construction of subcategorization frames of V-R compounds in terms of lexicalized semantic and grammatical information of the verbs which are juxtaposed to form the compounds.

1. INTRODUCTION

Mandarin Chinese employs compounding as a major device to augment its lexicon. There is a group of compounds often referred to as the VERB-COMPLEMENT (V-R) compounds which are structurally $[V_1-V_2]_V$ [1] in general. They are the focus of this work.

1.1. THE AIM OF THIS WORK

Based on past works, it seems to be very difficult to establish a rule-governed interpretation process of the V-R compounds, because the subcategorization frames of the V-R compounds are not formed by simply concatenating the frames of the V and the R. Nor do the meanings of the V-Rs seem to be straightforwardly compositional. Thus, though this compounding type is very productive and the bulk of the lexical items formed by this word-formation are transparent, they always present a puzzle in the interpretation and construction of subcategorization frames. This paper investigates whether the restrictions on stem collocation and the construction of subcategorization frames of V-R compounds can be predicted from

lexicalized semantic and grammatical information of the verbs which are juxtaposed to form the compounds.

1.2. AN OVERVIEW: DESCRIPTIVE ACCOUNTS

About the V-R compounds, there have already been a lot of works devoted to explore their syntactic and semantic functions. The following is a summary of some earlier works on which this work bases.

Consulting Chao(1968:435-480), we classify the Rs into five types according to their functions:

Types	Functions of the complement and examples
(1) Resultative	Describing the state of the subject or object after the completion of the action described by the V member; such as <div style="margin-left: 40px;"> <p>ji -<u>tsen</u> le dijian, "擊沉了敵艦" attack sink ASP enemy warship 'have sunk the enemy warship'</p> <p>chr-<u>guang</u> le fan, "吃光了飯" eat exhaust ASP rice 'have eaten all the rice'</p> <p>chr-<u>bau</u> le fan; "吃飽了飯" eat full ASP rice 'have had enough food'</p> </div>
(2) Phase	Expressing phase (aspect) of action of the V member; such as <div style="margin-left: 40px;"> <p>tsai -<u>jau</u>, "猜著" guess hit-the-mark 'have guessed just right'</p> <p>peng-<u>dau</u>, "碰到" meet reach 'have met'</p> </div>

yu -jian, "遇見"
meet see
'have met'

tzuo-wan, "做完"
do finish
'have finished doing'

chr-guo, "吃過"
eat pass
'have finished dinner'

- (3) Intensifying Intensifying the state described by the V member; such as

mei -ji le, "美極了"
beautiful extremely CRS
'extremely beautiful'

huai-tou le. "壞透了"
bad thoroughly CRS
'thoroughly bad'

re -sz le; "熱死了"
hot die CRS
'be hot to death'

- (4) Potential [2] There are three subtypes of Rs whose central meanings are to express potentiality:

- (a) Dummy potential complements; such as

tzuo(-bu)-liau, "做不了"
do not finish
'not be able to do'

tzuo-(bu)-lai; "做不來"
do not come
'not be able to make'

- (b) Minimal potential complement; such as

ch(-bu)-de; "吃不得"
eat not obtain
'inedible'

- (c) Lexical potential complements; a limited number of potential complements compounds occur either mostly or exclusively in potential form with idiomatic meanings; such as

lai -de (/ -bu)-ji, "來得(/不)及"
come obtain not reach
'can(not) come so as to reach'

*lai -ji; "來及"
come reach

(5) Directional There are four subtypes:

- (a) Indicating motion toward or away from the speaker ---- lai "來", chiu "去"; such as

sung-chiu, "送去"
send go
'send away'

- (b) Referring to the variety of path to which the theme moves; there are nine verbs involved [3]:

shang "上", 'ascend, -up'	shia "下", 'descend, -down'
jin "進", 'enter, -in'	chu "出", 'exit, -out'
chi "起", 'rise, -up'	huei "回", 'return, -back'
guo "過", 'pass, -over'	kai "開", 'open, -away, apart'
lung "攏"; 'gather, -together'	

such as in

tzou-kai; "走開"
walk open
'walk away'

- (c) Double complements which are formed with a type (b) followed by a type (a) complement, such as

reng -guo -chui; "扔過去"
throw pass go
'threw over there'

- (d) Verbs of motion which can not form double complements with type (a), such as

peng -dau le, "碰倒了"
collide fall ASP
'have knocked down'

the others like fan 'turn over' "翻", san 'scatter' "散", etc.

