Rethinking the Description and Typology of Cantonese Causative–Resultative Constructions: A Dynamic Constructionist Lens

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Abstract: This article proposes a new description of Cantonese causative–resultative constructions (CRCs), constructions with two verbal elements relevant to the cause and the effect of an event respectively. We present a constructional schema for the CRC with three argument types and without using traditional categories—such as subject, object and pseudo‑passivation, present various syntactic and semantic properties, and subsume constructions such as the comparative construction and numerous particle constructions under this banner. We then argue against traditional approaches to CRCs with two lexical verbs that treat the argument structure of the CRC as composed from argument structures of individual verbs (the decompositional approach); instead, CRC arguments belong to the entire construction and have only semantic orientation‑based relationships with individual verbs (the holistic approach). We show how our account can shed light on Sinitic typology and the grammaticalisation mechanism of verbal particles within CRCs, particularly the extension of result verbs into a broader range of contexts to become particles. We also argue that Cantonese CRCs challenge many assumptions of serial verb typology, which typically ignore the existence of multiple layers of constructional abstraction and assume decompositional descriptions, and urge for methodological advancements in this field.

Keywords: Cantonese; syntax; construction grammar; resultatives; causatives; argument structure

1. Introduction

This paper presents a novel approach to Cantonese causative–resultative constructions (CRCs) (terminology from Yue‑Hashimoto (2003)), with implications for both Sinitic and worldwide typology. An example of the construction is (1):

(1) 喊 濕‑咗 幾多 包 紙巾?
haam3 sap1‑zo2 gei2do1 baau1 zi2gan1
cry wet‑PFV how many packet tissue
‘How many packets of tissue did (he) wet by crying?’ [SEA112].

This example (1) is a single clause with two predicative components: the first verb, cry, is the cause of the second verb, wet. ‘Typical’ CRC examples such as (1) put together one dynamic and one stative verb, but our definition of CRCs encompasses a myriad of other construction types, such as the following directional particle (2) and causative verb (3) constructions:

(2) 落 低 個 窗簾
lok6 dai1 go3 coeng1lim2
descend low CLF curtain
‘Lower the curtains.’ (Yiu 2013).

This example (2) is a single clause with two predicative components: the first verb, descend, is the cause of the second verb, low. ‘Typical’ CRC examples such as (1) put together one dynamic and one stative verb, but our definition of CRCs encompasses a myriad of other construction types, such as the following directional particle (2) and causative verb (3) constructions:
The entire film industry has been ruined by you.' [SEA159].

In Chinese linguistics, the structure and semantics of these constructions have been an evergreen topic. In China, the resultative component of such constructions is typically known as a ‘complement’, and there are detailed investigations of syntacto-semantic properties of lexical items appearing in this slot in different varieties of Chinese across time and space (e.g., Yue-Hashimoto 1993, 2003; Cheung 1972; Wu 2003, 2005). In Western traditions, these constructions have been explored for their insights on argument structure (e.g., Cheng and Huang 1994; Cheng et al. 1997; Wang 2001; Lau and Lee 2015, 2021) and their role in the grammaticalisation of verbal particles (e.g., Yiu 2013; Chor 2010, 2013, 2018).

Outside Chinese linguistics, these constructions have received less attention. For example, Chappell et al. (2007) wrote that, ‘an area in which the study of Sinitic languages can afford a rich contribution to typology is that of verb complementation . . . These structures show great diversity across the dialect spectrum in China yet are little known outside of Chinese linguistic circles.’ Nonetheless, at least two strands of worldwide typological research have examined this construction: Talmyan verbal semantics (e.g., F. Li 1997; Lamarre 2003) and serial verb typology (Aikhenvald and Dixon 2006; Haspelmath 2016).

These traditions differ substantially in assumptions, terminology, framing and research foci. In this paper, we present and defend our own approach to CRCs which draws from many of these approaches but departs substantially from all of them. Our general approach, while eclectic, is mainly inspired by Western dynamic constructionist approaches that view syntax as an inventory of signs at various levels of abstraction (e.g., Croft 2007; Diessel 2019), and supplemented with Chinese-origin notions, particularly semantic orientation, which has received scant attention in the West.

This paper has two main goals. The first is to argue that the constructions under our banner of causative–resultative construction (CRC) form a coherent category. Most traditions do not recognise this exact constructional level; they use only terms that are either supersets (e.g., complement, secondary predicate, serial verb) or subsets (e.g., resultative compound/complement, directional complement) of the CRC. We propose a construction schema for the CRC with various semantic and syntactic properties. Dispensing with traditional notions such as ‘subject’, ‘object’ and ‘pseudo‑passive’, our schema accounts for a wide variety of constructions under a single schema, including such subconstructions as resultative, directional, phase and causative constructions. Although the CRC is not without precedents in the literature, we believe our account contains the most explicit definition of and argumentation for this constructional level.

The second purpose is to argue against traditional views, commonplace in most contemporary Western descriptions and typology, that the causative–resultative is composed of two separate argument structures (the decompositional approach). After presenting a range of examples not amenable to the decompositional analysis, we argue that a single argument structure construction (Goldberg 1995; Goldberg and Jackendoff 2004) suffices to describe the Cantonese CRC (the holistic approach). We show that phenomena previously described in terms of individual argument structures can be captured by our approach with the notion of semantic orientation, and finally present a typology of Cantonese CRC argument structures that capture all constructions previously described in compositional approaches such as Lau and Lee (2021), while also successfully accommodating argument structure configurations not captured in previous typologies.

As we will argue, these two points pose substantial difficulty for typology but also open new avenues for investigation. Methodologically, the higher-level CRC construction’s existence urges typologists to rethink what constitutes a ‘construction’ in typology, which often prides itself on having developed from whole language typology to typologies of constructions (Bickel 2007). The difficulties faced by the decompositional approach also call into question some definitions and proposed universals of serial verb construc-
tions. However, the higher-level CRC construction also provides evidence to distinguish between the two competing accounts of the relationship between SVC symmetry and grammaticalisation in Bisang (2009) and Aikhenvald and Dixon (2006). Semantic orientation analysis also sheds light on the grammaticalisation mechanism of some verbal particles in Chinese, and our work has potential implications for synchronic comparison across Sinitic varieties.

This paper is structured as follows. In Section 2, we will review several research traditions and how they have traditionally dealt with the construction that we discuss in this paper. In Section 3, we define the causative–resultative construction in Cantonese and discuss how it applies to various subconstructions described in the literature. In Section 4, we discuss the challenges that the Cantonese causative–resultative construction poses for decompositional accounts of argument structure. Section 5 discusses the consequences of the results of Sections 3 and 4 and expands the analysis to sketch how the constructional schema discussed in Sections 3 and 4 may apply to other varieties of Chinese and aid in the comparison of differences between varieties. Section 6 concludes.

In contrast to most previous approaches relying on elicited data, our paper uses exclusively natural discourse data to provide a more comprehensive picture, especially as some examples are difficult to understand without context. Examples are mainly taken from the Cantonese Universal Dependencies corpus (Wong et al. 2019) and Google Search, which allows us to locate rarer constructions, many of which are crucial to our analysis. Universal Dependencies sentences are accompanied by a code of the form [UDXXXX], where XXXX indicates sentence number in the corpus, while those from Google are accompanied by a code [SEAXXX] pointing to the relevant line in a spreadsheet given as Supplementary Materials. Premodern examples are taken from the Chinese Basic Ancient Texts Database (Beijing Erudition Digital Research Center 2017).

2. The Chinese Causative–Resultative Construction in Different Linguistic Traditions

In this section, we will review several research traditions that have examined the causative–resultative construction, particularly in regard to our two main points: whether they posit a CRC-like category, and whether they gravitate towards the holistic or decompositional approach for resultatives with two lexical verbs.

2.1. The Chinese Structuralist Tradition

Most linguists in the Chinese structuralist tradition consider V1s in CRCs as the (main) verb. The V2 is known as 補語 bǔyù (‘complement’). Originally a translation of complement as used for post-verbal adjectival predicates in English linguistics (e.g., Quirk et al. 1985), it has since expanded to refer to any post-verbal element other than the ‘object’ 賓語 bīnyū (Jǐn 2009). Thus, bǔyù is typically much wider than CRC. Cheung (1972) exemplifies this tradition in Cantonese.

Within this tradition, some proposals have proposed subsets of complements that resemble our CRC. Rejecting bǔyù altogether, Jǐn (2009) considers ‘complements’ that depend semantically on the subject or object as ‘secondary predicates’, including most constructions under our CRC. Takahashi’s (2021) kinōsei hogo 機能性補語 ‘functional complement’ is even closer; though Takahashi only explicitly includes resultative and directional complements, the definition can easily encompass the other constructions under our CRC. In addition, many Chinese structuralists treat the potential structure (see Section 3.1) as a separate construction, e.g., Zhū’s (1982) ‘potential complex verb-complement structure’. We consider the potential resultative construction a form, i.e., subconstruction, of the CRC, so studies on these constructions are about the CRC, minus the non-potential form.

With some exceptions (e.g., Yuán 2001; Jǐn 2009), the Chinese structuralist tradition typically does not regard bǔyù as verbs with their own argument structure, thus following the holistic approach.
2.2. The Talmyan Tradition in Worldwide and Sinitic Typology

The Talmyan tradition of verb lexicalization patterns (Talmy 1985) resembles the Chinese structuralist tradition in treating V1 as the main verb and V2 as the satellite. Originally focused on motion verbs, it has come to encompass other verbal semantic properties such as cause, result and phase (Talmy 2000), similar to Goldberg and Jackendoff (2004), who regard English directional phrases as resultative. Thus, Talmyan studies frequently regard directional, phase and resultative ‘satellite’ constructions in Chinese as subsets of a single construction resembling our CRC. This approach is adopted in many diachronic and typological approaches in Chinese linguistics (F. Li 1997; Lamarre 2003). Yiu (2005, 2013) represents this tradition in Cantonese, though she does not extend her discussion to non-directional verbs.

As this tradition focuses on the verb, there is no explicit position on argument structure, though most seem to adopt a holistic approach implicitly.

2.3. Contemporary Western Descriptive Traditions

Contemporary Western and Western-influenced descriptions, both generative and functional-cognitive, tend to regard Chinese resultative constructions as compositionally formed VV compounds (e.g., Thompson 1973), whereas phase and directional complements are treated as particles modifying verbs with simple argument structures. Matthews and Yip (2011) influentially adopt this approach. Therefore, there is typically no unified CRC, a position explicitly defended by Huang (2007).

The exact details of the argument structure composition differ. In the ‘morphological’ or ‘lexical’ approach, the thematic role structures of the verbs are composed (e.g., Huang 2007); in the ‘syntactic’ approach, it is grammatical relations, i.e., subject and object (e.g., Her 2007; Matthews 2006; Lau and Lee 2015). Some authors seem to compose on multiple levels (e.g., Chow 2011, 2012). Many authors adopt a hybrid of the holistic and decompositional approaches; they supplement the two verbs’ individual argument structures with a construction-level argument structure that is not simply a sum of individual ones. For Chang (2003) and, in Cantonese, Lau and Lee (2021), referents have thematic roles assigned by the individual verbs and event roles in the wider resultative construction. Similarly, Huang (2007) argues that referents are event participants of individual verbs and constructional participants of the wider construction. Similar positions are widespread in 21st-century accounts (e.g., C. Li 2013; Fong 2018). Cheng and Huang (1994) come closest to the holistic approach. For them, arguments of the resultative construction may be required by the composite event structure even if they are not arguments of the individual verbs.

2.4. Serial Verb Constructions in Worldwide Typology

The literature on serial verb constructions in worldwide typology and descriptions based on this tradition often discusses Chinese SVCs. The definitions of SVCs vary, ranging from very wide (e.g., Li and Thompson 2009), moderately wide (Matthews 2006), to fairly narrow (e.g., Chor 2018), but they always require that a clause denote a single event (or some formal correlate of single eventhood), and that the two verbs have no explicit marking of coordination or subordination, which CRCs satisfy. Major works include Aikhenvald and Dixon (2006) (including Matthews’ (2006) chapter on Cantonese), Durie (1997), Bisang (2009) and Haspelmath (2016).

Works in this tradition typically assume each language variety has a finite, countable number of SVCs. They first identify the SVCs in each language and then classify them using formal and semantic properties. Generally, this tradition only recognises a category far wider than the CRC, i.e., the SVC (which encompasses many other construction types in Chinese), plus much narrower constructions such as causative and cause-effect SVCs (which fall under our CRCs in Cantonese).

