Causal VVs in Mandarin

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1 Introduction

Many verbal predicates in Mandarin have two parts that can be separated by at most the markers of the positive and negative potential form, de and bu (Chao 1968, Hashimoto 1971, Thompson 1973, Li and Thompson 1981). Call such predicates VVs (Lu 1977), committing to nothing with this name. VVs come in various types, to be reviewed briefly in section 3. This chapter will concentrate on VVs which I will call causal (Li and Thompson 1981), such as those in (1) and (2). These imply a causal relation between two distinct events, those of the first and second verb. For example, (1a) implies that a kicking caused a snapping and (2a) implies that a chilling caused an illness.¹

(1) a. ta ti duan-le na tiao muban
   3s kick snap -PFV that CLS plank
   ‘He made that plank snap by kicking [it].’

   b. na ping jiu he zui -le wo
      that bottle wine drink drunk -PFV 1s
      ‘That bottle of wine made me drunk from [my] drinking [it].’

(2) a. na ge haizi dong bing -le
      that CLS child chill be ill -PFV
      ‘That kid got ill from [his] being cold.’ (Ma 1987:439)

   b. wo zou fa -le
      1s walk weary -PFV
      ‘I got weary from [my] walking.’

This chapter surveys the interpretation and syntax of causal VVs, focusing on the former. The terms of discussion are established in section 2. Section 3 distinguishes non-causal VVs, with section 4 then discussing the relations between the two parts of the causal VV. A quick sketch of the potential form is given in section 5.

¹Interlinear glosses use these abbreviations: 1s/2s/3s ‘first/second/third person singular pronoun,’ CLS ‘noun classifier,’ LE ‘sentence final le,’ NPO ‘negative potential infix,’ POP ‘positive potential infix,’ NMOD ‘suffix marking an adnominal modifier,’ DE ‘verbal suffix introducing manner or extent complements’, and PFV ‘perfective.’ I use hyphens only to indicate that a morpheme is intrinsically an affix or a clitic. My scheme of translation is described in §2.
Section 6 concerns the interpretation of the subject and object—the most theoretically provocative aspect of this construction—followed in section 7 by two accounts of the data. Some further aspects of VV syntax are noted in section 8, before the conclusion. This review relies heavily on many ground-breaking studies, particularly Chao 1968, Hashimoto 1971, Thompson 1973, Li and Thompson 1981, Liü 1986, Ma 1987, Huang 1988 and 1992, Li 1990 and 1995, and Sybesma 1999.

2 Talking about causal VVs

A causal VV is a predicate with two parts, a means predicate M, and a result predicate R. As I define the construction, the occupants of M and R are free morphemes that can themselves serve as the sole predicate of a simple clause. In (1a) M is ti ‘kick’ and R is duan ‘snap,’ verbs which occur on their own in (3). I will refer to the smallest constituent containing both M and R abbreviatorily as MR. M and R can be audibly separated at most by the markers of the positive and negative potential forms, de and bu; see §5. Suffixes, such as the perfective -le or experiential -guo, immediately follow R.

(3)  a. ta ti -le na tiao muban
    3s kick -PFV that CLS plank
    ‘He kicked that plank.’

    b. na tiao muban duan -le
       that CLS plank snap PFV
    ‘That plank snapped.’

Semantically, a causal VV entails that some individual changes, entering a result condition defined by R. The overt phrase that identifies this individual controls R. In (1a) the surface object (O) controls R, since (1a) says that the plank winds up snapped. In (2a) the surface subject (S) controls R, since (2a) says that the kid got sick. These are o-control and s-control VVs, respectively. A causal VV also entails that its change came about by means of the event of M. In general this seems to imply that the M event caused that of R; see §4.1. But no overt morpheme signals any relation among events. Finally, S and O may be understood as identifying participants in the event of M. Interpreting a use of (1a) we may take it to concern a kicking in which S is the kicker and O is the kicked; see §6.2.

Causal VVs are similar to English resultatives, like he pounded it flat. Some causal VVs also have a close translation in a parallel English resultative: (1a) can be translated as he kicked the plank apart. But others do not. Neither that bottle of wine drank me intoxicated for (1b), nor the child chilled sick for (2a) are acceptable English. My glosses will therefore follow a fixed format: o-control VVs are glossed as ‘S made O R from M’ing,’ and s-control VVs as either ‘S got R from M’ing’ or ‘S
R’ed from M’ing.’ Further aspects of an intended thought to be conveyed in using the sentence, I will put in square brackets. The result will rarely be idiomatic, especially in the use of from. But it will allow for uniformity, and will avert two unwarranted suggestions: first, that o-control and s-control VVs differ in the semantic relation they impose on the means event; second, that the subject in an o-control VV must name the agent of its means event (see §6.2).

3 Noncausal VVs

VVVs are a diverse lot; different sorts of predicates occur in the potential form. Here I briefly describe the two major subclasses that are most similar to causal VVs, but are commonly considered distinct. Each resists a paraphrase which says that the event of the first part caused that of the second.

Directional VVs are the most clearly distinct. Here the second part of the predicate includes one or more verbs of directed motion, such as guo ‘cross’, hui ‘return’, or lai ‘come’. Unlike other VVs, directionals may include several morphemes in their second part, as in (5) or (6); and when the second part includes lai ‘come’ or qu ‘go’, it may be separated from the first by perfective -le or by an object noun phrase, as in (6).

(4) ta zou jin yi ge qiuchang le
   3s walk enter one CLS ballpark le
   ‘S/he walked into a ballpark.’ (Li and Thompson 1981:60)

(5) ta ba shubao fang xia qu
   3s BA bookbag put descend go
   ‘He put the bookbag down.’

(6) ta duan -le yi wan tang shang lai -le
   3s carry -PFV one bowl soup up come -LE
   ‘S/he carried a bowl of soup up.’ (Li and Thompson 1981:63)

Semantically, it is natural to say that directional VVs describe a movement, with the first part describing its manner and the second, its path. Movement is a kind of change, but there seems to be a semantic difference between directional and causal VVs. Inasmuch as they describe the manner and direction of a movement, the two

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2 It may be incorrect to designate the directional morphemes in this syntactic context as verbs. But they are at least morphemes with the same basic form and meaning as a morpheme which does, in fact, occur as an independent verb.

3 Mandarin is not alone in making directional verb complexes more separable than causal verb complexes. The Oceanic languages, for example, include similar examples (Crowley 2002). In Ambae (Hyslop 2001) causal verb complexes take only a single marking of modality and agreement, whereas directionals, while demonstrably monoclausal, require marking on each verb.
parts of a directional VV never describe a sequence of events; but a causal VV clearly may, as in (2a).4

A second major subclass of VVs comprises the “phase” (Chao 1968) and “achievement” (Li and Thompson 1981) VVs. Chao 1968 defines phase complements with (7–9) among other examples. Here the second verb “express[es] the phase of an action in the first verb rather than some result in the action or goal” (Chao 1968:446). In particular it specifies that the event was successful or complete.

(7) wo kan bu jian ni
1s look NPOT perceive 2s
‘I cannot see you.’

(8) wo chi wan -le na wan tang
1s eat NPOT finish that bowl soup
‘I finished eating that bowl of soup.’

(9) Lao Wei mai dao -le san zhang piao
LW buy arrive -PFV three CLS ticket
‘Wei got hold of three tickets.’

Li and Thompson (1981:55) differ from Chao in classing (9) as an “achievement” VV. They do not much discuss the nature of this category, but give kan qingchu ‘see clearly’ as a second example, (10).