Examining the above classification, we observe that members of the lexical classes except type (1) are quite limited and their predicative functions are fixed. The Rs belonging to the types (2), (3) and (4) all predicate the situation of the event described by the Vs; and those belonging to the type (5) regularly describe, literally or metaphorically, the state of the object, if V is transitive, or the subject of V, if V is intransitive. As for the type (1), there does not seem to be a clear-cut overall generalization; such as

(1) ta he -tzuei le jiu, "他喝醉了酒"
he drink drunk ASP wine
'He is drunk'

(2) ta guan-tzuei le liz; "他灌醉了李四"
he pour drunk ASP LIZ
'He got LIZ drunk'

In (1), TZUEI 'drunk' "醉" predicates the subject TA 'he' "他", but in (2), it predicates the object LIZ 'LIZ' "李四", though

the Vs are transitive in both cases.

Mainland Chinese linguists have investigated V-R compounds in terms of the predicative functions of the R members in a sentence and their possible alternative constructions. They probed into these linguistic phenomena by means of the transitivity of the concatenated members and their corresponding compounds. The compendium of their classification is illustrated in the following tabular form [4]:

Predicative types	Transitivity			Examples
	V-R	V	R	
0 P	t	t	i	wusung <u>da</u> - <u>sz</u> le lauhu Wusung hit die ASP tiger 'Wusung have killed the tiger.' "武松打死了老虎" ta <u>chang-huai</u> sangtz le he sing bad throat ASP 'His throat got hurt for singing.' "他唱壞了嗓子"
	t	i	i	ta <u>die</u> - <u>duan</u> le tui he fall break ASP leg 'His leg broke by a fall.' "他跌斷了腿" ta <u>ji</u> - <u>hung</u> le lian he worry red ASP face 'His face got red for worrying.' "他急紅了臉"
S P	t	t	t	ta <u>shiu</u> - <u>huei</u> le tzoulu he learn comprehend ASP walk 'He is able to walk after learning.' "他學會了走路"

t t i ta he -tzuei le jiou
he drink drunk ASP wine
'He is drunk.'

"他喝醉了酒"

t i t ta tzou-jin le jiaushr
he walk enter ASP classroom
'He walk into the classroom.'

"他走進了教室"

i i i ta ji -ku le
she worry cry ASP
'She cried for worrying.'

"她急哭了"

shiauli jang-pang le
Shiauli grow fat ASP
'Shiauli gained weight.'

"小李長胖了"

V P t t i ta miau-juen le batz
he gaze accurate ASP target
'He has aimed at the target.'

"他瞄準了靶子"

i i i ta lai -wan le
he come late ASP
'He came lately.'

"他來晚了"

A i t i tamen da -chi -lai le
they fight rise come ASP
'They begin to fight.'

"他們打起來了"

t t i tamen chang-chi ge lai le.
they sing rise song come ASP
"They begin to sing."

"他們唱起歌來了"

i i i ta ku -chi -lai le
he cry rise come ASP
'He begins to cry.'

"他哭起來了"

V-R compounds can be unambiguously decomposed into their constituent morphemes; but, how to predict the subcategorization frames of the compounds from their constituent morphemes?

2. THE LEXICALIZED PROPERTIES AND THE COMPOUNDS

In this work, we take an approach different from our predecessors. We try to factor semantic properties conflated in verbs in order to classify the verbs to discover the restrictions governing the stem collocation and the rule constructing the subcategorization frames of the compound verbs.

Different languages have different strategies of representing meaning incorporation; Mandarin Chinese employs compounding as indicated by the contrast between English (3) and Chinese (4):

- (3) a. He walked into the house.
b. He entered the house.