A recurring theme of this tradition is argument sharing—how arguments simultaneously belong to the argument structures of the two verbs involved. It is frequently noted
that the vast majority of SVCs exhibit some argument sharing; in fact, some authors define SVCs to exhibit argument sharing (e.g., Foley and Van Valin 1984) or even a certain type thereof (e.g., Ameka 2005). Thus, this tradition falls squarely into the decompositional approach. Lovestrand (2021) reviews this tradition and additionally details several conceptual difficulties it faces, including some that interlock with our arguments.

3. Properties and Scope of the Causative–Resultative Construction

3.1. Definition and Terminology

Before introducing our constructional schema for the CRC, we define it as follows:

A causative–resultative construction is a construction with two verbal elements that has an affirmative and a negative potential form. In the affirmative potential form, 得 dak1 appears between the two elements, indicating the possibility of the event expressed by the clause. In the negative one, 唔 m4 appears between the two elements, indicating impossibility.  

Example (4) shows, for example, that the construction with the two verbal elements 追 zeoi1 ‘chase’ and 到 dou2 ‘accomplishment’ is a CRC:

(4) a. 怪 唔 之 得 追 唔 到 女仔 啦！
   gwaai3 m4 zi1 dak1 zeoi1 m4 dou2 neoi5zai2 laa1
   ‘No wonder why (you) can’t successfully court any girls!’ [UD605]

b. 佢 追 得 到 女仔
   keoi5 zeoi1 dak1 dou2 neoi5zai2
   ‘He managed to court a girl successfully . . . ’ [SEA122].

The term causative–resultative construction references the roles of the two verbal elements; one is relevant to the cause of the event, and the other to the result. Our label and definition sidestep two hot-button issues in the literature: wordhood and headedness. We use the word construction in the CxG sense of any conventional form-meaning pairing (Croft 2007) and remain equivocal on whether the two verbal elements form a word, unlike terms such as resultative compound. Moreover, unlike terms such as secondary predicate, complement or satellite, we do not imply that the first verbal element is the head, which is hotly debated (e.g., Tai 2003; C. Li 2009).

The term verbal element indicates only that the form exhibits verb-like properties when used in this construction; the element may not be classified as a verb in traditional word-class systems. In dynamic constructionist approaches (Croft 2007), categories such as ‘noun’ and ‘verb’ are not inherent to the forms, but emergent from patterns in which constructional slots the forms may appear. Nevertheless, the rest of the paper will use verb for brevity.

To qualify as a CRC, both positive and negative potential forms must exist, since, in Cantonese, the affirmative potential form exists outside of the CRC (cf. Chappell and Peyraube 2015). In the following example, (a) is not a causative–resultative construction, since it only has the affirmative potential form. Although (c) is an acceptable sentence in Cantonese, it cannot be interpreted as the negative potential form of (a):
(5) a. 係咪叫佢讀書就可以解決所有問題?

(6) 其他同事呢，都係返返埋去

Under this definition, the CRC includes prototypical resultatives in Cantonese, many verb-particle constructions (including resultative, directional and some quantifying particles), some causative constructions, and the comparative construction. Details of each construction will be discussed in Section 3.3. Supplementary Materials discusses constructions that apparently resemble the CRC but are excluded from it.

3.2. The General Schema and Basic Properties

The range of constructions considered CRCs under our definition in Section 3.1 exhibit a cluster of shared syntactic and semantic properties, which makes the CRC a useful category for description. This section summarises these properties, which will be elaborated on in Section 3.1. The CRC’s form may be summarised by the following constructional schema, and by Figure 1 (note that the positions of ArgA and ArgN are flexible rather than fixed in their positions within this schema, as will be described later):

(ArgC) V1 (m4) (dak1) V2 [ArgA]* (V3) (V4) (ArgN)

a. ArgC (ArgCause) is the referent most relevant to the cause of the event;
b. ArgA (ArgAffectee) is the referent most affected by the event, i.e., the affectee;
c. V2, V3 and V4 are verbs relevant to the result of V1, which is the cause of the event (cf. Y. Li 1995). Note that the numbers, such as most conventions, denote the sequence of appearance;
d. ArgN (ArgNeither-Cause-Nor-Affectee) is a referent that is non-cause, non-affectee;
e. Brackets indicate optionality (*note: [] is used around ArgA because it is rarely absent. See Section 4.4.4 for an example where no arguments are present).

For ‘typical’ resultatives, rough equivalents to V1/V2/ArgC/ArgA are widely used in Western descriptive traditions under different names, such as ‘causer’/’causee’ and ‘initiator’/’target of action’ (e.g., Y. Li 1995; Cheng and Huang 1994; Her 2007; C. Li 2013; Lau and Lee 2021). The applicability of these notions to other constructions under the CRC will be justified in Section 3.3. The following examples illustrate the notation:

(6) 其他同事呢，都係返返埋去

Other colleagues, please do return to your seats anyway . . . ’ [UD0673].
Figure 1. This is a visual representation of our proposed schema as “slotboards”. All elements in our schema are items ‘slotted into’ one ‘slotboard’ (to be further explained in Section 4). Slots and respective items in a solid line denote mandatory items in a CRC, while those in dotted lines are optional. The words 得 dak1 and 唔 m4 are the markers for the affirmative and negative potential forms respectively. As depicted in the diagram, the minimal CRC is “V1 V2”, while the maximal CRC is “Arg 1 V1 m4 dak1 V2 ArgA V3 V4 ArgN”. (*note: [] is used around ArgA because it is rarely absent. See Section 4.4.4 for an example where no arguments are present).

In (6), the other colleagues are both the cause and main affectee of the act of returning. The fact that the colleagues have approached and returned to their own seats is an effect of their act of returning. In (7), the would-be cause is the grandfather, and the affectees ‘us’; however, the negated V2 dou2 suggests that V1 was unsuccessful, and thus its effect (i.e., ‘our’ location being known to Grandpa) is absent.

Using the above schema and terminology, some formal properties of the construction noted in the literature (e.g., Cheung 1972; Matthews 2006; Matthews and Yip 2011; Wui 2003, 2005; Yiu 2005, 2013; Yue-Hashimoto 2003; Lai 2018) are as follows:

Modification properties:
- a. V1 may take adverbial modifiers or, in directional constructions, aspect markers. Occasionally, V1 may even take additional result verbs before the dak1/m4 (these are not labelled with numbers to ensure that the first result verb after dak1/m4 is always labelled identically);
- b. V2 may take aspect markers if V3 and V4 are absent. However, V3/V4 do not, and none of these can be modified by adverbial modifiers.

Word order properties:
- a. ArgC is always placed before the verb;
b. ArgA may be placed in various positions in the clause. The placement of ArgA depends on information structure, pronominal vs. full noun phrase and possibly other factors. The only positions where it never appears are between V1 and dak1, and between m4 and V2. Moreover, outside of path resultatives, it is rarely between V1 and V2 in non-potential forms, and it is never between V1 and V2 when ArgN is present;\(^{10}\)

c. ArgN may also be placed before ArgC or between ArgC and V1, but not between V1 and V2;

d. ArgC and ArgA may be the same argument; in that case, the ArgC=ArgA must be placed before V1.

In addition, CRCs also have the following semantic properties:

Relational-semantic properties:

a. The verb series is culturally construed as a coherent event (Matthews 2006; see also Section 5.1);

b. V2+ are semantically dichotomous: either affirmative or negative, with no degrees;

c. Because V1 describes a cause and V2 is relevant to the effect of V1, the CRC must describe a dynamic event rather than a state (see Section 3.3 for how certain CRCs describing states are interpreted metaphorically as dynamic). This is unless m4 or dak1 are present, i.e., the construction is in the potential form, in which case the construction is stative since it expresses potential (or lack thereof);

d. V1 semantically orients to ArgC, V2+ semantically orients to ArgA and/or V1, and all verbs semantically orient to ArgN (see Section 4.3).

Of these properties, (b) follows from the fact that V2+ cannot be modified by degree adverbs. CRC-like constructions with degree adverbs modifying V2 lack negative potential forms, in conflict with the definition in Section 3.1 (see Supplementary Materials for examples). (d) will be explained and justified in Section 4.3.

It should be noted that this schema only describes facts that hold for all subconstructions of the CRC and does not aim to account for all facts of subconstructions, such as why particular V1–V2 combinations are only attested in the potential form, i.e., with dak1 or m4, and never outside of it. This is consistent with a network-based constructionist approach (e.g., Diessel 2019; Croft 2007), where constructions of varying abstraction and schematicity are represented, and concrete lower-level constructions can have specific properties and co-occurrence restrictions not observed with the higher-level construction. We leave it to future research to examine the subconstructions and delineate what exactly leads some elements of the construction to co-occur more frequently with others.

The rest of this section will clarify and justify two aspects of our account diverging from virtually all previous ones: the lack of grammatical relations and the addition of ArgN.

3.2.1. Lack of Grammatical Relations and Voice Operations

This description departs from virtually all previous accounts in making no reference to traditional grammatical relation-related notions such as subject, object or passivation. While ArgC/ArgA-like categories are widely known and used in many Western accounts, those accounts still map them to subject/object and word order is described in subject/object terms. We reject this approach, presenting word-order properties of ArgC/ArgA directly.

In most previous accounts, the ‘subject’ is preverbal, and the ‘object’ is always described as being placed after V1 and usually after V2. However, when the ‘object’ precedes all the verbs, this is either a ‘pseudo-passive’ (sometimes also known as a ‘middle construction’ in studies on Mandarin, e.g., Xiong 2018), with the ‘object’ becoming the ‘subject’ and ‘subject’ suppressed, or ‘object fronting’ (e.g., Lau and Lee 2015). Some examples are (9–11); by Lau and Lee’s definitions, (9) is pseudo-passive while (11) and (10) are object fronting:
‘The China-made glass could not be broken.’ [SEA125].

‘Let me finish these up!’ [SEA049].

‘She cannot manage to eat dinner (i.e., doesn’t have the appetite).’ [SEA054].

However, in topic-prominent languages such as Chinese, word order can be adequately described in topic-comment terms without grammatical relations, so there is little motivation for fronting or pseudo-passive processes couched in grammatical relations (LaPolla 1990, 1993, 2009; Li and Thompson 1976). In fact, for certain V1-V2 combinations, especially in potential forms, the ‘pseudo-passive’ can be more common than the ‘active’ form. We conducted a mini study of the negative potential form 打唔爛 daa2 m4 laan6 (hit NEG break, ‘cannot break’). Out of 51 results on Google (excluding duplicates and examples from Cantonese textbooks and linguistic research), only 11 (21.7%) turned out to have ArgCs, explicit or implicit (95% Clopper-Pearson CI: (0.113, 0.353)). It is unnecessarily complicated to posit an underlying two-argument clause from which a single-argument pseudo-passive is then derived.

Our schema and properties above can describe these phenomena without any grammatical relations or syntactic operations. ‘Pseudo-passive’ and ‘object fronting’ simply occur when ArgA appears before V1, as opposed to between V1 and V2 (12a) and after V2 (12b), with ‘pseudo-passives’ additionally requiring that ArgC be semantically absent (not just implicit):

(12) a. 从堆入面 躲 出
| deoi1  | hak1  | jin1  | jap6min6  | laan1-zo2 |
| pile   | black | smoke | interior  | crawl-PFV |
| 個成身白色嘅人 | go3   | seng4 | san1    | baak6   | sik1 | ge3 | jan4 |
| 出啲 | ceot1 | lai4  | out     | come   |

‘From inside the pile of black smoke crawled out a person whose entire body was white.’ [SEA060].

b. 做咩嘅 都好，
| zou6  | me1   | je5   | dou1  | hou2 |
| do     | what  | thing | also  | good |
| 都需要真心做好佢 | dou1   | seoi1| ji3 | zan1| sam1 | zou6 | hou2 | keoi5 |
| all need sincere do well 3sg |

‘Whatever you do, you need to do it well sincerely.’ [SEA053].

Under our account, we may simply state that ArgA precedes the V1 when it is the topic (e.g., (9–10)) or the secondary topic (e.g., (11)), and follows the V1 otherwise (12); no “fronting” operation is needed. An additional advantage of our account is that it predicts the existence of cases where ArgC is absent, but ArgA remains post-V1, which we will show in Section 4.4.1.