(10) wo kan bu qingchu nide lian
1s look NPOT clear your face
‘I cannot see your face clearly.’

The distinction is not sharp. In both phase and achievement VVs, the second part seems to imply completion or success in the event of the first, not causation between two distinct events. (8) says that my eating of the soup is complete, not that it caused a distinct event of completion; (10) says that I can’t see your face clearly (hence successfully) not that my looking can’t make your face clear; and (9) says that Wei’s purchase of tickets was successful, not that Wei’s purchase effected their arrival. Chao observes that some of his “phase complements . . . become aspect suffixes” (1968:446).

Besides these, there are VVs that occur only in the potential form, such as (11), and various sorts of VVs in which one or both of the parts do not occur independently as verbs with the same meaning, including both (11) and (12). These do not bear directly on the analysis of compositional VVs.

(11) zuo bu liao
sit NPOT LIAO

4Compare Goldberg 1995 on caused motion constructions and Rappaport Hovav and Levin 2001 on “noncausative resultatives.”
‘cannot seat’ (Li and Thompson 1981:67)

(12) kan bu po
look NPOT break

‘cannot be unconcerned about’ (Chao 1968:438)

4 Semantic relations between M and R

4.1 Event modifiers and logical form

Causal VVs are those which imply a causal relation between the M and R events. But this description is preliminary. It decides neither the logical form of causal VVs nor the exact content of the relation between the events of M and R; the relation must imply causation, but it need not be causation, and almost certainly it is not. Much therefore remains for investigation. Here I begin with initial evidence for the logical form of causal VVs from the interpretation of adverbs.

No adverb can intervene between M and R. But an adverb may immediately precede the verb phrase. Such an adverb cannot, however, describe the event of R. Thus hen ‘very’ is bad in (13).

(13) ta (*hen) xie teng -le shouzhi
3s very write hurt -PFV finger

‘S/he made [his/her] fingers hurt (very much) from writing.’ (adapted from Light 1977)

Nor, it appears, can such an adverb modify the event of M. This is clearest when the verb expresses a gradable property, as in (14).

(14) a. na wan doufu (*tai) la ku -le haizi
that bowl tofu (*too) spicy cry -PFV child

‘That bowl of tofu made the kid cry from being (too) spicy.’

b. ta -de shenti (*feichang) lei kua -le
3s -NMOD health (*extremely) tired collapse LE

‘His health collapsed from [his] being (extremely) tired.’ (Wu et al. 1986:261)

Judgments are less sharp when M is eventive, but for a simple reason. It is often less obvious what the difference would be between modifying the whole VV, or just M. A flattening may be called loud because it was done by means of a loud pounding. So if one understands Al pounded the cutlet flat loudly as implying that the pounding was loud, this does not show that loudly is a predicate of the pounding; it may instead be a predicate of the flattening with the loudness of the pounding merely inferred. The same point applies to causal VVs in Mandarin. Still, the sentences in (15) are
distinctly odd; and if the event of M could be modified by adverbs they should be unremarkable.

(15) a. leng feng (*huhu-de) chui bing -le ta
cold wind howlingly blow ill -PFV 3s

‘A cold wind made him/her ill from blowing (howlingly).’ (L. Li 1980:100)

b. Na ping jiu (*gulu-gulu-de) he zui -le wo
that bottle wine ‘glug-glug-ingly’ drink drunk -PFV 1s

‘That bottle of wine made me drunk from [my] drinking [it] (gluggingly).’

The one clear role for verb phrase adverbs is modifying the change expressed by MR. (16) says that the exhaustion of big sister was gradual.

(16) yifu jianjian-de xi lei -le jiejie
clothes gradually wash tired -PFV elder sister

‘The clothes gradually made big sister tired from [her] washing [them].’
(adapted from Ren 2001:326)

From this it is reasonable to conclude that MR is not a predicate of the event of M, (17a), nor a predicate of the event of R, (17b), since adverbs should be able to describe these events if it were. Rather, MR must be a predicate of an event of change, (18), which is described neither by M nor by R. This may be important to the analysis of thematic relations in causal VVs; see §7.

(17) a. *[MR] = λe_m∃e_r.[M](...)(e_m) & [R](...)(e_r) & C(e_m,e_r)...

b. *[MR] = λe_r∃e_m.[M](...)(e_m) & [R](...)(e_r) & C(e_m,e_r)...

(18) [MR] = λe_c∃e_m∃e_r.[M](...)(e_m) & [R](...)(e_r) & K(e_c,e_m,e_r)...

The events of M and R are related somehow to the event of change, symbolized by K in (18): the change ends with the event of R and comes about ‘by means of’ the event of M. It may be that these two aspects of the relation are distinct conjuncts in the logical form—perhaps “Change(e_c,e_r) & Means(e_c,e_m)” (cf. Goldberg and Jackendoff 2004), where “Change” relates a change to its end (cf. Pietroski 2005:181)—in which case they might be contributed by different parts of the syntactic analysis. The means relation seems similar to causation. But it is clear that the two should not be

In (17) “C” stands for whatever relates the events of M and R, according to the two-event analysis in (17). “[α]” stands for ‘the semantic interpretation of α.’ The lambdas mark arguments of a function, rather like elements of a “Theta Grid.” I use subscripted e’s as variables over events, and x, y, z as variables over individuals. The first two chapters of Heim and Kratzer 1998 provide an excellent primer on this notation and its linguistic use.
identified, at least because the means relation involves some sort of “directness” that causation does not require. For thoughts on the means relation see Thomson 1977, Dowty 1979, Bennett 1994, and Pietroski 2000 and 2005.

4.2 Combinations of M and R

The causal VV is productive in Mandarin: many combinations are attested and new combinations are readily formed. Still, not every possible combination of verbs is equally natural. In particular, a certain combination may be judged unnatural because the implied causal relation seems insufficiently direct, or because the stated result is too surprising. For instance Yafei Li judges (19a) unacceptable, and yet (19b) is acceptable. But as we will see, several restrictions exhibited by resultatives in other languages are notably absent from causal VVs in Mandarin.

\begin{align*}
(19) & \quad a. \qquad * \text{jianku-de gongzuo bing dao -le Taotao le} \\
& \qquad \text{tough work ill topple -PFV T. LE} \\
& \qquad \text{‘The tough work made Taotao fall over from illness.’ (Li 1995:261)} \\
& \quad b. \quad \text{zhe ping jiu zui hong -le Zhangsan -de yanjing} \\
& \qquad \text{that bottle liquor drunk red -PFV Zh. -NMOD eye} \\
& \qquad \text{‘That bottle of liquor made Zhangsan’s eyes red.’ (Sybesma 1999:17)}
\end{align*}

4.2.1 Strong resultatives and scales

R need not name a necessary, or even characteristic, result of an M event. It is not characteristic of kicking that it results in a snap, of crying that it results in waking, of writing that it results in soreness, or of sitting that it results in a collapse. Yet the sentences in (1a) and (20–22) are acceptable.

\begin{align*}
(20) & \quad \text{ta ku xing -le Lisi} \\
& \quad 3s cry wake -PFV L. \\
& \quad \text{‘S/he made Lisi wake up from crying.’ (Huang 1992:126)} \\
(21) & \quad \text{ta xie teng -le shouzhi} \\
& \quad 3s write sore -PFV finger \\
& \quad \text{‘He made his fingers sore from writing.’ (Light 1977)} \\
(22) & \quad \text{pangzi zuo ta -le yizi} \\
& \quad \text{fatty sit collapse -PFV chair} \\
& \quad \text{‘The fat man made the chair collapse from sitting.’ (Hashimoto 1971)}
\end{align*}