- (4) a. ta tzou-jin le nejianwutz. "他走進了那間屋子"
he walk enter ASP that house
'He walked into the house.'
- b. ta jin le nejianwutz. "他進了那間屋子"
he enter ASP that house
'He entered that house.'

In English, the predicate WALK involves a preposition to express the semantic property of PATH, while the same property is conflated in the lexical entry of ENTER. In Chinese, TSOU 'walk' "走" is juxtaposed with JIN 'enter' "進" which is a verb. Now, let's examine more closely the following examples:

die-puo "跌破", shuai-puo "摔破",

*diao-puo "掉破", *luo-puo "落破", *dau-puo "倒破";

The lexical items ---- tie "跌", shuai "摔", diao "掉", luo "落", dau "倒" ---- all roughly mean 'fall' or 'drop' and are free morphemes. However, they have different morphosyntactic characteristics with regard to the formation of V-R compounds. What determines the stem collocation properties? Let's shift to the subcategorization frames of this compounding type, investigating the followings:

(5) ta he -guang le jiou. "他喝光了酒"
 he drink exhaust ASP wine
 'He have drunk all the wine.'

'he < AG, TH > + 'guang < arg >' [5]

----> 'he-guang < AG, TH >'
 |
 arg

(6) ta he -tzuei le jiou. "他喝醉了酒"
 he drink drunk ASP wine
 'He is drunk.'

'he < AG, TH > + 'tzuei < arg >'

----> 'he-tzuei < AG, TH >'
 |
 arg

(7) ta (yung jiou) guan-tzuei le lisz. "他(用酒)灌醉了李四"
 he use wine pour drunk ASP Lisz
 'He got Lisz drunk.'

'guan < AG, EXP, (INST) >' + 'tzuei < arg >'

----> 'guan-tzuei < AG, EXP, (INST) >'

|
arg

The Vs as well as the Rs seem to be able to influence the control relation of the relevant arguments. What factors lead to that result? We assume that certain semantic properties conflated from both the Vs and Rs attribute to the determination of these phenomena. Consequently, we will discuss the lexicalized properties and the classification of verbs, the restrictions on stem collocations, and the rule for subcategorization.

2.1. THE LEXICALIZED PROPERTIES AND THE CLASSIFICATION OF VERBS

The theory of lexicalization and the names of the majority of the semantic categories in this proposal are mainly drawn from Talmy (1975, 1985). The definitions of the cited terms adopted here are as follows:

PATH : The respect in which one object is considered as moving or located to another object;

MANNER: Referring to a subsidiary action or state that a THEME manifests cocurrently with its main action or state;

CAUSE : The basic reference is the same as MANNER except that the subsidiary action or state is manifested by an AGENT or INSTRUMENT.

Additionally, there are two terms ---- MOVE and BEL(a mnemonic for 'be-located') ---- which specify two motional states of a motion situation. Now, let's get into the classification of verbs.

The verbs specifying simple motion situations:

(1) MOVE: dung 'to move' "動";

Invloving metaphoric extensions of MOVE:

a. Unaccusative [6]:

i. Sentence required for the participant:

hun "昏", bau "飽", tzuei "醉", sz "死",
'daze' 'full' 'drunk' 'death'
shing "醒", huei "會";
'awake' 'knowing'

ii. Sentence not required for the participant:

huai "壞", tsuo "錯", puo "破", tzang "髒",
'bad' 'wrong' 'broken' 'dirty'
chi "齊", jiang "僵", bai "敗", luan "亂",
'even' 'stiff' 'fail' 'messy'

b. Unergative

ni "膩", yan "厭", fan "煩", lei "累",
'bored' 'sick off' 'annoyed' 'tired'
pa "怕", sheng "勝", ying "贏", shu "輸";
'fear' 'win' 'win' 'lose'

(2) BEL : tzai 'to be at' "在";

Involving metaphoric extensions of BEL:

bai "白", gau "高", dan "淡", tsu "粗",
'white' 'high' 'light' 'coarse'
shin "新", nan "難", tian "甜", ganjing "乾淨";
'new' 'difficult' 'sweet' 'clean'