One may ask why we do not simply redefine ‘subject’ and ‘object’ as ArgC and ArgA. We return to this question in Section 3.3 when discussing ‘inverted’ resultatives.
3.2.2. The ArgN

Our distinction between ArgA (affectee) and ArgN (non-cause, non-affectee) is fully novel; both, most of the time, are traditionally ‘objects’. The ArgN ‘your seats’ in (6) is the goal of a directional verbal. More examples are as follows:

(13) a. 當你學識釣魚後 dong1 nei5 hok6 sik1 diu3 jyu2 hau6
ArgC V1 V2 ArgN
when you learn know hook fish after
‘once you have learnt to fish’ [SEA047].

b. 你中文學唔好, nei5 zung1man2 hok6 m4 hou2
ArgC ArgN V1 m4 V2
you Chinese learn NEG good
唔代表你英文學唔到 m4 doi6biu2 nei5 jing1man4*2 hok6 m4 dou2
ArgC ArgN V1 m4 V2
NEG represent you English learn NEG DOU
‘Just because you can’t learn Chinese well doesn’t mean you won’t manage to learn English.’ [SEA048].

c. 找返你三十 zaau2 faan1 nei5 saam1sap6
V1 V2 ArgA ArgN
give change return you thirty
‘give you thirty dollars back as change’ [UD0050].

Generally, when ArgN is present, ArgA does not appear between the verbs:

(14) a. 不過我用佢醫返好隻手 bat1gwo3 ngo5 keoi5 ji1 faan1 hou2 zek3 sau2
but 1sg use 3sg cure go back well CLF arm
‘But I used it to cure my arm.’ [SEA155].

b. *醫我唔返隻手 ji1 ngo5 m4 faan1 zek3 sau2
 cure 1sg NEG go.back CLF arm
‘cannot cure my arm’ (unattested regardless of ArgC presence, ArgA and ArgN identity).

The only exception is gu2 dou2 (‘guess achieve’; Lai 2018):

(15) 估佢唔到係乜水 gu2 keoi5 m4 dou2 [hai6 mat1seoi2]
V1 ArgA m4 V2 [ArgN]
guess 3sg NEG DOU COP who
‘cannot guess who they are’ [SEA036].

V2-ArgN sequences are often conventionalised sequences with a non-referential ArgN (note that in (16), the CRC is within a relative clause relativised on the ArgA, and hence we have labelled the lexical head as ArgA):

(16) a. 有種講唔出口嘅失望 jau5 zung2 gong2 m4 ceot1 hau2 ge3 sat1mong6
EXST type say NEG exit mouth ASSOC disappointment
V1 m4 V2 ArgN ArgA
‘I have an unspeakable disappointment
(lit. a kind of disappointment that cannot be verbalized out of my mouth).’
[SEA037].

b. 聽完返唔轉頭 teng1 jyun4 faan1 m4 zyun3 tau4
V1 m4 V2 ArgN
listen finish return NEG turn head
‘After listening to it, you can’t turn back!’ [SEA038].
The ArgA–ArgN distinction is a matter of pragmatics and construal, and not always predictable from thematic roles. Consider the following pair:

(17) a. 朋友 話 俾 我 知
     water reservoir be full spill water
     ‘My friend informed me that the reservoir filled up, causing water to spill.’ [SEA138].

b. 如果 你 個 浴缸 啲 水 滿 瀉
     bathtub CLF water full spill
     ‘If your bathtub’s water fills up (the bathtub) and spills . . . ’ [SEA139].

(17a) is about the environmental impacts of continuous rain, so the affectee is not the water, but the reservoir that can no longer hold any excess water. However, (17b) is taken from a passage on saving water, so the affectee refers to the water that went to waste.

Sometimes, when a human argument is ArgA, the item they possess is ArgN, whereas if an item appears alone, it would be ArgA:

(18) a. 跑 渣 馬 當 人 撞 跌
     run Chartered Marathon AGT person bump fall
     ‘I was running in the Hong Kong Marathon (sponsored by Standard Chartered) when someone bumped into (me), causing my airpods to drop.’ [SEA145].

b. 但 老人家 唔 小心 撞 跌
     but elder NEG careful hit fall
     ‘But the elder carelessly knocked down the spittoon.’ [SEA146].

The fact that the space between the two verbs is reserved for ArgAs and disallowed for ArgNs can be seen in the following contrast:

(19) a. 五十 盒 食 佢 唔 死 仲 奇怪
     fifty box eat 3sg NEG die even more strange
     ‘It would be even stranger if fifty boxes aren’t enough to make her die from eating.’ [SEA148]

b. 唯有 同 個 通粉
     can only to CLF macaroni say sorry
     因為 食 佢 唐 罕
     because eat 3sg NEG sad
     ‘All I could do was to say sorry to the macaroni, because I could not eat it all.’ [SEA147]

In (a), the affectee is the eater since the effect is about death (an ‘inverted resultative’—see Section 3.3.1). In (b), the affectee is the macaroni, since the V2 quantifies the food (see Section 3.3.4). Never do we find cases such as (19a) where the food is between the verbs, or cases such as (19b) where the eater is.

3.3. Subconstructions of the CRC

This section will discuss seven subconstructions of the CRC, particularly with respect to the properties discussed in Section 3.2. Section 3.3.1 will discuss ‘typical’ resultatives with two lexical verbs, focusing on ‘inverted’ constructions, which we account for much more readily than traditional approaches. The rest of the section examines other subconstructions typically not analysed together with CRCs and shows that they are compatible with the definitions and properties in Sections 3.1 and 3.2, which shows the value of our CRC category; it allows us to draw generalisations about a broad class of constructions.

3.3.1. Regular and ‘Inverted’ Resultative Constructions

Prototypical resultatives with two verbs that can stand alone as verbs in monoverbal predicates, such as (1), are part of the CRC. However, one specific type of resultative is rel-
atively challenging to describe in traditional accounts using grammatical relations. Those are traditionally called 'causative' (Cheng et al. 1997; Lau and Lee 2015) or 'inverted' / 'flip-flop' resultative constructions (e.g., Matthews and Yip 2011, p. 177; Chow 2011, 2012). In either case, the original ‘subject’ of the V1 is typically said to become the ‘object’ of the resultative construction, and the original ‘object’ of the V2 becomes the ‘subject’ of the resultative construction:

(20) 都係 貪 外國 牌子
dou1hai6 taam1 ngoi6gwok3 paai4zi2
also greedy foreign country brand
冇 咁 易
mou5 gam3 ji6
NEG so easy
食 死 人
sik6 sei2 jan4
smoke die person
‘I’m just taking advantage of the fact that foreign brands don’t smoke people to death so easily.’ [SEA031].

Here, the ‘original subject’ is ‘foreign brands (of electronic cigarettes)’, whereas the ‘original object’ is ‘people’; their roles then flip to become object and subject.

As our account does not assume any grammatical relations associated with particular syntactic positions, we do not need an inversion process. This has multiple advantages over traditional inversion-based approaches, which face several empirical difficulties.

Firstly, ‘inverted’ resultatives have no actual ‘non-inverted’ equivalent. For example, (20) cannot be expressed in an un-inverted way:

(21) * 你 食 死 咗 煙
nei5 sik6 sei2-zo2 jin1
2sg smoke die-PFV tobacco
‘smoke tobacco to death’ [unattested regardless of ArgC].

The idea in (21) can only be expressed with a verb-copying construction, thereby distributing the ‘tobacco’ argument to a regular single-verb clause:

(22) 食 煙 食 死 你
sik6 jin1 sik6 sei2 nei5
smoke tobacco smoke die you
‘smoking tobacco, smoking you to death’ [SEA032]

In the above example, the ‘you’ and ‘tobacco’ can at least be the agent and patient arguments of ‘eat’ in monoverbal contexts. There are cases where even this does not work:

(23) 鉛芯筆 寫 壞 手勢。
jyun4sam1bat1 se2 waai6 sau2sai3
mechanical pencil write bad gesture
‘Writing with mechanical pencils makes your writing gestures bad.’ [SEA112]

In monoverbal contexts, ‘gesture’ and ‘mechanical pencil’ cannot be the agent and patient arguments of ‘write’ — one is a manner, and the other is an instrument of writing. In our account, (20) and (23) simply have ArgC (foreign brands, mechanical pencils) as the cause and ArgA (people, gestures) as the affectee, similar to any other causative-resultative construction. There is no requirement that ArgC be agentive or ArgA non-agentive. In addition, (21) is unattested because the tobacco is not affected by the event and hence cannot be ArgA, nor can it be ArgN since death does not semantically orient to it (Section 4.3.3).

Second, when we look at actual discourse examples, we often find cases with no ArgC, either explicit or context-implied, and thus nothing for the ArgA to ‘flip’ with:
(24) 大哥，咩都食好易食死人嘅。

'Big brother, you can't eat anything and everything, you'll easily eat yourself to death.' [SEA030].

These are unproblematic in our account; there is simply a postverbal ArgA with no ArgC. Finally, the traditional account fails to explain the absence of ‘inverted’ constructions such as (25), derived from (13b):

(25) 聽你唔到

'You cannot manage to learn English.' [SEA006].

Under traditional approaches, it is unclear why *jing1man4*2 ‘English’, an object in sentences such as (13b), cannot be ‘inverted’ to become the subject of the clause. However, in our account, ‘English’ is not a cause in this situation, and hence cannot be ArgC.

One may argue that we may still define our ArgC and ArgA as language-specific, construction-specific ‘Resultative Subject’ and ‘Resultative Object’, thus retaining continuity to traditional categories. However, we believe these labels are misleading, given how divergent they are from the definition of ‘subject’ and ‘object’ in typology and other descriptive traditions. Generally, transitive subjects are more agentive than objects, and common criteria for relative agency (e.g., Witzlack-Makarevich and Bickel 2013) clearly show that the ArgC is less agentive in ‘inverted’ constructions. ArgC and ArgA do not have agency-related baggage.

3.3.2. Most Resultative and Phase Particle Constructions

Matthews and Yip (2011, p. 243) list a number of resultative particles in Cantonese, such as 好 hou2 ‘completion’ (glossed ‘good’ in this paper),掂 dim6 ‘decisively’,到 dou2 ‘accomplishment’ (glossed DOU in this paper) and 完 jyun4 ‘to the end’. For Matthews and Yip (2011, p. 245), the possibility of the potential constructions is a defining characteristic of resultative particles, so constructions involving these particles count as CRCs in our definition:

(26) a. 睇到睇唔到唔係靠彩數

'Whether you can see it or not does not depend on luck.' [SEA006].

b. 睇得到外邊係金黃色

'I can see that the exterior is golden yellow.' [SEA007].

The adversative particle 親 can1, sometimes regarded as resultative (Gu and Yip 2004) and sometimes a sui generis particle class (Matthews and Yip 2011), also participates in CRCs:

(27) a. 餓得唔親就得了

'As long as he doesn’t go hungry (lit. he’s not so hungry that it hurts him), it’s fine!' [SEA008].

b. 點會餓得親啊

'How would one manage to go hungry?' [SEA009].
Resultative particles not listed by Matthews and Yip include 著 zoek6 ‘asleep/alight/etc.,’ 通 tung1 ‘get through’, 切 cit3 ‘on time’, 真 zan1 ‘to achieve better result’, etc.