\footnote{In contrast, considerations of directness or predictability do not impinge on which predicates are natural in the complement position of a V-de extent construction, such as (34a) below; see Wu 2004. Compare the contrast between “boil yellow” and “boil till yellow.”}

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Thus Mandarin permits what Washio 1997 calls “strong” resultatives. Washio observes that some other languages, such as Japanese, permit only “weak” resultatives. In these, M “strongly implies” a particular result, and R implies a state characteristically associated with that result.\(^7\)

Wechsler 2005 proposes a semantic constraint on R, applying to just those resultatives where O is a “semantic argument of the verb” in M. He says that R must express a gradable property with a maximum degree, (23).\(^8\) Wechsler argues that this follows from the “starting premise […] that telicity is a constructional feature of resultatives.”

\[
\text{(23) Wechsler’s Claim} \\
\text{In resultatives where O is a “semantic argument of the verb” in M, R must express a gradable property with a maximal degree.}
\]

In English (23) finds support in contrasts like (24). Cleanliness has a maximum degree, a limit past which a thing can get no cleaner. But there is no limit in principle on dirtiness. Consonant with (23), (24b) is unacceptable. In (25) the property named by R does not have a maximum degree, as things can always get wetter. But this is not a counterexample for Wechsler, due to the limited domain of his claim. (23) only governs cases where O is not a “semantic argument” of M, and this is not so in (25).

\[
\text{(24) a. He wiped the table clean.} \\
\text{b. \# He wiped the table dirty.} \\
\text{(25) He cried his handkerchief wet.}
\]

In Mandarin (among other languages), however, predicates without a maximum degree, such as ‘dirty’, ‘bad’, ‘sick’, ‘wet’, ‘angry’ or ‘tired’, are common in R. This is true even when the verb in M is transitive and the understood patient of its event is the referent of O; and thus, even when O seems to be a “semantic argument” of M. Such cases seem to contradict (23). But (23) might be salvaged with a particular definition of “semantic argument.”\(^9\) The definition must allow that O may not be a “semantic argument” of a verb in M, even when M is transitive and O names the patient (or agent) of its event. Presumably this will require that the understood thematic relation is not stated in the semantics, and merely reflects a plausible inference of the hearer; see §7.1.1. The question for Wechsler, then, is whether this more grammatical notion of “semantic argument” comports with his broader theory, which connects (23) to the premise that resultatives are telic.

\[^7\]Japanese permits ‘boil soft,’ but not ‘pound soft.’ According to Washio, this is because boiling x, but not pounding x, strongly implies a result in x, and a result that correlates strongly with softness.

\[^8\]Wechsler refers to resultatives where O is a “semantic argument of the verb” in M as “Control resultatives.”

\[^9\]Alternatively, one could simply remove Mandarin from the domain (23), by stipulating that telicity is not a “constructional feature” of its resultatives. But this is less attractive.
4.2.2 Categories of the verbs

The verb in M may be transitive (26) or intransitive (27).

(26) ta qie kai -le duzi
   3s cut open -PFV abdomen

   ‘S/he made the abdomen open from cutting.’

(27) Zhangsan ku shi -le shopa
   Zh. cry wet -PFV handkerchief

   ‘Zhangsan made the handkerchief wet from crying.’ (Huang 1992:125)

In saying that a verb is transitive, I mean that when the verb exhausts the predicate of a simple clause, that clause is in the general case transitive, with a subject and an object; mutatis mutandis, for intransitive verbs. What counts as the “general case” is of course a theoretical choice. But I assume it will exclude, among many others, recipe contexts, imperatives, and pluractional coordinate constructions such as the English “he smacked and smacked.” This caveat, while ordinary, will be important to remember in §6.2.

When M is intransitive and O furthermore controls R, M often houses a verb whose event involves an agent, as in (27). But this is not always true. There are causal VVs with a nonagentive intransitive in M, either eventive (28) or stative (29); (14a), (19b), and (58) below are additional examples with a stative M. Notice that in (14a), (28) and (29) the surface S names the logical subject of M, and this logical subject is not an agent.

(28) mi yu xia hei -le tiandi
   dense rain fall black PFV earth

   ‘The dense rain made the earth dark from [its] falling.’
   (L. Li 1980, quoting from Zhou Libo’s Baofeng Zhouyu)

(29) Zhangsan zui hong -le ta -de yanjing
   Zh. drunken red -PFV 3s -NMOD eye

   ‘Zhangsan made his eyes red from being drunk.’ (Sybesma 1999:17)

This is not possible in every language. The M verb in an English resultative cannot be stative, and cannot be unaccusative when O controls R. But (28) and (29) show that these English facts do not result from general constraints on semantic or conceptual structure.10 In particular, they show that the agent of a change cannot be semantically identified with the agent of its means event, an identification otherwise suggested by the grammar of resultatives in English (Williams 2009, 2010). The

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10Contrast the view attributed to Van Valin in Levin and Rappaport Hovav 1995:71–2. See also Dowty 1972, and Williams 2010 for critical discussion.
constraints exhibited by English must therefore be parochial and syntactic; a verb that projects its argument to O in a simple clause cannot project it to S in a resultative; see §7.1.1.

Let us turn now to R. Typically a verb in R is intransitive, and typically an intransitive verb in R is stative or nonagentive. Yet sometimes this is not obviously so. The verb *ku* ‘weep’ is natural in R, as in (14a) for example, and it is at least reasonable to class the weeper as the agent of the weeping, hence to class *ku* as an unergative verb (though see Gu 1992).

Transitive verbs can also be found in R. This is common with VVs of the “phase” or “achievement” type. But it is also possible in VVs that might reasonably be judged causal, (30).

(30) a. ta chang hui -le na shou ge
   3s sing   know that CLS song
   ‘He knows that song from singing.’ (Li 1999:479)

b. ta wen mingbai -le zheige wenti
   3s ask understand -PFV this question
   ‘S/he understood this question from asking it.’ (Li 1990:204)

c. ta ba wo xia wang -le wo xiang shuo -de hua
   3s BA 1s startle forget -PFV 1s want say -NMOD speech
   ‘S/he made me forget what I wanted to say from startling.’ (Li 1999:474)

Yet the contrast in (31) is nonetheless notable (Mei 1991): *si* ‘die’ but not *sha* ‘kill’ occurs in R. Many languages (e.g. Khmer, Ijo, Japanese, Hoan, Paamese, Ambae)—including earlier stages of Chinese (Mei 1991, Shi 2002)—require the transitive verb in analogous constructions (Nishiyama 1998, Collins 2001, Crowley 2002), at least when the resultative clause is itself transitive. But not modern Mandarin.\(^{11}\)

(31) jingcha da si/*sha -le tufei
    police strike die/*kill -PFV bandit
    ‘The police made the bandit die from [them] striking [him].’ (Mei 1991:119)

Jointly, the above facts illustrate that the verb in R may be transitive or intransitive, whether M is transitive or intransitive. The choice of verbs is also independent of whether the clause hosting the VV is transitive or intransitive. In this way Mandarin is unlike languages whose resultatives exhibit “transitivity harmony,” such as Japanese, Hoan, and earlier stages of Chinese. In such languages a resultative in a transitive clause will have a transitive verb-form in R.

\(^{11}\text{Cross-linguistically, it is not unusual to find words meaning ‘kill’ behaving exceptionally when they serve as R in a resultative. Both Igbo and Akha, for example, put intransitive verbs in R, except that they use ‘kill’ instead of ‘die’.}\)
5 The potential form

Mandarin VVs may occur in either of two potential forms, the positive and the negative. The positive form has de between M and R, (32). In same slot the negative has bu, the general marker of negation for nonperfective predicates.