The motion+PATH-specifying verbs:

lai "來", chiu "去", shang "上", shia "下",
'come' 'go' 'ascend' 'descend'
jin "進", chu "出", dau "到", dau "倒",
'enter' 'exit' 'arrive' 'topple',
guo "過", chi "起", diau "掉", tzou "走",
'pass' 'rise' 'fall' 'walk'
huei "回", lung "攏", kai "開", san "散",
'return' 'together' 'open' 'scatter'

luo "落", zhuei "墜", kua "垮";
'fall' 'fall' 'collapse'

The motion+MANNER-specifying verbs:

(1) MOVE+MANNER

a. Self-agentive situations

tzou "走", pau "跑", tiau "跳", fei "飛";
'walk' 'run' 'jump' 'fly'

b. Undergoer situations

die "跌", guan "滾", liou "流", fu "浮";
'fall' 'roll' 'flow' 'float'

(2) BEL+MANNER

a. Self-agentive situations

jian "站", duen "蹲", tan "躺", tzuo "坐",
'stand' 'squat' 'lie down' 'sit'
shuei "睡";
'sleep'

b. [TH] BEL all over [GO/LOC]

man "滿", bian "遍";
'full' 'all over'

The motion+CAUSE-specifying verbs:

a. [AG] CAUSE [GO] to MOVE

da "打", yi "移", tuei "推", la "拉",
'hit' 'remove' 'push' 'pull'
ban "搬", dau "倒";
'remove' 'pour'

b. [AG: affected] CAUSE [TH/GO] to MOVE

chr "吃", he "喝", ting "聽", shuei "學"
'eat' 'drink' 'listen' 'learn'

- c. [TH] MOVE into a status by [AG] MOVE it in a specific environment

shai "曬", hung "烘", jin "浸", shiun "燻";
'shine' 'toast' 'soak' 'smoke'

- e. [AG] CAUSE [TH] to MOVE into existence

shie "寫", tzuo "做", wa "挖", gai "蓋";
'write' 'do' 'dig' 'build'

- f. [AG] CAUSE [TH] to BEL

fang "放", tian "填", sai "塞", tie "貼",
'put' 'fill' 'fill' 'paste'
gua "掛", bai "擺", ge "擱";
'hang' 'place' 'lay'

- g. [AG1] INDUCE [AG2: affected/Exp] to MOVE

guan "灌", wei "餵", jiau "教", tsau "吵",
'pour' 'feed' 'teach' 'hubbub'
shia "嚇", dou "逗";
'scare' 'tease'

The above classification is mainly based on the properties entailed by the meanings of verbs. We will show how the classification predicts V-R compounding results in the next section.

2.2. INTERNAL TO THE COMPOUNDS:

THE RESTRICTIONS ON STEM COLLOCATIONS

Structurally, the bulk of the V-R compounds are formed from simplex lexical elements; though themselves are lexical items, they can not enter the word formation process to construct the further V-R compounds in a recursive fashion like the modifier-head compounds[7]. Semantically, both concatenated members of the

compounds have predicative functions; and, their meanings are generally that the second member describes the state of the subject, the object, or the event after the completion of the action described by the first member. Generally speaking, their constituent morphemes are easily identifiable and the knowledge of the meanings of constituent morphemes is sufficient for native speakers to interpret the compounds when they are encountered in context.

How contextual information determines the compatibility of two morphemes involved in V-R compounds is not our concern here. We focus on the inherent meanings of the concatenated members. The possible combinations of V-R compounds with causative-resultative reading:

V2	MOVE	BEL	+PATH	MOVE+MANNER	BE+MANNER	+CAUSE
V1						

MOVE	+	+	+			
BEL	+	+	+			
+PATH			+			
MOVE+MANNER	+	+	+		+	
BE+MANNER	+	+	+		+	
+CAUSE	+	+	+		+	

The restrictions that we induce from the above combinations are described as the following:

Re.1: V:[+PATH] can not be the V1 except when V2 is also [+PATH].

Re.2: V:[+CAUSE] and V:[MOVE+MANNER] can not be V2.