Many resultative particles fall in what Chinese structuralists such as Cheung (1972) classify as phase complements, which express the degree to which the V1 was actualized rather than the actual result and might prima facie constitute exceptions to our statement that V2 is relevant to the result. Some of these are straightforwardly result-expressing if we refine our understanding of the V1. Take 著 zoek6:

(28)

<table>
<thead>
<tr>
<th>dim2gaai2</th>
<th>ngo5</th>
<th>jam2</th>
<th>jiun4</th>
<th>zau2</th>
</tr>
</thead>
<tbody>
<tr>
<td>why</td>
<td>1sg</td>
<td>drink</td>
<td>finish</td>
<td>alcohol</td>
</tr>
<tr>
<td>wui5</td>
<td>ji6</td>
<td>di1</td>
<td>fan3</td>
<td>dak1</td>
</tr>
<tr>
<td>易</td>
<td>哆</td>
<td>既</td>
<td>得</td>
<td>睇</td>
</tr>
<tr>
<td>POT</td>
<td>ZOEK</td>
<td>SFP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Why can I go to sleep more easily after having drunk alcohol?’ [SEA044].</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At first, this seems to constitute a counterexample to our claim that V2 is always relevant to the result since 著 zoek6 tells us that the action of sleeping is ongoing, not effects of sleep such as gaining energy. However, we have evidence that fan3 in such contexts has a meaning closer to ‘get oneself to sleep’. Consider the following example:

(29)

<table>
<thead>
<tr>
<th>jau6</th>
<th>sat1min4</th>
<th>fan3</th>
<th>gik6</th>
<th>dou1</th>
<th>fan3</th>
<th>m4</th>
<th>zoek6</th>
</tr>
</thead>
<tbody>
<tr>
<td>again</td>
<td>insomnia</td>
<td>sleep</td>
<td>limit</td>
<td>still</td>
<td>sleep</td>
<td>NEG</td>
<td>ZOEK</td>
</tr>
<tr>
<td>‘I have insomnia again—no matter how hard I (try to) sleep, I cannot fall asleep.’ [SEA045].</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The first fan3 is not negated even though the writer never went asleep. Thus, reaching the state of being asleep is still the result of 觸 fan3. This is an example of coercion: a verb gains a meaning (here, lack of actualisation) by virtue of being in a constructional environment. This is similar to F. Li’s (1997) description of the word 殺 shā ‘kill’ in Mandarin, which originally implied the death of the patient in Old Chinese, but was gradually ‘leached’ of this meaning by participating in the CRC 殺死 shā sì.

Other phase complements denote that the event has reached a phase that produces certain results, such as 到 dou2 and 成 seng4 ‘succeed’. Recall that in the constructional schema, we only define V2 to be related to the result, not necessarily the result itself; such phase complements are good examples. For example, dou2 and seng4 indicate that V1 was successfully performed, which is a precondition for the event’s result to take place:

(30)

<table>
<thead>
<tr>
<th>zou6</th>
<th>m4</th>
<th>seng4</th>
<th>lyun2jan4</th>
<th>zou6</th>
<th>m4</th>
<th>zou6</th>
<th>dou2</th>
<th>pang4au5</th>
</tr>
</thead>
<tbody>
<tr>
<td>do</td>
<td>NEG</td>
<td>succeed</td>
<td>lover</td>
<td>do</td>
<td>NEG</td>
<td>do</td>
<td>DOU</td>
<td>friend</td>
</tr>
<tr>
<td>‘If we cannot be lovers, can we be friends?’ [SEA161].</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Quite often, V1 is static, in which cases the ‘result’ is a standard that the property denoted by the stative verb achieves or not. In these constructions, V1 and V2 satisfy the semantic requirement metaphorically. If we think of the static verb as dynamic, e.g., think of ‘red’ as ‘becoming red’, then the standard expressed by V2 can be conceptualised as the result of this becoming—another example of coercion. We see this in phase complements and even conventional resultatives:

(31) a. 男朋友 話 我 權 但 唔 起

<table>
<thead>
<tr>
<th>naam4pang4jau5</th>
<th>waa6</th>
<th>ngo5</th>
<th>can3</th>
<th>keoi5</th>
<th>m4</th>
<th>hei2</th>
</tr>
</thead>
<tbody>
<tr>
<td>boyfriend</td>
<td>say</td>
<td>1sg</td>
<td>suit</td>
<td>3sg</td>
<td>NEG</td>
<td>HEI</td>
</tr>
<tr>
<td>‘My boyfriend said I was not in his league.’ [SEA046].</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. 開心 死 啞！

<table>
<thead>
<tr>
<th>hoi1sam1</th>
<th>sei2</th>
<th>laa5</th>
</tr>
</thead>
<tbody>
<tr>
<td>happy</td>
<td>die</td>
<td>SFP</td>
</tr>
<tr>
<td>‘I am so happy I could die!’ [SEA082].</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
One may ask why *dou2* is seen as a V2, but the affirmative potential form marker *dak1* is not seen as a V2 but is treated as a syntactic marker in the construction. Syntactically, one cannot have a construction that consists of V1 + m4 + *dak1* but no other V2 (though one could in Middle Chinese), e.g., "做唔得朋友 zou6 m4 dak1 pang4jau6 'cannot be friends'." Semantically, when *dak1* occurs with a V2, it does not convey the implied end-state of V1 but states V2 as possible. For example, *食得死 sik6 dak1 sei2 'eat DAK die' means that the ArgC can kill people who eat it. Dak1 here indicates the possibility of dying, not of completing the process of eating; *dou2* cannot be used this way. Finally, *dak1* implies potentiality, whereas *dou2* does not.

3.3.3. The Comparative Construction

The comparative construction in Cantonese, which uses the V2 过 gwo3 'exceed', also satisfies our CRC definition:

(32) a. 有咩開心得過買得抵？
jau5 me1 hoi1sam1 dak1 gwo3 m4 maa1 maa1 dak1 daai2
EXST what happy POT COMP buy DAK good value
‘What can be happier than buying (things) with good value?’ [SEA034].

b. 點食都開心唔過

dim2 sik6 dou1 hoi1sam1 m4 gwo3
how eat FOC happy NEG COMP
同一大班同事食
tung4 jat1 daai6 baan1 tung4si6 sik6
with one big group colleague eat
‘No matter how (we) eat, it can’t be as joyous as eating with a big group of colleagues.’ [SEA035].

The comparative construction can be seen as a special case of the resultative, again with the V1 coerced from stative to dynamic. This is a metaphorical extension of *gwo3 ‘pass’ as a directional particle; however, the comparative construction patterns with non-directional resultatives syntactically (V1s cannot take aspect markers, and ArgA does not fall between V1 and V2 outside potential forms).

3.3.4. Some Quantifying Particle Constructions

Two of Matthews and Yip’s (2011, p. 243) quantifying particles, 嘿 saai3 ‘all’ and 埋 maai4 ‘also’, participate in CRCs. Examples with saai3 are shown below:

(33) a. 點解啲任务做完都唔得嘿？

dim2gaai2 di1 taas1 zou6 gik6 dou1 zou6 m4 saai3
why CLF task do extreme also do NEG all
‘Why can’t I finish all the tasks no matter how much I do them?’ [SEA010].

b. 嘿會話一個人

m4 wui5 waa6 jat1 go3 jan4
NEG IRR say one CLF person
做得到唔所有野既

zou6 dak1 saai3 so2jau5 je5 ge3
do POT all all thing SFP
‘It’s not like one person can finish all the stuff.’ [SEA011].

Other V2s include 够 gau3 ‘enough’, 足 zu1 ‘enough’ and 齊 cai4 ‘complete’.

These quantifying particles may quantify different elements of a sentence but are, in all cases, relevant to the result. For example, when it quantifies an argument, that argument is always the affected ArgA, such as ‘tasks’ in (33a). When it quantifies the V1, this quantification gives information about the result. An example is (34), again with the metaphorical extension mentioned for resultatives and comparatives:
Thus, quantifying results are result-related either way.

3.3.5. Some Causatives

Causatives in Matthews and Yip’s (2011) sense have V1s roughly translating to ‘cause’ or ‘make’ in English.19 Some causatives involving 整 zing2 and 搞 gaau2 fall into this category:

(35) a. 老豆 咁 高 lv dou1 le1fou2 zing2 dou1 zing2 le1fou2 gam3 dou1 le1fou2 gam3 sung2 dou1 le1fou2 gam3 highlevel even CAUS POT cry

‘You could even make someone as high-level (i.e., hard to touch) as your Dad cry?’ [SEA020].

b. 無論 歌 定 戲 都 整 唔 喚 mou4leon6 go1 ding6 hei3 dou1 zing2 m4 haam3 ngo5 dou1 zing2 m4 haam3 ngo5 no matter song or film also CAUS NEG cry 1sg

‘Neither songs nor films can make me cry.’ [SEA021].

Other causatives take a full clausal complement rather than a V2 and do not fall into the CRC (Supplementary Materials).

3.3.6. Some Manner Constructions

Some manner ‘complements’ have both potential forms and qualify as CRCs, generally when the manner can be characterised as the goal of the V1:

(36) a. 感覺 點 用 力 都 跑 唔 快 gam2gok3 dim2 jung6 lik6 dou1 paau2 m4 faai3 feel how use force still run NEG fast

‘I feel that no matter how much energy I use, I still can’t run quickly.’ [SEA126].

b. 你 跳 唔 齊 跳 唔 靚 nei5 tiu3 m4 cai4 tiu3 m4 leng3 2sg jump NEG in sync jump NEG pretty

就 無 得 出道 zau6 mou5 dai1 ceot1dou6 then NEG can debut

‘You can’t debut if you can’t dance in sync and beautifully’. [SEA127].

Here, ‘fast’ is the writer’s goal when running, and ‘in sync’ and ‘pretty’ are the dancers’ goals when dancing. The lack of such manners can be conceptualised as the failed realisation of the desired result. The same construction in (36a) is unattested with 煮 zyu2, presumably because speed is seldom seen as a desired outcome of cooking.

3.3.7. Most Directional Particle Constructions

Cantonese verbs may be accompanied by up to three directional particles. The inventory of directional particles is in Table 1 (Cheung 1972; Yiu 2005, 2013).
Table 1. Directional particle paradigms in Cantonese.

<table>
<thead>
<tr>
<th>a. Return</th>
<th>b. Location-Oriented</th>
<th>c. Speaker-Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>返 faan1 ‘return’</td>
<td>上 soeng5 ‘ascend’</td>
<td>嚟 lai4 ‘come’</td>
</tr>
<tr>
<td></td>
<td>落 lok6 ‘descend’</td>
<td>去 heoi3 ‘go’</td>
</tr>
<tr>
<td></td>
<td>出 ceot1 ‘exit’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>入 jap6 ‘enter’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>開 hoi1 ‘depart’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>埋 maa4 ‘approach’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>過 gwo3 ‘pass’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>起 hei2 ‘rise’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>到 dou3 ‘arrive’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>上 soeng5 ‘ascend’</td>
<td>嚟 lai4 ‘come’</td>
</tr>
<tr>
<td></td>
<td>落 lok6 ‘descend’</td>
<td>去 heoi3 ‘go’</td>
</tr>
<tr>
<td></td>
<td>出 ceot1 ‘exit’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>入 jap6 ‘enter’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>開 hoi1 ‘depart’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>埋 maa4 ‘approach’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>過 gwo3 ‘pass’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>起 hei2 ‘rise’</td>
<td></td>
</tr>
<tr>
<td></td>
<td>到 dou3 ‘arrive’</td>
<td></td>
</tr>
</tbody>
</table>

Here are some examples:

(37) a. 會唔會走得返埋一齊?
wui5 m4 wui5 zau2 dak1 faan1 maa4 jat1cai4
‘Will they be able to get back together?’ (i.e., be a couple again) [SEA013].

b. 心痛得咗唔落去
sam1tung3 dak1 jaak3 m4 lok6 heoi3
‘My heart bled so much that I could not continue eating.’
(Context: The meal cost over $100.) [SEA014].

Though Yiu (2013) writes that the combination 返起嚟 faan1 hei2 lai4 (return rise come) has no potential form, we do find examples on the Internet:

(38) 治療中企得返起嚟
zi6liu4 zung1 kei5 dak1 faan1 hei5 lai6
‘to be able to stand back up during therapy [SEA012].

We thus still consider constructions with faan1 hei2 lai4 to be CRCs.

Directional particles, such as those in (37a), though literally indicating direction (the celebrities metaphorically approaching each other), are strongly indicative of the resultant end state—the two celebrities becoming a couple again, and hence still highly relevant to the result. As Yiu (2013) shows, this is the case for physical directions as well. She gives the following example:

(39) 啲嘅香料爆咗啲味出來
di1 hoeng1liu2 baau3-zo2 di1 mei6 ceot1 lai4
‘Some aroma came out as the spice burst.’ [SEA144].

Notice that although lok6 ‘descend’ is still used, the ArgN is the destination of descent.

Formally, directional particle constructions constitute a clear subclass of the CRC, as they differ in at least three respects mentioned in Section 3.2: aspect marker placement, ArgA placement and ArgN appearance. Nevertheless, there is still good reason to treat it with other CRCs under one construction. For example, under accounts that treat the directionals as modifiers to the verbal structure, it is unclear how to account for examples such as the following:

(40) 嘢嘔香料爆咗啲味出來
di1 hoeng1liu2 baau3-zo2 di1 mei6 ceot1 lai4
CLF CLF CLF burst-PFV CLF aroma go out come
‘Some aroma came out as the spice burst.’ [SEA144].
In the absence of directionals, 爆 baau3 ‘burst’ generally takes the thing that burst as its sole argument, so it is not clear what the spices are doing. However, if we consider this a CRC, this can be easily explained; the spice is the ArgC, and the aroma is the ArgA.