(32) Positive potential form: S V_M de V_R O

(33) Negative potential form: S V_M bu V_R O

The form de also occurs as a verbal enclitic in the family of V-de constructions, where a clause or VP following de describes either the extent (34a) or manner (34b) of the verbal event. Yet the potential form differs syntactically from any V-de construction. For instance, in the V-de constructions de cannot be replaced by bu; and while for V-de constructions the A-not-A question form is “V de (NP) X bu X?”, it is “M de R, M bu R?” for potentials.

(34) a. ta han -de women dou luoxia -le yanlei
   3s scream -DE we all fall -PFV tear
   ‘He screamed so much that we all shed tears’ (ex. L. Li 1963:405, translation AW)

b. ta pao -de hen kuai
   3s run -DE very fast
   ‘He ran/runs very fast’ (Huang 1988)

The basic meaning of the potential form is modal. The positive form says that the VV event—an event in which R comes about by means of M)—is possible, and the negative form says that it is not (Li and Thompson 1981: 56–7). Thus (35) describes as (im)possible an event in which the plank snaps by means of Wei’s kicking; the gloss is more idiomatic.

(35) Lao Wei ti bu/de duan natiao muban
   L.W. kick NPOT/PPOT snap that plank
   ‘Wei cannot/can make that plank snap by kicking.’

Here mode of possibility is exclusively dynamic. The potential says what is (im)possible given the constitutions of the event participants, the expected circumstances, the laws of nature, and so forth. The potential forms thus contrast with the modal verbs, such as neng ‘can’, which permit epistemic, deontic, or bouletic interpretations (Light 1977, Liu 1980, pace Gu 1992 and Wu 2002).

The potential form is unacceptable with event adverbs, and also in ba- and bei-constructions (Chao 1968:347–8, Li and Thompson 1981:476–478). Sentences (36) and (37) cannot express the sensible thoughts given in the glosses. It therefore seems that no overt event modifier can be construed within the scope of the potential modality.
This in turn suggests that the modal operator signaled by the potential form is very low in the syntax, below the position of adverbs, *ba*, or *bei*.

(36) * natiao muban, ta qingeryiju-de ti de/bu duan
    that plank 3s effortlessly kick PPO/TNPOT snap

   ‘That plank, he can(not) effortlessly make snap from kicking.’

(37) * ta ba natiao muban ti de/bu duan
    3s BA that plank kick PPO/TNPOT snap

   ‘S/he can(not) make that plank snap from kicking.’

While its basic meaning is modal, the potential seems also to have an episodic use, particularly when in the negative form. Sentence (35) can be used to convey that, on a particular occasion under discussion, Wei did not (or did) actually snap the plank by kicking. This use of ability constructions is found in many languages, and sometimes a single form is arguably ambiguous (Bhatt 1999, Enfield 2001, Pino˘ n 2003, Hacquard 2006, Davis et al. 2010). Yet there is evidence that the episodic reading of Mandarin potentials is pragmatic and not semantic. The potential resists this reading when in A-not-A question form; and as noted above, the potential form precludes the eventive adverbs that would suit an episodic meaning.

6 The interpretation of S and O

6.1 S and O relative to R

R may be controlled by the surface O or by the surface S. This difference seems to have a semantic aspect. Many authors (e.g., Wang 1958, Huang 1988 and 1992, Li 1990 and 1995) have observed a complementary relation between control of R and the presence of an agent of change. When control of R is by the surface O, the subject is interpreted as naming the agent of the event of the verb phrase; that is, as naming the so-called *causer* of the change it describes. Indeed this may be its only thematic relation (Ma 1987, Huang 1992, pace Li 1995), as in (38) or (39) or (40).

(38) zhe jian shi ku hong-le Lisi-de yanjing
    this CLS matter cry red -PFV L. -NMOD eye

   ‘This matter made Lisi’s eyes red from crying.’ (Huang 1988:296)

(39) chi ji dun miantiao ye chi bu qiong ta
    eat several meal noodle also eat NEG.POT poor 3s

   ‘Eating a few meals of noodles won’t make him poor from eating.’

(40) ta lei kua -le shibing -de shenti
3s tired collapse -LE soldier -DE health

'S/he made the soldiers’ health collapse from [their] being tired.'

But when the surface S controls R, no noun phrase is understood as a causer of the stated change, even when S itself refers to the presumed agent of the M event. With or without the postverbal noun phrase jiu ‘liquor,’ (41) says explicitly only that Wei got drunk, not that he is responsible for bringing this change about, not that he made himself drunk.

(41) Lao Wei he zui -le (jiu)
L.W. drink drunken -LE liquor

‘Lao Wei is drunk from drinking (liquor).’

I will assume that this common observation is correct (Williams 2010), and call it Causer Complementarity. There is a causer in the semantics just in case O controls R. Section 7.2 discusses its grammatical implementation.

There are three sorts of cases where control of R is unambiguous. First, in a ba- or bei-construction: there, control of R is always by the phrase naming the so-called “affectee,” namely the noun phrase immediately following ba or immediately preceding bei. Thus (42) and (43) cannot have the meaning in my glosses, even though the ba- and bei-phrases there do name the patient of the washing.

(42) * jiejie ba na pen yifu xi lei -le
elder sister BA that tub laundry wash tired -PFV

‘Big Sister washing that load of laundry made her tired.’

(43) * na pen yifu bei jiejie xi lei -le
that tub laundry BEI elder sister wash tired -PFV

‘That load of laundry getting washed by Big Sister made her tired.’

Second, as observed by Zhan (1989:109) and stressed by Li 1995, control is unambiguous when R is a transitive verb, as in (30). The surface S names the logical subject of R and the surface O names its logical object. When such a VV is in a ba-construction, control of R is by the “affectee” phrase immediately following ba; a second understood argument of R may follow the verbs (44).

(44) Taotao ba Youyou chang wang -le yao shuo -de hua
T. BA Y. sing forget -PFV want say -NMOD speech

‘Taotao made Youyou forget what she wanted say by singing.’ (Li 1995:272)

The third case I will come to in the next subsection. Yafei Li observes that control of R goes to O in any transitive VV where the interpretation of both S and O relative to the M verb is the reverse of what might be expected.
6.2 S and O relative to M


In (45) M is za ‘pound’. The sentence entails that there was a pounding. The referents of S and O may be involved in this pounding, perhaps as the pounder and the pounded respectively. This scenario matches the interpretation of (46), a simple clause whose predicate is just za ‘pound’ alone, where S names the pounder and O names the pounded.

(45) ta za ping-le na kuai rou
3s pound level -PFV that CLS meat
‘He made that meat flat by pounding it.’

(46) ta za -le na kuai rou
3s pound -PFV that CLS meat
‘He pounded that meat.’

S and O in (45) are therefore *selected*. S is selected in a causal VV when, in interpreting a use of the sentence, we take the referent of S to have thematic relation Θ to the event of the means verb V, where Θ is the very relation assigned to S in a clause whose predicate is simple, comprising nothing but V. Likewise for O. Thus when S and O are selected, as in (45), a transitive verb in M will seem to find itself in the same thematic context, the same pairing of grammatical and thematic relations, as it does when on its own, (46).

Interestingly S and O may be unselected in Mandarin even when the verb in M is transitive. In (47) M is qie ‘to cut’. S is once again selected, for just as in (48) it names the cutter. But now O is *unselected*. Its referent is the knife. And whatever relation knife has to the cutting (it was used to cut and was made dull by this) this cannot serve to interpret O in (48). There O must name what is cut (Ma 1987:428). The same point can be made with (49) and (50) or countless other examples.