Re.3: *[V1:MOVE/BEL - V2:[BE+MANNER]]_V

By the restrictions we can explain the following contrast:

die-puo, shuai-puo, *diau-puo, *luo-puo, *dau-puo
跌 破 摔 破 掉 破 落 破 倒 破

The motion-PATH-specifying verbs can not be the first member in a V-R compounds with causative-resultative reading in Chinese lexical system.

2.3. EXTERNAL TO THE COMPOUNDS: THE RULES FOR SUBCATEGORIZATION

Superficially, the morpholexical process which produces the derived subcategorization frames of the compounds from the concatenated verb stems seem to be highly irregular; and the control relations between the relevant arguments do not show any significant regularity. In this section, we try to probe into these phenomena in the view of intrinsic meanings of the concatenated members. The rule of constructing the subcategorization frames is as follows:

Given two verbs V1 and V2 as the V member and the R member of a V-R compound respectively;

IF : The argument structure of V2 is < arg, (LOC)[8] >
THEN: IF : V2 is an unergative verb
THEN: The arg of V2 is controlled by AGENT of V1
OTHERWISE: IF : The arg should be [+sentient] entailed by the meaning of V2
THEN: The arg of V2 is controlled by the EXPERIENCER or AFFECTED AGENT of V1
OTHERWISE: The arg of V2 is the THEME or GOAL of the V-R compound [V1-V2]_V.

From the above rule, the choice of controller is predictable. For instance:

IF: V2 is an unergative verb.

- (a) ta chr-ni le. "他吃膩了"
he eat bored ASP
'He is tired of that food.'

'chr < AG, TH >' + 'ni < arg >'

----> 'chr-ni < AG, TH >'

|
arg

- (b) ta shiu-fan le. "他學煩了"
he learn tired ASP
'He is tired of learning.'

'shiu < AG, TH >' + 'fan < arg >'

----> 'shiu-fan < AG, GO >'

|
arg

- (c) ta jiau -lei le. "他教累了"
he teach tired ASP
'He is tired of teaching.'

'jiau < AG, EXP, TH >' + 'lei < arg >'

----> 'jiau-lei < AG, EXP, TH >'

|
arg

OTHERWISE:

IF: the arg of V2 should be [+sentient] entailed by the meaning of V2.

- (a) ta chr-bau (fan) le "他吃飽(飯)了"
he eat full (rice) ASP
'He has had enough food.'

'chr < AG, TH >' + 'bau < arg >'
affected

----> 'chr-bau < AG, TH >'

|
arg

(b) ta shiue -huei le "他學會了"
 he learn knowing ASP
 'He learned it.'

'shiue < AG, GO >' + 'huei < arg >'
 affected

----> 'shiue-huei < AG, GO >'
 |
 arg

(c) ta (yung jiou) guan-tzuei liz le "他(用酒)灌醉李四了"
 he use wine pour drunk Lisz ASP
 'He got Lisz drunk.'

'guan < AG, EXP, INST >' + 'tzuei < arg >'

----> 'guan-tzuei < AG, EXP, INST >'
 |
 arg

OTHERWISE:

(a) ta ku -shr le shoupa. "他哭溼了手帕"
 he cry wet ASP handkerchief
 'He cried so much that the handkerchief got wet.'

'ku < AG >' + 'shr < arg >'

----> 'ku-shr < AG, < TH > >'
 causer |
 arg

(b) ta han -ya le shangtz. "他喊啞了嗓子"
 he yell toarse ASP throat
 'He has a toarse voice because of yelling.'

'han < AG >' + 'ya < arg >'

----> 'han-ya < AG, < TH > >'
 undergoer |
 arg

(c) henduoren e -sz le "很多人餓死了"
 many people hungry die ASP
 'Many people have been starved to death.'

'e < TH >' + 'sz < arg >'

----> 'e-sz < TH >'
 |
 arg

(d) ta tzou-jin le jiaushr "他走進了教室"
 he walk enter ASP classroom
 'He walked into the classroom.'

'tzou < TH >' + 'jin < arg, LOC >'

----> 'tzou-jin < TH, LOC >'
 |
 arg

(e) ta ban -dung le nekuaidashrtou "他搬動了那塊大石頭"
 he remove move ASP that big stone
 'He have reomved that big stone.'