3.4. Interim Conclusion

This section gave a clear description of the sense and extension of the causative–resultative construction. The CRC label is shown to be useful because its members share numerous semantic and syntactic properties. Furthermore, directional and non-directional CRCs may be seen as two major subgroups under the CRC, since directional CRCs have clearly distinctive properties within CRCs. The next section will zero in on one aspect of our schema, the holistic approach to argument structure, which is a departure from most Western approaches, and elaborate on the semantic relationships briefly touched on in Section 4.2.

4. The Holistic Approach to Argument Structure

As mentioned above, most Western approaches approach ‘regular’ resultatives with two lexical verbs, such as those discussed in Section 3.3, decompositionally. Clauses or argument structures of individual verbs are thought to combine to form the entire construction’s argument structure:

(41) koei5 zin2 dyun2-zo2 tau4 faat3
3sg cut short-PFV hair
‘He cut his hair short’ (Lau and Lee 2021).

Lau and Lee (2021) break this construction down as follows:

<table>
<thead>
<tr>
<th>NP1</th>
<th>+</th>
<th>V1</th>
<th>+</th>
<th>NP2</th>
</tr>
</thead>
<tbody>
<tr>
<td>3sg</td>
<td>cut</td>
<td>hair</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This approach of decomposing the construction into two monoverbal constructions works well where the following properties coincide:

1. A verb is attracted to the V1 slot of the CRC as well as the sole V slot of either a simple transitive or an intransitive construction (not both). Moreover, one or both of the arguments of the CRC are attracted to this verb in both the CRC and the (in)transitive construction, and the semantic relation between the verb and the arguments is the same in the CRC and in the (in)transitive construction;
2. The above also applies to the V2 slot;
3. The CRC has no arguments other than those in 1–2;
4. The V1 and V2 have the same meaning in the CRC as in monoverbal clauses.

However, there are empirically many CRCs in Cantonese that do not fulfil these criteria (to be illustrated in Sections 4.1.1–4.1.4). In contrast, we adopt a holistic approach with no composition (or decomposition). This section will first discuss various empirical difficulties with the decompositional approach (Section 4.1), explain how our approach dispels these problems (Section 4.2), and then explain how our account can explain and extend previous findings about CRCs couched in decompositional terms (Sections 4.3 and 4.4). Figure 2a,b show a side-by-side comparison of the decompositional and holistic approaches as slotboards, and how different CRCs are respectively analysed in the two approaches.
2. The above also applies to the V2 slot; 
3. The CRC has no arguments other than those in 1

4.1. Problems with the Decompositional Approach
4.1.1. Ambitransitive Verbs

Cantonese has many ambitransitive verbs, which may take one or two arguments. When they are involved in CRCs, it is indeterminate whether the ‘pre-composition’ clause contains one or two arguments. For example, consider 淋湿 ‘wet’:

(a) 媽咪 同 我地 兩 個 书包 濕咗, 個 身 濕

"Mummy drenched both of our bodies first." [SEA074].

(b) 冇幾耐, 呢 個 傻佬 已經 濕咗

"Before long, this fool had already wet his body." [SEA076].

In (42a), 淋 lam4 is transitive, so in the decompositional approach, it must be that 媽咪 maa1mi4 ‘mummy’ is its ‘subject’ and 個身 go3 san1 ‘the bodies’ is its ‘object’. However, the ambitransitive sap1 is less clear. It may be intransitive with 個身 go3 san1 as its ‘subject’ (cf. 42b), or transitive with maa1mi4 ‘mum’ as its ‘subject’ and go3 san1 ‘the bodies’ as its ‘object’ (cf. 42c). Most accounts assume that sap1 is intransitive (e.g., Matthews
2006; Lau and Lee 2021), but without arguing against the alternative. On the other hand, the (ambi)transitivity of V2 sap1 does not interfere with our holistic account; the non-verb elements are simply arguments of the entire CRC construction. Figure 3 shows another side-by-side comparison of both approaches.

In our approach, the ambitransitive nature of this and other verbs is unproblematic because it is unnecessary to ‘pick and choose’ the transitivity of the V2.

4.1.2. Idiomatic Constructions with No Corresponding Simple Clauses

In (43), two idiomatic constructions are presented with V1 看 tai2 and ArgN 眼 ngaan5, meaning that ArgC harbours some resentment towards ArgA. No second clause may be separated with the V2 as the verb:

(43) a. 有 好 多 事 我 都 寫 佢 看 過 眼。
   EXST very many matter 1sg all see 3sg NEG pass eye
   ‘there are many matters on which I could not bear to see her.’
   (‘Many matters’ is a hanging topic). [SEA058].

b. 點 會 睇 得 佢 順 眼 直頭 想 即時 處決
   dim2 wui5 tai2 dak1 keoi5 seon6 ngaan5 zik6tau4 soeng2 zik1si4 cyu5kyut3
   ‘How would I bear looking at it? In fact, I would want to execute it at once.’
   (humorous sentence on ugly fingernails). [SEA059].

c. 佢 過 / 順 眼
   keoi5 gwo3 / see ngaan5
   3sg pass / be along eye [unattested, meaning unclear]

Again, complications arising from the treatment of V2 in the decompositional approach become irrelevant when considering the arguments at the holistic CRC level, as seen in Figure 4.
There are also some idiomatic constructions where one of the verbs has a metaphorical meaning restricted to the CRC. Similar cases have been noted in SVC typology, where a verb has a different meaning inside and outside of biverbal clauses (e.g., Enfield 2009; Lovestrand 2021). Consider the following:

(44) 告佢唔入眼GLEGO utusong1 m4 j-access NEXFV enter SFP SFP

though one can say 佢唔入 keoi5 m4 jap6 ‘he does not enter’, this does not mean ‘he cannot be sued successfully.’ Another example is as follows:

(45) 套系走唔甩 lat1 ‘loose’ either refers to an inanimate object (e.g., chips of paint) coming loose in intransitive clauses, or dumping a romantic partner in transitive ones. It cannot refer to people being free in intransitive clauses. We searched for 佢甩咗 keoi5 lat1-zo2 (3sg loose-PFV) online, and there were no examples where the ‘loose’ thing was animate, despite the third-person pronoun keoi5 skewing animate in Cantonese, especially outside of ‘objects’ (Matthews and Yip 2011, p. 95).

A particularly extreme example is (46). This special phrase means that ArgC cannot do anything to affect ArgA, with minimal semantic contribution from the lexemes in the two verbal slots:

(46) 邱 sir lin4 aa3-soe4 dou1 noisi6 keoi5 m4 ho4 even male police officer also NIO 3sg NEG HO

‘Even the male police officers could not do anything about him.’ [SEA072].

Here, 奈 noisi6 and 何 ho4 have no meaning on their own. This construction is derived from an Old Chinese construction, where 奈何 on its own means ‘what can we do’, and when included in negative constructions with two arguments, the meaning is similar to...
the Cantonese CRC. The potential form was not yet developed in Old Chinese, and the negation would come before the 奈:

\[(47) \text{無 奈 秦 何 矣} \]

\[(48) \text{無 奈 齊 何 矣} \]

‘They (Hán) will not be able to do anything about Qin.’

(lit. ‘There will be nothing that Hán can do about Qin.’) (Zhàn Guó Cè 4.10).

This original construction was seemingly forced into the mould of the Cantonese CRC, with the 奈 noi6 taken to mean any generic action, and the 何 ho4 any generic desired result. This coercion can be elegantly described with our holistic CRC schema, which does not require that noi6 and ho4 be usable in monoverbal constructions.

4.1.3. Semantic Dependence between Verbs

Some more schematic and productive constructions are not idiomatic, but because the interpretation of the two verbs is very interdependent, they cannot be readily separated, even though the V1 and V2 can both normally appear in single-verb constructions. The causative construction (Section 3.3.5) is a good example, but this problem appears in ‘typical’ resultatives too.

Consider the construction with the V2 齊 cai4. It can be paired with different verbs and optionally the quantifying 咻 saai3 as V3; the resultant meaning is that the action performed by V1 was performed on all of the ArgA (a–b):

\[(48) \text{今 次 仲 唔 齊 咻 啰 口味?} \]

‘Won’t you taste all the flavours this time?’ (i.e., They finally get to taste all the flavours this time round).

\[(48) \text{今年 先 識 自動自覺 做 齊 啰 功課} \]

‘Only this year did he start completing all his homework self-consciously.’ [SEA062]

\[(48) \text{當 佢哋 嘅 食物 齊 咻} \]

‘When all of their food was there (i.e., was served).’ [SEA065].

\[(48) \text{佢 係 齊 晒 六 粒 石 喏} \]

‘But he (Thanos) has all six (stones).’ [SEA156].

Although 齊 cai4 can be used as a V1 with no verb before it and with saai3 as V2, as in (48c), the meaning is not consistent with a story where sentences such as (48ab) contain such a clause, because cai4 only indicates that the ArgA all exists, not that an action was performed on all of ArgA. In the intransitive (48c), it is not that an action (say, eating) was completed on all of the food; rather, the sentence means that all the food exists (i.e., was served). Similarly, in the transitive (48d), it only means that Thanos has all six stones in his possession and cannot mean that he performed some action on all six stones. Thus, we cannot say that sentences such as (a–b) contain a clause with cai4 independent of the V1s 食 sik6 and 做 zou6.

A similar argument may be applied to 完 jyun4:
‘Always feeling unwell after eating fruit?’ [SEA066].

b. ~* 生果 完
saang1gwo2 jyun4
‘The fruit has been eaten (lit. the fruit is over)’ [unattested].

One may classify these V2s as particles, declare them non-verbal, and exclude them from consideration. Yet there are also cases where the interpretation of V1 depends on V2. Consider the verb 放 fong3 ‘put’:

While 放 fong3 can be used in a single-verb construction, it is unnatural to use it in such a construction without some specification of manner or position, whether that specification comes from a V2 or not. We looked up the phrase ‘放對腳’ (put CLF foot) in Google, and in all of the cases, there is a manner or position specified. Thus, we cannot extract a monocausal fong3 clause from this CRC.

Another example, also observed in Igbo (Lord 1975), is with the verb 打 daa2 ‘hit’, which does not apply to inanimate objects outside of CRCs:

In monoverbal constructions, daa2 ‘hit’ does not apply to plates; the only examples we found on the Internet of 打隻碟 daa2 zek3 dip2 ‘hit CLF plate’ were about burning CDs.

4.1.4. Missing and ‘Wrong’ Arguments

There are also problems with ‘missing’ arguments. Consider the following example:

In (52), there is no specific food implied. Yet in Cantonese, 食 sik6 ‘eat’ is strictly transitive (Matthews 2006). Even if no specific patient is explicitly present, there must be a contextually inferable one. So, the V1 is ‘missing’ a patient in the decompositional approach. Again, this issue can be dealt with by taking the holistic approach, as shown in Figure 5.
In monoverbal constructions, daa2 'hit' does not apply to plates; the only examples we found on the Internet of 打隻碟 daa2 zek3 dip2 'hit CLF plate' were about burning CDs.

**4.1.4. Missing and ‘Wrong’ Arguments**

There are also problems with ‘missing’ arguments. Consider the following example:

(52) 食饱先有力减肥
sik6 baau2 sin1 jau5 lik6 gaam2
'I don’t have the strength to lose weight until I have eaten myself full!' [SEA092].

In (52), there is no specific food implied. Yet in Cantonese, 食 sik6 ‘eat’ is strictly transitive (Matthews 2006). Even if no specific patient is explicitly present, there must be a contextually inferable one. So, the V1 is ‘missing’ a patient in the decompositional approach. Again, this issue can be dealt with by taking the holistic approach, as shown in Figure 5.

(a) The transitive V1 食 sik6 ‘eat’ calls for a patient, ‘missing’ in the final CRC slotboard. (b) This ‘missing argument’ problem can be completely avoided in the holistic approach, where the argument structure of the CRC does not have to be the sum of individual verbs’ argument structures.