(47) ta hai qie dun-le nide caidao
3s also cut dull -LE your food knife
‘S/he also made your cleaver dull from cutting.’
(adapted from Ma 1987:428)

(48) ta qie -le nide caidao
Wei cut -PFV your food knife
‘S/he cut your knife.’
*‘There was a cutting by him/her with your knife as its instrument.’
*‘There was a cutting by him/her that affected your knife.’
(49)  Lao Wei tai  zhong  -le  jianbang
      Old Wei carry  swollen -PFV shoulder
      'Wei made his shoulders swollen from carrying.'

(50)  * Lao Wei tai  -le  jianbang
      Old Wei carry -PFV shoulder
      'Wei carried [something] with his shoulders.'

Such sentences may occur in contexts that make clear, or even salient, what the patient of the means event actually is. But this is not syntactically or even pragmatically necessary: wo qie dun -le ‘I made it dull from cutting’ can be an answer to ‘What’s with the knife?’.

Unselected O’s are found in English resultatives as well, (51). But in English they are possible only under the same conditions that license the verb in M itself to occur in an unergative clause, as sing does in (52) (Dowty 1979: 222, Carrier and Randall 1992:187, Levin and Rappaport Hovav 1995:39, Williams 2008a, but note Boas 2003:113 and Williams 2005:102–114). Mandarin does not impose this same condition. O may unselected even under conditions where the verb in M would not occur acceptably in an unergative context (Williams 2005, 2008a). Thus (47) and (49) are fine in spite of (53), which is unacceptable as glossed, and acceptable only if understood as having a pro object.\footnote{This is not a Mandarin singularity. Igbo is exactly the same: a transitive verb in M never needs to find a patient argument in the object of the resultative clause (Williams 2005, 2008a). Resultatives in Igbo, an SVO language, also involve two inseparable verbs, as in Mandarin.}

(51)  Ozzy will sing his throat hoarse.
(52)  Ozzy will sing.
(53)  * ta qie/tai  -le
      he cut/carry -PFV
      'He cut/carried.'

Both O and S are unselected in (54). M is xi ‘wash’. The sentence entails that some washing brought on a change in Sister: she got tired. One way to understand the sentence has O naming the washer and S naming the washed. But these interpretations are not available to O and S in a clause whose predicate is exhausted by xi, (55).

(54)  na pen yifu xi lei -le jiejie
      that tub clothes wash tired -PFV elder sister
      'That load of laundry made Sister tired from washing.' (adapted from Ren 2001:326)
(55) na pen yifu xi -le jiejie
that tub clothes wash -PFV elder sister
‘That load of laundry washed Sister.’
*Sister washed that load of laundry.’

Note that in (54), S and O, while unselected, still name the washer and the washed. These are the core roles for xi ‘wash,’ the thematic relations associated with S and O when the verb exhausts the clausal predicate, as in (55). But S and O are again unselected in (38) and (39) above, where S does not name a core role for M at all. Whatever relation its referent might have to the event of M, this is not a relation which interprets either S or O in a simple clause with the verb from M, (56).

(56) a. # zhe jian shi ku -le Lisi -de yanjing
this CLS matter cry -PFV L. -NMOD eye
‘This matter cried Lisi’s eyes.’

b. # chi ji dun miantiao chi -le ta
eat several meal noodle eat -PFV 3s
‘Eating a few meals of noodles ate him.’

S may also be unselected when it controls R (Ma 1987), just like O when it controls R. Example (57) need not be understood as a question about the cutter or the cut.13 And in (58) S does not name a participant in the event of M: whatever relation there might be between ‘his health’ and the expressed state of fatigue, it is not a relation that can interpret S in (59).

(57) na ba caidao qie dun -le?
which CLS food knife cut dull -PFV
‘Which knife is dull from cutting?’

(58) ta -de shenti lei kua -le
3s -NMOD health tired collapse LE
‘His health collapsed from being tired.’ (Wu et al. 1986:261)

(59) # ta -de shenti lei -le
3s -NMOD health tired LE
‘His health is tired.’

13The subject of (57) is interrogative to discourage a transitive parse with a null subject and a fronted object. In general interrogative phrases resist fronting in Mandarin; and unlike English, Mandarin broadly allows even agentive predicates of change to occur in unaccusative clauses (Teng 1975, Tan 1991, Williams 2005).
It is useful to redescribe these facts from the vantage of the verb. The verb in
M need not keep the same thematic company it keeps when on its own. It need not
enter the same pattern of thematic relations in the two environments, relative to the
same pragmatic and semantic contexts. In general when qie ‘cut’ or tai ‘carry’ are on
their own, they occur in the company of an S naming the agent and an O naming the
patient of their event. But the same is not true when they occupy M, (47,49). Core
relations may go uninstantiated, or may be instantiated in unexpected places by an
unselected S or O. To have a label for this fact, say that in Mandarin verbs do not
project uniformly in causal VVs.

Yafei Li (1990, 1995, 1998) adds importantly to these observations. He discusses
cases where interpretation relative to M is not free, exemplified by (60). It is no longer
free when the surface S (here Youyou) controls M and there is a second noun phrase
after the verbal cluster (here Taotao). (Notice, this category includes the VVs with
a transitive verb in R, (30).) In cases like this the surface S must be taken to name
the agent of the M event and the postverbal phrase must be taken to name its theme
(or patient). Thus (60) can be used to convey (60a) but not (60b).

\[(60) \text{ Youyou zhui lei -le Taotao} \]
\[ \text{Y. chase tired -pfv T.} \]

a. ‘Youyou got tired from chasing Taotao.’

b. *‘Youyou got tired from being chased by Taotao.’

So interpretation relative to the M is sometimes fixed, when S controls R and
there is a postverbal argument. But otherwise it is free. With remarkable generality,
the thematic relation imposed on O (or S) in a simple clause whose verb is V may go
unrealized when V is in M, or associated instead with S (or O).

7 Explaining the interpretations of S and O

7.1 S and O relative to M

As Yafei Li has importantly emphasized (1990, 1995, 1999), the facts of §6.2 are
surprising if argument structure projects from the verb. In many common gram-
matical frameworks, a verb with lexical arguments is required to project them, and
to project them in the same way regardless of context. So if we say this for verbs
in Mandarin—having the washer-subject and washed-object pattern of (55) project
from xi ‘wash’, for example—a question arises. Why doesn’t a verb project the same
argument structure from M as it does when it the sole predicate of a simple clause?

I will discuss two kinds of answer, picking at two different premises of this common
perspective. First, argument structure does not project from the verb in Mandarin.
Second, argument structure does project from the verb, but the principles of projec-
tion are different than we thought, exhibiting an unexpected sensitivity to the verb’s
context. I will discuss particular instances of these ideas, from Williams (2005, 2008a) and Li (1990, 1995) respectively. But each can be modified in obvious ways to produce variants; and chapter 2 of Huang, Li and Li 2009 discusses roughly the same two approaches. Both share one important premise I take for granted: the morphemes in M and R also occur outside of causal VVs with precisely the same lexical properties.

7.1.1 No arguments


In agreement with Lin 2001, Williams proposes that Mandarin verbs typically lack semantic arguments. What introduces a thematic relation is not the verb but something else in its context (Carlson 1984, Dowty 1989, Schein 1993, Kratzer 1996, Pietroski 2005). So the verbs qie ‘cut’ and xi ‘wash’, for example, simply denote an event predicate as in (61) and (62).