'ban < AG, GO >' + 'dung < arg >'

----> 'ban-dung < AG, GO >'
 |
 arg

(f) ta ba yitz tuei-jin keting "他把椅子推進客廳"
 he BA chair pull enter parlour
 'He pushed the chair into parlour.'

'tuei < AG, GO >' + 'jin < arg, LOC >'

----> 'tuei-jin < AG, GO, LOC >'
 |
 arg

So far, everything is not simple, but neither is it as messy as we thought at the very beginning.

3. CONCLUDING REMARKS

The V-R compounding is a rich source of new verbs in Mandarin Chinese. It is quite a problem all along for lacking of a rule-governed process to deal with how the function of a V-R compound is related to the functions of its constituents, though its internal structure is rather simple. This work tries to probe into the problem by means of lexical decomposition. We do get some instructive results, but there are, we think, some tasks needing more effort: HOW MANY and WHAT primitives, like MANNER, PATH, etc., will we need to capture the details of the lexical information involved competence? WHAT about the syntactic realization of the arguments of the compounds, do the meanings conflated in a lexicon determine the syntactic representations to the arguments the lexicon subcategorizes?

NOTES

1. The name 'V(erb)' we use includes adjectives; since Chinese adjectives can function as predicatives without linking verb, we adopt the view of treating them as a class of verbs (Chen & Huang (1989)).
2. Most potential complement compounds are formed by infixion of de "得" to separable V-R compounds.
3. Chao(1968) considers that the majority of compounds with the complements of this type have idiomatic meanings, such as

ai -shang le ta, "愛上了他"
love ascend ASP him
'to have fallen in love with him'

chou -shang le yin, "抽上了癮"
smoke ascend ASP addition
'to become addicted to smoking'

shuo-kai le, "說開了"
say open ASP
'call a spade'

fa -chi yi ge yundung. "發起一個運動"
issue rise one CL movement
'to initiate a movement'

These complements are pervasive in Chinese Lexical system; such as

(1) Aspectual usages:

-shang 'ascend' "上" ---- to start and continue; such as

shihuan-shang, "喜歡上"
like ascend
'to become fond of'

kan -shang, "看上"
look ascend
'to take a fancy on'

-chi 'rise' "起" ---- to start; such as

chang-chi ge lai le "唱起歌了"
sing rise song come ASP
'to begin to sing'

(2) Abstract usages:

nau -kai le, "鬧開了"
fight open ASP
'to have come to an open conflict'

chau -fan lian le; "吵翻臉了"
quarrel turn-over face ASP
'to have turned hostile for quarreling'

If treating these compounds as idioms, we could lose some information. So, we suggest to capture the predicative functions of the metaphoric usages of these complements by rules instead of listing idioms.

4. The construction and content of this form is largely based on Fan Shiau 范曉 (1987).

Annotations for the symbols used in the form:

A: Aspect

S: Subject

O: Object

P: Predicate

R: The COMPLEMENT member of a V-R compound

V: The VERB member of a V-R compound

t: transitive

i: intransitive

5. AG(ent): the object which performs the action;
TH(eme): the object which undergoes change of location or state, of which location or state is described;
GO(al) : the object to which an action or event is directed, literally or metaphorically;
INST(rument) : the object which is used for accomplishing an action;

EXP(eriencer): the object which perceives an action or undergoes an emotion or an intellectual state;
LOC(ative) : the place in which an event takes place or of which a state is described.

6. The term UNACCUSATIVE verb was first proposed in Relational Grammar by Perlmutter(1978) to refer to a subclass of intransitive verbs whose subjects seem to be patientlike; the another term UNERGATIVE verb is used to refer to the other subclass of intransitive verbs whose subjects are agentlike.
7. For instance: jiun-shr-wei-yuan-huei "軍事委員會" has the internal structure ---- $[[N-N]_N - [[N-N]_N - N]_N]_N$, where all of the intermediate stages are of the same structure ---- $[N-N]_N$.
8. If this V2 is [+PATH].

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