Sometimes, V2s may have no arguments at all:

(53) 電話 打 唔 通
din6waa2 daa2 m4 tung1
‘The telephone (number) could not be reached.’ [SEA151].

In monoverbal clauses, 通 tung1 takes a channel (e.g., intestines, pipes) as its argument, but there is nothing channel-like in this example. Missing arguments are not unknown in SVC literature (e.g., Lord 1975, pp. 33–34; Aikhenvald and Dixon 2006, p. 13), and decompositional approaches can allow for argument ‘suppression’ (e.g., Her 2007), so decompositional accounts are not incompatible with missing arguments. However, they still handle these phenomena less elegantly than our holistic approach with no suppression.

‘Wrong’ arguments pose the biggest problem for decompositional approaches. Consider the following example:

(54) 人生 都 無 意義 啦,
jan4sang1 dou1 mou5 ji3ji6 laa1,
‘Since life is meaningless anyway, let me smoke it to death.’ [SEA033].

Here, the ArgA refers to the speaker’s life, not the speaker themselves, as it is in the third person. However, in Cantonese, humans, not lives, are the argument of 死 sei2 ‘die’.

Alternatively, consider the following pair:
Example (55a) is straightforward: We wash our face, and our face becomes clean, hence 面 min6 ‘face’ is simultaneously the patient of 洗 sai2 ‘wash’ and sole argument of 乾淨 gon1zeng6 ‘clean’. However, in (b), an ‘orange juice stain’ does not become clean after washing—it simply disappears! The theme of ‘clean’ is still whatever surface was washed—which is not mentioned at all. This mismatch poses another difficulty for the decompositional approach, where both verbs are expected to share at least one argument, as reflected in Figure 6a. Similarly, our approach provides an uncomplicated resolution to the decompositional approach’s conundrums without compromising the semantic integrity of the construction, as shown in Figure 6b.

In (56), the stamps are not what become ‘full’; the stamp card is:

(56) 儲 cou5 滿 mun5 3 saam1 個 go3 印花 jan3faa1 collect full three CLF stamp

‘Once you’ve collected three stamps . . . ’ [SEA158].

Perhaps the most convincing evidence is when two constructions differ minimally semantically, but the decompositional analysis works in one case but not the other. Any attempt to ‘save’ the composite approach by excluding problematic constructions from the resultative would have to argue, inelegantly, that the two sentences are different constructions. Consider (57):

Figure 6. (a) In the decompositional approach, 洗 sai2 ‘wash’ takes 漬 zik1 ‘(orange juice) stain’ as the patient, while 乾淨 gon1zeng6 ‘clean’ does not take ‘stain’ as the theme, leading to an argument mismatch/missing argument. (b) The argument issue is once again straightforwardly resolved with the holistic approach, where ‘stain’ is treated as an ArgA.
Example (57a) can be straightforwardly analysed in decompositional terms: the lid is the patient of 欠 ning2 ‘screw’ and sole argument of 實 sat6 ‘tight’. However, this analysis would be strange for (57b), since people cannot be tight (only tied tightly), and impossible for (57c), where being watched does not render the child ‘tighter’. However, the three are semantically very similar; all involve constraints on ArgA’s movement.

Similarly, in the example below, his bad stuff can be an argument of 爆 baau3 ‘expose’, but him cannot:

A more metaphorical version is as follows:

One can see through the methods in (59a), but not the ‘bad things’ in (59b); they are what one sees after seeing through someone’s façade!

4.2. Interim Conclusion of the Holistic Approach

Our holistic approach offers an uncomplicated and elegant way to account for CRC while preserving the semantic structures of the construction. Of course, numerous CRCs remain amenable to the decompositional analysis, since: (1) the transitivity of the verbs is unambiguous; (2) the semantic structure of the verbs is complete and the same, whether analysed independently or integrated as a CRC; and (3) the argument structure of the individual verbs are compatible and remain the same when pieced together. However, under our holistic approach, all the aforementioned constructions that do not adhere to these properties can be straightforwardly described with the CRC schema. Arguments for our holistic approach thus far can be summarised as follows:
1. The CRCs covered in Section 4.1 all have an ArgA construable as affectee, even if they are ‘arguments’ of neither verb. Quite often, affectee status can be further supported by constructions such as the disposal construction with 將 zoeng1: \(^{24}\)

(60) a. 用洗潔精就可將啲污跡洗乾淨
\[\text{jung6 sai2git3zing1 zau6 ho2ji5 zoeng1 di1 wu1zik1 sai2 gonzeng6} \]
\[\text{‘You can wash the stains clean just with dishwashing liquid.’ (cf. 48b). [SEA130].} \]

b. 我將佢地集齊響屋企再影相啦。
\[\text{ngo5 zoeng1 keoi5dei6 zaap6 cai4 hoeng2 cai4 hoeng2 uk1kei2 zoi3 jing2 soeng2 laa1.} \]
\[\text{‘I’ll collect them all at home and take a picture again.’ [SEA131].} \]

2. In all of the examples, V2 is construed as relevant to V1’s result, sometimes resulting in a verb meaning distinct from the meaning in monoverbal clauses, e.g., 齊 cai4 ‘complete’ described above.

By removing the requirement that resultatives be decomposable into individual clauses, our approach also allows particles with no independent existence in monoverbal sentences, such as the quantifying 嚀 saai3 or adversative 親 can1, to be included in the CRC; the lack of a corresponding monoverbal construction is no reason to exclude them.

Nevertheless, some valid generalisations about CRC phenomena have been made in the literature before, couched in decompositional terms. The next two sections will explain how we account for them. Section 4.3 will explain semantic orientation, mentioned without explanation in Section 3.2, and Section 4.4 will give a valency typology under our approach.

4.3. Semantic Orientation: An Alternative to Argument Linking

In most contemporary Western approaches to typical Chinese resultatives assuming a decompositional or hybrid holistic-decompositional approach, verbs possess an inherent set of grammatical or thematic roles, and descriptions of resultatives focus on how these roles are mapped onto the construction-level grammatical and/or thematic relations, i.e., argument linking or argument realisation. This applies to generativists/formalists (e.g., Cheng and Huang 1994; Cheng et al. 1997; Her 2004; C. Li 2007, 2013; Lau and Lee 2015, 2021), constructionists/functionalist (e.g., Matthews 2006; Huang 2007; Fong 2018; Liu 2020), and mixed approaches (Chow 2011, 2012; Lee and Ackerman 2011).

A sceptic may claim that, by dispensing of single verb-level argument structures, our account fails to exclude logically possible examples such as (61):

(61) ~* 我撞爛咗啲水
\[\text{ngo5 zong6 laan6-zo2 di1 seoi2} \]
\[\text{‘Intended: I bumped into and broke the teapot) and the water (spilled).’} \]
\[\text{[Unattested regardless of ArgC, classifier presence, and aspect marker presence]} \]

Although the water is affected by teapot breaking, it is not permissible in this construction. In the traditional argument linking approach, this example would be excluded because ‘water’ cannot be an argument of ‘break’. While we will not be adopting argument linking in our approach, we still need a mechanism to express the relationship between individual verbs (e.g., break) and arguments (e.g., water), and in particular, why certain combinations such as (61) are not permissible. To resolve this query, we suggest that semantic orientation analysis, an alternative approach developed in China, is a better fit since it can account for facts about the semantic relationship between different elements of the CRC without requiring the CRC to be decomposed into component argument structures.

Similar to argument linking, semantic orientation grew out of Fillmore’s Case Grammar (Ai 2022). It describes semantic relationships between elements of a sentence that are not necessarily directly syntactically dependent. For example, in the English sentence, “They have all gone”, “all” is semantically oriented towards “they”, despite syntactically modifying “gone.”.
An element is typically said to be semantically oriented to another element if it explains or illuminates it in some way. We define semantic orientation more explicitly as follows: if a verb is *semantically oriented* towards an argument or another verb, then the situation evoked by the verb must logically involve the role played by said argument or other verb. Taking (55b) as an example, V2 describes something becoming clean. This implies there must have been some dirtiness before that is now gone—in this case, the orange juice stains—even though the stains are not normally an argument of ‘clean’.

Semantic orientation analysis has been extensively applied to Mandarin CRCs (e.g., Kang 2008; Zhang 2008; Liu 2022), but we depart from these accounts somewhat. Since these accounts assume V1 as the head, arguments of the CRC are assumed arguments of V1, and semantic orientation analysis applies only towards V2. Descriptions of V2’s semantic orientation are thus couched in terms of which arguments (or non-arguments) of V1 they orient towards. By contrast, our approach does not assume V1 as the head. Thus, we extend semantic orientation analysis to V1 too. We make three generalisations:

1. V1s must be semantically oriented towards ArgCs;
2. V2s must be semantically oriented towards ArgAs when ArgA is present; otherwise, they must be semantically oriented towards V1;
3. Where an ArgN is present, outside of directional constructions and certain non-referential ArgNs, all verbs must be semantically oriented towards the ArgN.

The following sections explain how these generalisations apply in different situations, including to account for patterns previously described decompositionally.

### 4.3.1. Generalisation 1: On V1 Orienting to ArgC

The requirement for V1 to be semantically oriented towards ArgCs explains Cheng and Huang’s (1994) observation for Mandarin, which is also valid for Cantonese, that non-‘inverted’ two-argument resultatives cannot be interpreted as having indirect causers as ArgCs. For example, in the following example, the zero ArgC cannot be interpreted as causing someone else to cry on the tissue:

\[(62) \quad \text{喊 濕 -咗 幾多 包 紙巾?} \]

\[
\text{haam3 sap1-zo2 gei2do1 baau1 zi2gan1}
\]

‘How many packets of tissue did (he) wet by crying? /

*How many packets of tissue did he cause to be wet by crying?’ [SEA112].

The use of semantic orientation instead of clausal decomposition easily explains cases such as the following, where the ArgC ‘mechanical pencil’ is not usually an argument of V1 ‘write’ in monoverbal contexts:

\[(63) \quad \text{鉛芯筆 寫 壞 手勢。} \]

\[
\text{jyun4sam1bat1 se2 waa16 sau2sai3}
\]

‘Writing with mechanical pencils makes your writing gestures bad.’ [SEA153].

Since writing necessarily involves a writing implement, ‘write’ semantically orients to ‘mechanical pencil’. This is advantageous over traditional inversion-based accounts, where ‘gesture’ and ‘mechanical pencil’ cannot normally be the two arguments of ‘write’ (see Figure 7).
4.3.2. Generalisation 2: On V2 Orienting to ArgA (and V1)

As mentioned above, V2s of CRCs still orient towards the ArgAs, even when those ArgAs are not arguments of the V2 in monoverbal contexts. Consider (64) again:

(64) 請教 點樣 可以 洗 乾淨 啲 橙 汁 漬
cing2gaau3 dim2joeng2 ho2ji5 sai2 gon1zeng6 di1 caang2 zap1 zik1
HON how can wash clean CLF orange juice stain

‘May I be enlightened as to how to wash the orange juice stains clean?’ [SEA068].

V2 describes something becoming clean. This implies there must have been some dirtiness before that is now gone—in this case, the orange juice stains—even though the stains are not normally an argument of ‘clean’ (see Figure 8).

By abandoning grammatical relations, our account is much simpler than previous semantic orientation accounts of Mandarin (e.g., Kāng 2008; Zhāng 2008; Liú 2022), which typically describe three to six types of orientation. ‘Subjects’ and ‘objects’ that V2 orient to are both ArgAs in our account, though such ‘subjects’ are also simultaneously ArgCs while ‘objects’ are not. Non-‘subject’, non-‘object’ arguments are alsoArgAs:
Figure 8. Cleaning necessarily involves some source of dirtiness that previously existed, which in this case is the stain. Thus, the verb can semantically orient to the stain.

Zhāng or Liú would classify ‘limbs’, ‘how many pairs of shoes’ and ‘the wall surface in the shop’ as non-subject, non-object arguments that V2 orient to; for us, they are all ArgAs.

Phase, quantifying and comparative V2s are oriented towards both V1 and ArgA. For example, in (28), successfully falling asleep implies that a person (ArgA) has gone (V1) to sleep, and the different examples of 明 saai3 ‘all’ all involve some situation (V1) applying to all of something or group of things (ArgA). Manner V2s are always oriented towards V1, and also towards ArgA when it is present (see example (66) and Figure 9):

(66)  好好地 跳 舞 彼 算 嘿
      hou2.dei6.dei6 tiu3 leng3 zek3 mou5 mai6 syun3 lo1
      well jump pretty CLF dance then count SFP

‘If only he would just (stay in their lane and) dance nicely!’ [SEA134].
Zhāng or Liú would classify ‘limbs’, ‘how many pairs of shoes’ and ‘the wall surface in the shop’ as non-subject, non-object arguments that V2 orient to; for us, they are all ArgAs.