(61) \[ \text{qie ‘cut’} = \lambda e. \text{Cutting}(e) \]
(62) \[ \text{xi ‘wash’} = \lambda e. \text{Washing}(e) \]

As a consequence (to be derived in detail just below) the meaning of causal VV states no thematic relations to the events of M \( (e_m) \) or R \( (e_r) \). It states thematic relations only to the event of change \( (e_c) \) expressed by MR, as in (63). Thus (54), which says that the laundry made sister tired from washing, has the interpretation in (64). Here \( K \) again stands for whatever relates the event of change to those of M and R.

(63) \[ \exists e_c \exists e_m \exists e_r. \text{Agent}(e_c, [S]) \& \text{Patient}(e_c, [O]) \& K(e_c, e_m, e_r) \]
(64) \[ \exists e_c \exists e_m \exists e_r. \text{Agent}(e_c, \text{laundry}) \& \text{Patient}(e_c, \text{sister}) \& K(e_c, e_m, e_r) \& \text{Washing}(e_m) \& \text{Exhaustion}(e_r) \]

(64) says that the laundry is the agent of a change and big sister is its patient. This change is wrought by means of washing, but it is not itself a washing. So (64) says nothing about who washed what. Any understood relations are the result of plausible inferences. And this is why interpretation relative to M is flexible, according to Williams. It is not that causal VVs are ambiguous, but rather that they have one interpretation that is general, in leaving relations to the means event unspecified.\(^{14}\)

The interpretation of S and O is treated the same whether they are selected or unselected. No thematic relation to the event of M is ever stated. (45) and (47) are interpreted as in (65) and (66).

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\(^{14}\)Tan 1991 and Sybesma 1999 also propose that the underlying O in a causal VV is assigned no thematic relation to M. But unlike Williams they do not say this for S.
Under this analysis a causal VV states no thematic relation to the R event either. But with Parsons (1990:119) we can assume that the patient of a change is the holder of its end state; this seems inevitable (cf. Huang 1992, Y. Li 1995). The stated patient relation to the event of change thus has control of R as a semantic (though not formal) consequence, and a stated thematic relation to R would be truth-conditionally redundant. In (71) O names the patient of e_c and thus controls R as a semantic consequence. According to (64) sister is the patient of a change that ends in exhaustion, and this entails that sister ends up exhausted.

Let’s now return to the derivation of the central claim. How does stripping the verb of arguments lead to the nonspecific logical form in (63)?

If the verb lacks arguments, thematic relations are instead introduced by some structure in its context. This may be either a syntactic terminal, something like (67) (Kratzer 1996), or an interpreted grammatical relation, something like (68).

Thematic structures such as these combine with a local event predicate, introducing a relation to its event. The local event predicate may include just a single verb, as in (46), (48) and (55). Then the thematic structure introduces a relation to the event of that verb—the pounding, the cutting, the carrying, the washing—as in (69).

But in a causal VV the local event predicate will be MR, as in (71). So the thematic relations imposed on the underlying S and O are to its event of change—the pounding flat, the cutting dull, the carrying swollen, the washing tired. This entails no relation to the M event, since it is not the same as the change.

A thematic relation to the M event could only come from structure within MR. But with Thompson (1973), Huang (1988, 1992), Li (1990, 1995) and many others, Williams assumes that MR contains no argument positions. Thus it denotes as in (72), giving us (73) for the smallest constituent containing xi lei ‘wash tired’. Plugging (73) into (71), we now derive (64) as promised.
Notably, this account depends in no way on the fact that causal VVs express a causal relation between events. It depends only on their structure. Interpretation relative to M is open, simply because the M verb combines immediately with something other than a structure that introduces a thematic relation. In principle this could happen in a distinct construction, so we expect we might find similar effects elsewhere. Sentences like (74) perhaps satisfy this expectation. Here kua ‘praise’ occurs in a V-de construction without the ‘Praisee’ it requires when on its own. See Lin 2001 for extensive discussion of related points.

(74) wo pai Lao Wei -de ma pi, kua -de lian ta taitai ye 1s smack Lao Wei -NMOD horse rump, praise -VDE even 3s wife also buhaoyisi -le embarrassed -LE

‘Flattering Lao Wei, I praised [him] such that even his wife got embarrassed.’

The difference between Mandarin and English is then this: in English verbs typically have semantic arguments. These project in resultatives as they do elsewhere, and consequently the interpretation of S and O matches what it is in simple clauses with the same verb. Thus the semantic relations that Mandarin distributes across several items of the syntax, English encodes in one (the verb).

Not every fact from §6.2 receives a grammatical account under the No Argument Theory, however. If M has no arguments to assign, there can be no constraints on their assignment. So the theory implies that, whenever interpretation relative to M seems to be fixed, this does not follow from the grammar. It reflects conceptual or pragmatic pressures. Here is one suggestion along these lines, from Williams 2005 (p. 139), to explain why interpretation is fixed in sentences like (60).

Both (60a) and (60b) say that Youyou got tired. But when S controls R there is no causer (§6.1). Neither sentence ascribes agency of this change to anyone: Youyou got tired but noone made her tired. This ‘no-causer’ perspective seems natural for (60a), where exhaustion comes from Youyou’s own actions: if she gets tired chasing Taotao, we need not say that she made herself tired. But the same ‘no-causer’ perspective seems conceptually less natural for (60b). Here the exhaustion results from the actions of someone else, and the responsible party is even identified explicitly in the sentence: Taotao. If Youyou gets tired because she got chased, it is odd to mention Taotao, intending thereby to convey that Taotao’s chasing is what brought on Youyou’s exhaustion, but then to refrain from saying that Taotao is the agent of that change. The more appropriate statement would seem to be (75). The judgment that sentences like (60b) are unacceptable may then reflect these interpretive pressures, and nothing grammatical.
Taotao zhui lei -le Youyou
T. chase tired -PFV Y.

‘Taotao made Youyou tired from [Taotao] chasing [Youyou].’

7.1.2 Overrideable rules of projection


Li assumes that verbs do project arguments. Each verb is associated with a list of thematic relations. For example, *xi* ‘wash’ has a list with two relations, call them Agent and Patient. These are ordered by the “Thematic Hierarchy” or *TH* (Jackendoff 1972, Grimshaw 1990, among others). By default, projection of arguments respects this ordering; higher thematic relations go to higher grammatical relations. Thus when *xi* ‘wash’ is on its own in a transitive clause, Agent goes to S and Patient goes to O.

But the default is “overridden” in one case (Li 1995). For Li, the operation that combines two verbs to form a causal VV may add further thematic relations, namely Causer and Causee. The Causer brings about the change that ends with the R event and the Causee undergoes it.15 The projection of these relations is constrained categorically: without exception, Causer goes to S and Causee goes to O. But in the company of Causer and Causee, the grammar does not also constrain the assignment of relations contributed by M. These can be assigned without regard for the TH, which is “overridden.” As a result, with O controlling R, (76) is ambiguous between (76a) and (76b). When the projection of M’s arguments violates the TH, (76b), Li calls it “anomalous.”

(76) Taotao zhui lei -le Youyou
T. chase tired -PFV Y.

a. ‘Taotao made Youyou tired from [Taotao] chasing [Youyou].’
b. ‘Taotao made Youyou tired from [Youyou] chasing [Taotao].’

When no Causer relation is added, however, the default case returns. Relations to M must again project in accord with the TH and anomalous projection is out. This is what accounts for the fixed interpretation of (60). Here S controls R. This happens only in the absence of a Causer (§6.1). And absent a Causer, says Li, the TH reigns: Agent of M must go to a higher slot than Patient.