Phase, quantifying and comparative V2s are oriented towards both V1 and ArgA. For example, in (28), successfully falling asleep implies that a person (ArgA) has gone (V1) to sleep, and the different examples of 嘀 saai3 ‘all’ all involve some situation (V1) applying to all of something or group of things (ArgA). Manner V2s are always oriented towards V1, and also towards ArgA when it is present (see example (66) and Figure 9):

(66) 好好地 hou2.dei6.dei6 tiu3 leng3 zek3 mou5 mai6 syun3 lo1 ‘If only he would just (stay in their lane and) dance nicely!’ [SEA134].

Figure 9. ‘Pretty’ must involve something that is pretty, in this case, the dance, which is referred to by both the V1 ‘jump’ and ArgA ‘dance’.

4.3.3. Generalisation 3: On All Verbs Orienting to ArgN When Present

Outside of the directional construction, ArgNs must be semantically linked to all the verbs, unlike ArgC or ArgA. So, for example, under our definition, in (65), the two verbs are also semantically oriented towards the ArgN, Japanese. This is because writing implies something being written, and if something is full, then it must be full of something—in this case, Japanese writing (even though in Cantonese, 滿 mun5 ‘full’ cannot take Japanese as an argument in monoverbal clauses).

For phase complement constructions (Section 3.3) such as (28–30), V2 simply discusses the extent to which V1 is carried out, so ArgN is semantically related to phase V2 by virtue of being strongly associated with V1.

Generalisation three can capture the following generalisation by Lau and Lee (2021), which is originally stated in decompositional terms:

For active resultative sentences with two arguments, the NP argument with the target of activity role [but not the locus of affect role] is linked to the position immediately following the second verb only if the V2 is transitive. L&L’s locus of affect roughly corresponds to our ArgA, and target of activity roughly refers to a patientive argument. The ‘NP argument’ in this paragraph is thus a non-ArgA patientive argument, i.e., ArgN. Generalisation three states that ArgNs must be semantically related to all verbs in the construction. When V2 is ‘intransitive’ in L&L’s account, that means only ArgA is semantically related to V2—ArgN is not. Here is an example:

(67) 佢 keoi5 寫 se2 勞碌 gui6-zo2 小說 siu2syut3
3sg write tired-PFV novel

‘He got tired from writing novels.’ (=L&L’s (19b)).

For L&L, the unacceptability is because ‘tired’ is intransitive. For us, it is because ‘tired’ does not semantically orient to ‘novel’. Thus, such constructions are also ruled out by our approach (Figure 10).
In some cases, V2 only tenuously invokes ArgN. For example, 飽 baau2 ‘full’ may invoke ‘food’, but one might also feel full for other reasons without food (e.g., illness). If ArgN does appear in these cases, it involves generic, non-referential ArgNs. In the following, (a) is attested, but (b) is unattested because 喑飯 di1 faan6 ‘rice’ is referential.²⁵

![Figure 10](image)

Figure 10. A novel does not clearly play any role necessitated by a state of tiredness. Thus, ‘tired’ cannot semantically orient to ‘novel’, explaining why (67) is odd in our account.

In some cases, V2 only tenuously invokes ArgN. For example, 飽 baau2 ‘full’ may invoke ‘food’, but one might also feel full for other reasons without food (e.g., illness). If ArgN does appear in these cases, it involves generic, non-referential ArgNs. In the following, (a) is attested, but (b) is unattested because 喑飯 di1 faan6 ‘rice’ is referential.²⁵

<table>
<thead>
<tr>
<th>(68)</th>
<th>Action</th>
<th>Patient</th>
<th>Location</th>
<th>Agent</th>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>食</td>
<td>飽-咗</td>
<td>米</td>
<td>我</td>
<td>今日</td>
<td>cosplay，勝 新太郎！</td>
</tr>
<tr>
<td>b.</td>
<td>食</td>
<td>飽-咗</td>
<td>米</td>
<td>今日</td>
<td>cosplay</td>
<td>Katsu Shintarou</td>
</tr>
</tbody>
</table>

'I ate some rice and got full' [unattested].

These cases may suggest that semantic orientation is gradient, and weaker orientations, such as full-rice, place more restrictions on the information status of the ArgN. Note that eat-full-rice (and drink-drunk-alcohol) are well-known sources of exceptions in other varieties of Chinese such as Mandarin (Cheng and Huang 1994; Shi 2002) and Southern Min (Lin 2015).

4.3.4. Marrying Semantic Orientation to the Decompositional Approach?

A sceptic may argue that the decompositional approach can simply be modified by introducing argument structures where the relation is one of semantic orientation, rather than the usual argument-structural relationship. This allows us to retain the decompositional approach while accounting for most, perhaps all, of the examples in Section 4.1. However, we believe this account is far less elegant and plausible.

Firstly, the main advantage of the traditional decompositional account is that individual CRCs are built up by existing argument structures that are used elsewhere in the grammar (i.e., in monoverbal clauses), reducing the inventory of signs needed in the language. Yet in the modified decompositional account, the semantic orientation-based argument structures for individual verbs would be akin to cranberry morphemes, since they do not appear alone, but must be in a CRC, just as the morpheme cran- is restricted to the context _berry in English. However, this is much less justified in the CRC context than for cran-.
Firstly, examples such as (63) would have to be composed by putting two cranberries together (since 坏 waai6 is usually not used predicatively with 手勢 sau2sai3 ‘gesture’). More generally, while there is no clearly plausible alternative for cran-, the holistic approach can describe CRCs without resorting to syntactic cranberries, making it a more elegant option. Secondly, many of the component argument structures would be semantically weird in such a modified decompositional account, making it less plausible. For example, one of the component argument structures of (50) would consist of the verb ‘put’, plus a person and their legs. Such an argument structure is not clearly meaningful, since ‘put’ inherently requires a position. For these reasons, we believe the holistic account is preferable to this modified decompositional account.

4.4. Valency Patterns

Previous decompositional accounts, especially Lau and Lee (2021), established typologies of resultatives according to the argument structures of the individual verbs and entire construction. Our holistic approach can also produce an argument structure typology. It collapses some of L&L’s categories by doing away with individual argument structures, while successfully covering rarer argument structure types missed by other approaches.

Table 2 shows the possible argument structures of CRCs: six common types and two rare types. For cross-reference, these are compared to L&L’s typology.

Table 2. Our valency typology of Cantonese CRCs, compared to L&L’s. ✓ indicates that an argument is present. * indicates situations where ArgC and ArgA are the same argument.

<table>
<thead>
<tr>
<th>Type</th>
<th>ArgC</th>
<th>ArgA</th>
<th>ArgN</th>
<th>L&amp;L Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>✓</td>
<td>❌</td>
<td></td>
<td>Type 1 Pseudo-passive of Type 3 [Pseudo-passive of Type 6]</td>
</tr>
<tr>
<td>II</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Type 1</td>
</tr>
<tr>
<td>III</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Type 2 Type 3 [Type 6]</td>
</tr>
<tr>
<td>IV</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Type 4 Pseudo-passive of Type 5</td>
</tr>
<tr>
<td>V</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Type 4</td>
</tr>
<tr>
<td>VI</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>Type 5</td>
</tr>
<tr>
<td>VII</td>
<td></td>
<td></td>
<td></td>
<td>/</td>
</tr>
<tr>
<td>VIII</td>
<td>✓</td>
<td></td>
<td></td>
<td>/</td>
</tr>
</tbody>
</table>

We now describe each of the types in detail.

4.4.1. Types I (ArgA Only) and IV (ArgA + ArgN)

This includes all cases where the sole argument is an affected party that is not the cause. This includes constructions typically described as shared-subject constructions with two intransitives (a), as well as ‘pseudo-passives’ with no ArgN (b):

(69) a. 小編 開心 死 啰！！！
     siu2pin1 hoi1sam1 sei2 laa3
     editor.HUM happy die SFP
     ‘I (the editor) am so happy I could die!!!’ [SEA082]

b. 堂 啞 野食 食 食 啞 未 啞 啞 啞 啞 啞
     ho1 di1 je5sik6 sik6 saai3 mei6 aa3
     hall DEM food eat all NEG.PERF SFP
     ‘Has all the food in the hall been eaten yet?’ [SEA081].
The constructions in (69) have preverbal ArgAs. Unlike traditional pseudo–passive analyses, however, our Type I also accounts for cases with postverbal ArgA, which are missed in analyses such as L&L’s:

(70) a. 開心 死 我 喇 …
hoi1sam1 sei2 ngo5 laa3 SFP
‘I am so happy I could die ….’ [SEA083].

b. 落 雨 濕 個 袋
lok6 jyu5 dap6 sap1 go3 doi2
fall rain hit wet CLF bag
‘When raining, better your bag gets (hit) wet than you get (hit) wet.’ [SEA078].

c. 唔該 Ethan 爸爸 揸 機,
m4goi1 Ethan baa4baa1 zaa1 gei1
ask Ethan dad hold camera
呢 幅 相 見 唔 到 佢
ni1 fuk1 soeng2 gin3 m4 dou2 keoi5 laa3 SFP
‘I asked Ethan’s dad to hold the camera, so (one) cannot see him in this photo.’ [SEA157].

Example (24) was another example of Type I where ArgA is in a postverbal position; note that in the example, V1 is the volitional verb 食 sik6 ‘eat’, but because the listener is not construed as the intentional causer of the V2 死 sei2 ‘die’, they are simply ArgA, not ArgC.

Type IV is similar, but with an additional ArgN:

(71) 條 數 問 錢 入‑咗 落 別人 個 袋 裏面
tiu4 sou3 di1 cin2 jap6‑zo2 lok6 bi6jan4 go3 doi2 leoi5min6
CLF sum DEM money enter‑PFV go down other CLF bag inside
‘The money involved went down someone else’s pocket.’ [SEA085].

Some CRCs involve a preverbal argument that is the possessor of the postverbal argument. The preverbal argument is clearly not a cause. It may be analysed two ways: it can be construed as a hanging topic, in which case the postverbal argument is ArgA and the construction is Type I, or it may be construed as an ArgA, in which case the postverbal argument is ArgN and the construction is Type IV. Consider the following example:

(72) 屋企人 係 好 想 佢
uk1kei2jan4 hai6 hou2 soeng2 keoi5 ji1 hou2 go3 beng6
family member COP very want 3sg cure good CLF illness
‘His family members want him to get well from the illness.’ [SEA079].

4.4.2. Types II (ArgC=ArgA Only) and V (ArgC=ArgA + ArgN)

This includes all CRCs where ArgC=ArgA, both without ArgNs (60a, Type II) and with them (60b, Type V):

(73) a. 我 食 飽 喇, 你哋 慢慢 食。
ngo5 sik6 bau2 laa3 laa3 nei5dei6 maan6maan1 sik6
1sg eat full SFP 2pl slowly eat
‘I’m full; you guys take your time to eat!’ [SEA089].

b. 我 學 滌啖 好 多 啜
ngo5 hok6 sik1‑zo2 hou2 do1 je5
1sg learn know‑PFV very many thing
‘I have learnt very many things.’ [SEA088].

Yiu’s (2013) self-agentive directional complements may also fall into either Type II (a) or V (b):
(74) a. 開船後，我行咗出去影相。
hoi1 syun4 hau6 ngo5 haang4-zo2 ceot1 heoi3 jing2 soeng2
‘After the ship took off, I walked out to take pictures.’ [SEA090].
b. 然後我行咗出去中央公園。
jin4hau6 ngo5 haang4-zo2 jap6 heoi3 zung1joeng1 gung1jyun2
‘And then I walked into Central Park.’ [SEA091].

Other particle constructions can also fall into this category; (75) exemplifies a resultative particle construction:

(75) 想逃走都逃走唔到。
soeng2 tou4zau2 dou1 tou4zau2 m4 dou2
‘Even if I wanted to escape, I could not.’ [SEA096].