This system deals directly with the contrast between s-control (60) and o-control (76), both cases where S and O are understood to instantiate core roles in the event of M. But Li (1995, 1998, 1999) does not directly address cases where the putative arguments of M are simply unrealized, as in (40), (38), (47), (49) or (58). Here the theory needs a codicil, allowing the lexical arguments of verbs not to project

15These terms are used in Li 1998 and Huang 1992, though Li 1995 prefers the terms “Cause” and “Affectee.” I take these to be the agent and patient of the change expressed by MR.
in the context of a causal VV (cf. Tan 1991). Nonprojection being a subcase of anomalous projection, it may seem that this allowance is merely a consequence of suspending the TH in the presence of a Causer. But it is not, since an argument may go unprojected even when no Causer is present, as in (57) or (58). The needed codicil is therefore a second and independent stipulation. This compromises the elegance of Li’s theory somewhat, inasmuch as it would be preferable for nonprojection and anomalous projection to have the same explanation.

As for the difference between Mandarin and English, Li (1999) proposes that English does not assign Causer and Causee roles in the grammar (“at LF”), and therefore the TH is not overridden: the verb in M projects its arguments here as it does elsewhere. However, Williams 2010 argues that, without these roles in the grammar of English resultatives, it is impossible to explain the “Direct Object Restriction,” to which we now turn.

7.2 S and O relative to R

Causer Complementarity is the observation that a causal VV assigns S the role of Causer if and only if O controls R. One can view this pattern as equivalent to the direct object restriction (Williams 2005, 2010; see also Sybesma 1999).

\[(77) \text{Direct Object Restriction (DOR)}\]

The phrase that controls R in a resultative is always the underlying direct object of the clause. (Williams 1980, Simpson 1983, Levin and Rappaport 1995)

We say that a subject is an ‘underlying object’ when (if not only when) its surface privilege depends on the absence of an agent for the event of its verb phrase, as in (78) for example. Add an agent for the same event, and the same interpretation must instead realized by a surface object.

\[(78)\]

a. The twig snapped.

b. He snapped the twig.

On the same grounds, we can describe the surface S as an underlying object in any s-control VV, like (2a) or (41) or (58); see among others Ma (1987:425–6), Huang (1992:128–9) and Sybesma (1999:38–44). It occupies S on the surface only because no argument is assigned an agent relation to the event of the verb phrase, which is here the event of change (not the event of M). Since the agent of the event of change is the so-called causer, we see that Causer Complementarity is tantamount to the DOR. In an s-control VV, the surface S controls R only because, in the absence of a causer, it is an object ‘underlyingly.’ (See §8.2 for more on the syntax of this.)

Furthermore, if Causer and Causee are just different names for Agent and Patient in relation to an event of change, the DOR is merely an instance of the most basic
generalization in the theory of argument structure: Agent is assigned to an S and Patient is assigned to an underlying O (Williams 2005, 2010).

A different perspective is common in the literature, following Yafei Li (1990, 1995, 1998, 1999). For Li verbs in M project thematic relations, and when the (grammatically determined) interpretation of a VV does not involve a Causer, they project in accord with the TH. So if M projects Agent and Patient, it assigns these roles to the underlying S and underlying O, respectively. On these grounds, Li identifies the controller of R in (41) as the underlying S, since it is understood as naming the agent of drinking. And if this is correct, then Mandarin VVs do not categorically respect the DOR.

But of course there is some room for doubt. The conclusion is warranted only if Li is right that the underlying grammatical relation of S in an s-control VV is indeed entailed by the understood relation between its referent and the event of M; and recall, this is not the case either in o-control VVs ((38), (39), (54)) or in s-control VVs where S is unselected ((57), (58)).

Regardless of this dispute, we must account for those cases that comply with the DOR unambiguously. Li deals directly with these cases in Mandarin, via the assignment of Causer and Causee relations. These go to S and O respectively, and this entails that O controls R, since, sensibly, Li’s grammar requires the Causee to be identified with the argument of R. But this account does not carry over to languages like English. There is a class of constructions in English that are correctly described by the DOR; these are called the “resultatives” by some (Simpson 1983, Levin and Rappaport Hovav 1995, Rothstein 2004, Williams 2010) and the “causative resultatives” by others (Rappaport Hovav and Levin 2001; cf. Wecshler 1997). In this class are unambiguous sentences like (79). But for Li these cannot be explained by saying that these sentences have Causer and Causee in their logical forms (Li 1999); for if they did, the TH would overridden as it is in Chinese. Accepting Li’s account thus requires finding a different account of the DOR-compliant data for English-like languages. Whether or not this is possible (and Williams 2010 argues it is not) it is unattractive to have different explanations for the two languages.

(79) Rocky’s fists pounded the frozen meat bloody.
   a. ‘The frozen meat got bloody from being pounded by Rocky’s fists’
   b. *‘Rocky’s fists got bloody from pounding the frozen meat’

Lastly there is the fact that in ba- and bei-constructions R is always controlled by the ba or bei noun phrase. This follows neatly if being the “Affectee” of a VV predicate implies being the patient of the event of MR—an event of change, as I have argued—given that this in turn entails control of R (see §7.1.1), or is at least stipulated to coincide with it (Y. Li 1995). The strongest hypothesis consistent with this explanation is that the “Affectee” relation is the Patient relation. Notice, no explanation of this form is available if MR were to denote a predicate of the M event,
as in (17a). For then a Patient relation to the MR would be a patient relation to the event of M, and this plainly entails no particular relation to R (Williams 2010, contra Rappaport Hovav and Levin 2001 and Rothstein 2004).

8 Syntax

8.1 Position of O

One main difference among syntactic analyses of causal VVs is the position of O, in cases where O controls R. (80), (81) and (82) abstract over the base structures of three common types of analysis, ignoring word order and any silent material. Here S and O are the phrases that will become the surface subject and object. V_M and V_R are the verbs in M and R.


(81) Inside Object (IO) Syntax: [ S [ V_M [ O V_R ] ] ]


Excluded from this list are analyses with ternary branching (83) (cf. Carrier and Randall 1992) or analyses with a DP that c-commands M but not R (84). Neither type is common in the literature on Mandarin, so I will not discuss them. But for analyses of the (84) type applied to other languages, see Déchaine 1993 and Nishiyama 1998.16

(83) [ S [ V_M V_R O ] ]

(84) [ S [ [ V_M O ] . . . V_R . . . ] ]

The class of OO analyses includes both those where MR is a single lexical item (Thompson 1973, Y. Li 1990) and those where it has syntactic structure but includes no argument noun phrases (Huang 1992). In either version it deals handily with three basic facts of the VV. First, the verbal suffix -le attaches to the right of R, not M. This suffix, it is common to presume, is generated outside the verb phrase. Given (80), the smallest category containing M and R is of category V, just like its parts. Association of -le with a proper part of this category would therefore be nonlocal, an A-over-A violation in the domain of affix lowering or verb raising. Second, separation of M and R by a DP is impossible. Given (80) this could only be achieved by head

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16The syntax in (84), favored by Déchaine 1993 and Nishiyama 1998, would make it very difficult to explain why O, here the sister of M, is sometimes unselected and not interpreted as the patient of its event.
movement of M or R out of the verbal category (V or v) that contains both; but such movement is plausibly regarded as nonlocal, again an A-over-A violation, hence illicit. Third, no adverb can combine with R. This follows from the assumption that adverbs combine with phrases, but not directly with heads, an assumption that, while problematic theoretically, has good observational justification.

These same facts pose a greater challenge to the IO syntax of (81). Consider first the question of adverbs and R. The IO syntax puts the R verb in a phrase where it finds its own argument. As a rule such a phrase, comprising a head with an argument, will permit an adjunct. So there will need to be an account, not required by the competitor OO syntax, of why this phrase does not permit an adjunct. Second, to explain the association of -le under an IO syntax, and also the surface adjacency of the verbs, R will presumably have to move and adjoin to M. But this will in turn require an account of what requires this raising in Mandarin. This account will need to be consistent with the facts of languages such as Thai or Edo, whose resultatives have verbs in both M and R, yet separate them with O. Finally, absent any account of why the R phrase should resist adverbs, the hypothesis that the R verb moves will also have to explain why this movement cannot strand adverbs, when in general head movement out of a modified phrase is possible. This is a tall order, one that arguably has not been met; though see Déchaine 1993, Sybesma 1999, and Stewart 2001 for important efforts.

The two challenges of adverbs and -le beset the OIO analysis of in precisely the same way as they beset the IO analysis. However the OIO analysis has no difficulty with word order, since the internal O that is a sister to R is null by assumption.

For these reasons, the OO syntax seems to have an explanatory edge in Mandarin. For arguments that the OO syntax is right for resultative constructions in all languages, see Williams 2008b and 2010.

Nevertheless, the IO and OIO analyses have a deep motivation: the presumption that R has at least one argument, and that an argument must be saturated by the sister of the predicate. The latter is an assumption that has been pervasive throughout the Chomskyan grammatical tradition; to deny it is to commit to an importantly different theory of grammar. But short of this there remain two routes away from the conclusion that R must combine immediately with a noun phrase. One can deny that R has any arguments, with Williams 2005: then R has no argument to project, immediately or otherwise. Or with Thompson 1973 and Y. Li 1990 one can build VVs in the lexicon: then there is no question of R itself having any sister in the syntax, since MR is itself a syntactic primitive.

8.2 Position of S

Another point of difference is the treatment of S in cases where S controls R. As discussed in §7.2, some take this surface S to be a subject underlyingly as well (Y. Li 1995) while others take it to be an underlying object (Huang 1988 and 1992, Sybesma
In part this repeats a broader disagreement about unaccusativity: should we employ raising to subject in unaccusatives, intransitive clauses with nonagentive meaning? But there is more to it, since an s-control VV may have another noun phrase following the two verbs, as in (30), (60) or (85), which repeats (41).

(85) Lao Wei he zui -le jiu
L.W. drink drunken -LE liquor

‘Lao Wei is drunk from drinking liquor.’

For those who take the controller of R to be a subject underlyingly, such as Li, there is nothing structurally interesting about this postverbal argument. It is the direct object in a transitive clause. But for those who take the surface S to be an underlying object, this must be a second object, structurally lower than the first. Clauses like (85) must be treated as a double object unaccusatives.

The use of double object unaccusatives is not unique to this discussion. Chappell 1999 analyzes sentences like (86) as such. More relevantly, Huang (1992:135) proposes a double object analysis of the VP in transitive constructions like (87), known as ba-constructions with a retained object. Both juzi ‘tangerine’ and pi ‘skin’ are generated within the VP, the former in its specifier and the latter in its complement. It is plausible to say the same for Lao Wei and jiu ‘liquor’ in (85).

(86) ta si -le muqin
3s die -PFV mother

‘He had his mother die on him.’

(87) Zhangsan ba juzi bo -le pi
BA tangerine peel -PFV skin

‘Zhangsan peeled the tangerine of its skin.’ (Huang 1992:135)

8.3 Silent predicates

The meaning of a causal VV has at least two parts that do not come from the ordinary meaning of its component verbs: the “causal” relation between M and R, and the “causer” relation borne (sometimes or always) by S when O controls R. For those who build VVs in syntax, either relation might be introduced by some primitive or rule of syntax.

Exactly what introduces the causal relation has not been the focus of much dispute, and I will not engage the topic here. There has been clearer debate about what introduces the causer relation. Huang (1988, 1992) advanced the idea that o- and s-control VVs stand in the relation of causative to inchoative predicates (see also Ma 1987). In response Li (1995:259–64) considers the hypothesis that the former add a
silent verb with the meaning of the periphrastic causative *shi* ‘make’. This he correctly rejects for wrongly allowing adverbs to take unattested scopes, and wrongly allowing causal VVs to express ‘indirect causation’ (compare Fodor 1970).

Yet it remains possible, contra Li, that what adds the “causer” is not like the verb *shi*, syntactically or semantically. It may instead be, for instance, a ‘functional’ structure that introduces an Agent relation, like the *v* head of Kratzer 1996, or like the semantic rules of Carlson 1984 and Pietroski 2005. The causer is then then the agent of the change expressed by MR (Williams 2010), and under this hypothesis our expectations are correct. We expect direct causation (the directness of being the agent of an event, namely the change) and do not expect variable scopes for VP adverbs (since the thematic structure does not introduce an additional event).

### 8.4 Relation to V-*de* resultative

Sentence (88) is a *de*-resultative: a verb V suffixed with *de* is followed by a full phrase expressing a result of the V event. Compare this to the seemingly synonymous VV in (38) above.

(88)  
\[ \text{zhe jian shi ku -de Lisi -de yanjing hong -le} \]  
\[ \text{this CLS matter cry -DE L. -NMOD eye red -PFV} \]  

‘This matter made Lisi’s eyes red from crying.’ (Huang 1988)

Huang (1988, 1992) sees *de*-resultatives and causal VVs as instances of the same structure, basically (89). The two constructions differ just in the size of X. In a causal VV X is just a verb, (89a), while in a *de*-resultative it is clause with a null subject, controlled by the nearest noun phrase, (89b). Raising of V over O results in the surface word order in the *de*-resultative, and *de* itself is just a morphological reflex of the structure, contributing nothing of its own.

(89)  
\[ \left[ \text{S [ O [ V X ] ]} \right] \]

a.  
\[ \text{[ this matter [ Lisi’s eyes}_k \text{ [ cry red ] ]]} \]

b.  
\[ \text{[ this matter [ Lisi’s eyes}_k \text{ [ cry [ }\epsilon_k \text{ red ] ]]} \]

Huang’s suggestion seems to have echoes in other languages. There are languages in which two constructions, both with seemingly resultative form and meaning, differ in the syntactic capacity of R (Williams 2008b). In Williams 2008b I argued that variation in the size of R, between head- and phrase-sized expressions, explains variation in the word order of resultatives across languages, provided one assumes an OO syntax across the board.

Nonetheless, it may be that the so-called *de*-resultative does differ from the causal VV in more than just the size of the result predicate. Sybesma (1999:30–3) argues that there is no *de*-construction with causal (result) meaning, but only a *de*-construction that expresses the more general meaning of “extent.” The resultative reading merely
reflects an inference: the situation that makes true the stated “extent” relation, we infer, also involves a causal relation.

9 Conclusion

The Mandarin VV is a rich topic, and this chapter has only indexed some of its facets. It is also a difficult topic methodologically, since crucial judgments of acceptability in this area are often delicate; it is even harder than usual to decide whether they reflect syntactic, semantic, pragmatic or conceptual factors. These troubles are outweighed, however, by the special importance that the clear data have to the general theory of causatives, complex predicates, and argument structure. Causal VVs in Mandarin are fundamentally like resultatives in other languages, yet they also permit some things that the others forbid. This forces a move towards greater generality on some dimension of universal grammar (that is, linguistic theory). But which? This will have to be settled with further comparative work, not only on verbal grammar but also on its acquisition.

References