4.4.3. Types III (ArgC + ArgA) and VI (ArgC + ArgA + ArgN)
This includes all sentences where the cause and affectee are different arguments. For example, this includes Lau and Lee’s (2015) cross-referential accusatives (a) and causatives (b), and Yiu’s (2013) agentive directional complements (c):

(76) a. 幻覺嚟嘅啫，嚇我唔嘅啫！
waan6gok3 lai4 ge3 ze1 haak3 ngo5 m4 dou2 ge3
‘It’s just an illusion—it can’t scare me!’ [SEA094].
b. 睇M club，陸永笑死我！
tai2 em1 kab1 luk6 wing5 siu3 sei2 ngo5
‘Watching the M Club, Billy Luk made me laugh to death!’ [SEA096].
c. 放咗個袋入locker度。
fong3‑zo2 go3 doi2 jap6 lok1kaa2 dou6
‘I put the bag in the locker.’ [SEA116].

Many cases that do not fit into the clause concatenation paradigm because ArgA cannot be construed as an argument of V2, such as (54, 55b, 57bc), also belong here, as do resultative particle constructions with affected Ps and comparative constructions:

(77) 頭先又搵唔到門匙。
tau4sin1 jau6 wan2 m4 dou2 mun4si4
‘I could not find my door key just now either.’ [SEA097].

Even in these types, the causer referent can be an affectee; ArgC (causer) and ArgA (affectee) can be separate, coreferential forms, e.g. ArgA being reflexive (a), or a possessee of ArgC (in which case ArgC is also affected by the situation) (b):

(78) a. 最近太過於博，死博爛博。
zeoi3gan6 taa3 gwo3jyu1 bok3 sei2 bok3 laan6 bok3
‘Recently, I have been working too hard, working far too hard, finally making myself sick.’ [SEA084].
b. 真係唔想食飽個肚。
m4hai6 zan1hai6 jiu3 sik6 baaau2 go3 tou5
‘I do not really want to eat my stomach full.’ [SEA093].
4.4.4. Types VII (No Arguments) and VIII (ArgC Only)

Type VII refers to constructions with no arguments at all, largely ignored in the literature:

(79) 光 返 喇
gwong1 faan1 laa3
bright return SFP
‘it’s bright again’ [SEA029].

Type VIII also lacks ArgA and ArgN, but does have an ArgC, which is an implicit first-person:

(80) 感覺 點 用 力 都 跑 唔 快
gam2gok3 dim2 jung6 lik6 dou1 paau2 m4 faai3
feel how use force still run NEG fast
‘I feel that no matter how much energy I use, I still can’t run quickly.’ [SEA128].

4.5. Interim Conclusion

In Section 4, we have shown that Western descriptions of CRC argument structure as the composition of the argument structures of individual verbs are often untrue for the Cantonese CRC, motivating our holistic approach where only the entire construction, not individual verbs, has arguments. The relationship between individual verbs and arguments is instead in terms of semantic orientation, which successfully accounts for phenomena previously described in decompositional terms. Our approach also results in a typology of CRC valences encompassing structures not captured by previous typologies.

5. Typological Implications

Although our discussion so far focuses on Cantonese, we believe similar ideas can apply to other Chinese varieties. Section 5.1 extends our framework to Cantonese–Mandarin comparison and Section 5.2 describes how it might be useful for comparing with other Chinese varieties. Section 5.3 examines the methodological implications of our two main points for worldwide typology, and Section 5.4 examines theoretical implications for diachronic typology and grammaticalisation.

5.1. Cantonese–Mandarin Comparison

Recall that for L&L, in CRCs with two arguments, an argument that is the target of activity role but not the locus of affect can only be the postverbal argument (traditional ‘object’) when V2 is transitive:

(81) * 佢 寫 累 佢 小說
keoi5 se2 gu16-zo2 siu2 syut3
3sg write tired-PFV novel
‘He got tired from writing novels.’ (=L&L’s (19b)).

For us, (81) is explained by ‘tired’ not orienting semantically to ‘novel’.

L&L contrast their generalisation on Cantonese with Mandarin, where one can have an identical initiator and affectee, a separate target of action argument, and intransitive V2 simultaneously:

(82) 我 寫 累 了 小說
Wó xiě lei-le xiāoshuō
1sg write tired-PFV novel
‘I got tired writing the book.’ (Mandarin, =L&L’s (19a)).

For Mandarin, we modify our semantic orientation restriction. Only V2 needs to be semantically oriented towards ArgN; V1 does not.

L&L mention two other differences with Mandarin; however, we believe those are mistaken. They write that, unlike Mandarin, Cantonese does not allow (a) ‘inverted’ resultatives and (b) structures where both Vs are intransitive and the initiator and affectee are distinct (also noted by Chow 2012). The first generalisation is inconsistent with well-
documented examples in the literature (Matthews and Yip 2011; Chow 2012) and this paper (e.g., Section 3.3.1). The second claim is invalidated by examples such as these:

(83) 你 無視 我 喊 紅‑咗 雙 眼
nei5 mou4si6 ngo5 haam3 hung4-zo2 soeng1 ngaan5
2sg neglect 1sg cry red-PFV pair eye
‘You neglected my crying my eyes red.’ [SEA042].

However, this leaves open the question of why the Cantonese examples that L&L contrasted with acceptable Mandarin equivalents in support of (b) are unacceptable. We believe Lau and Lee’s earlier (2015) account, based on semantics rather than argument structure and applying it to all argument structure types, was more appropriate. L&L use Washio’s (1997) distinction between ‘strong’ and ‘weak’ resultatives to explain the unacceptability of these constructions in Cantonese (whose cognate-for-cognate equivalents are possible in Mandarin):

(84) a. * 我 跑 跌‑咗 張 車飛
ngo5 paau2 dit3-zo2 zoeng1 ce1fei1
1sg run fall-ASP CLF ticket
‘I ran, dropping my ticket.’ (=L&L’s (2)).
b. * 佢 對 眼 喊 紅‑咗
keoi5 deoi3 ngaan5 haam3 hung4-zo2
3sg pair eye cry red-PFV
‘He cried his eyes red.’ (=L&L’s (15c)).

They claim that Mandarin has both ‘strong’ resultatives, where the meaning of V1 and V2 are completely independent, and ‘weak’ resultatives, where the V2 is the purpose or conventional result of V1. Cantonese lacks the latter, explaining (84). Yet most ‘strong’ V1–V2 combinations that L&L deem impossible are attested on the Internet. We searched for examples of all nine strong resultatives L&L deemed impossible in Cantonese, adding the perfective marker ‑zo2 to ensure examples are in Cantonese, and found examples of seven of these. One example was (83), as are the following:

(85) a. 我 反而 係 覺得 個 男 嘅 追 攸‑咗
ngo5 faan2ji4 hai6 gok3dak1 go3 naam4 ge3 zeoi1 gui6-zo2
1sg on the contrary COP feel CLF male ASSOC chase tired-PFV
‘I, on the contrary, feel that the male got tired of chasing women.’ [SEA040].
b. 真係 驚 隻 碟 俾 我 睇 花‑咗
zan1hai6 geng1 zek3 dip2 bei2 ngo5 tai2 faal-zo2
really fear CLF disc AGT 1sg watch scratched-PFV
‘I really fear I’m watching so much that the disc gets scratched.’ [SEA041].

Rather than dichotomising between strong and weak resultatives, we believe these combinatorial restrictions are gradient collocational patterns, not structural ungrammaticality. Since semantics and usage frequencies affect collocational strength, when V2 is not the purpose or conventional result of V1, verbs are more likely to be collocated. The acceptability of Mandarin CRCs, then, is simply less sensitive to such effects than Cantonese, i.e., unusual V1–V2 fit less easily into Cantonese CRCs than Mandarin ones.

As a preliminary investigation of this hypothesis, for each of L&L’s ‘strong’ resultatives, we obtained, as a proxy for semantics, FastText word vectors (Grave et al. 2018) for the translational equivalents of the two verbs in Mandarin, then calculated their Euclidean distance. Figure 11 relates the number of tokens on Google search with semantic distance. 28 This very small sample shows suggestive though inconclusive evidence that frequency is negatively correlated with semantic distance (Spearman’s rho = −0.622, \( p = 0.0738 \)). We leave it to later work to investigate this issue with more rigorous measurements.
Figure 11. The x-axis is the number of tokens found for each of the V1–V2 combinations that L&L claimed as impossible. The y-axis is the semantic distance, as calculated by FastText word vectors using Mandarin translational equivalents as a proxy for meaning. A potential negative correlation is visible from the graph.

5.2. Potential Contributions to Dialectological Comparison

As mentioned in Section 2, most Sinitic dialectologists implicitly follow a holistic argument structure approach, albeit slightly different from ours, and many have some notion roughly corresponding to our CRC, especially when investigating potential forms. However, our ArgC–ArgA–ArgN reframing of the CRC template still diverges significantly from current typology practice retaining notions such as subject and object, and can potentially be fruitful in dialectological research.

For example, much comparative research in Sinitic typology examines the positions of the object relative to the verbs and potential form markers (Wú 2003, 2005; Lín 2006). The traditional 'object' corresponds to a postverbal ArgA or an ArgN in our framework. Most typological work cites examples with arguments corresponding to our ArgC and ArgA, with few ArgNs. Nevertheless, the few examples of ArgN cited in the literature may shed light on the difference between Cantonese and other varieties.

Even within the Yuè family, there is significant variation in word order. For example, Kwok (2010) discusses the Nanning variety, which is much more permissive of arguments between V1 and V2. It is not limited to the potential form and is frequent even with full NP objects. Strikingly, this applies to both ArgAs and ArgNs:

(86) a. 食 飯 飽 去 啊!
sik6 faan6 beu2 hyu3 aa1
‘Eat yourself full with rice, then go!’ (Nanning, =Kwok’s (8)).

b. * 你 食 佢 唔 飽
nei5 sik6 keoi5 m4 baau2
2sg eat 3sg NEG full
Intended: ‘You couldn’t get full by eating it.’ (Cantonese).

As shown in (14), (86b) is not possible in Cantonese, even if rice were replaced by a pronoun and the whole construction became potential. The possibility of ArgN between V1 and V2 is thus another difference between Cantonese and Nanning.

Shèng and Zhú (2020, p. 313) cite a variety of examples with ArgNs in the Shāoxīng Wú. However, one difference with Cantonese is that even when ArgNs are present, ArgAs can be between V1 and V2 (a), which is largely unattested in Cantonese (b), as mentioned in Section 3.2:
5.3. Methodological Implications on Worldwide Typology

5.3.1. The Need for Explicitly Defining Constructional Levels

The existence of the schematically abstract causative–resultative construction poses serious challenges to worldwide typology. As mentioned above, typologists typically assume that each variety has a finite, enumerable set of serial verb constructions. In practice, constructions such as those listed in the headers of Section 3.3—resultative, comparative, causative, etc.—are assumed to be the relevant ‘constructions’ (e.g., Aikhenvald and Dixon 2006; Matthews 2006; Luke and Bodomo 2000). However, as construction grammarians have long argued (e.g., Diessel 2019; Croft 2007), ‘constructions’ are arranged into numerous levels of abstraction, from maximally concrete to highly abstract. How do we know that the level traditionally investigated is the ‘right’ one?

This has important consequences. For example, Matthews (2006), following Aikhenvald and Dixon (2006), states that the Cantonese causative SVC is asymmetric (with one of the verbs coming from a closed class) and the cause-effect SVC is symmetric (with both of the verbs coming from an open class). Yet, if we look at the CRC level, it is just symmetric. If we look at the directional vs. non-directional CRC level, then the directionals remain asymmetric, but the CRCs are still all symmetric. In the future, we hope typology can better specify the level of abstraction desired in analysis to ensure better comparability between languages investigated.

5.3.2. Rethinking Argument-Sharing Typology

The problems with the decompositional approach pose serious problems to typology, especially in approaches that do not separate language description and comparison. For example, Aikhenvald and Dixon (2006) set up several types of SVCs, giving both semantic and syntactic (in terms of component argument structure) characterisations. Those relevant to CRCs are shown in Table 3.

Table 3. Aikhenvald and Dixon’s SVC categories relevant to Cantonese CRC.

<table>
<thead>
<tr>
<th>Type</th>
<th>Shared Argument</th>
<th>Component Transitivity</th>
<th>Corresponds to Our Subconstruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cause-effect</td>
<td>O of V1 = S/A of V2</td>
<td>V1-transitive, V2-intransitive or occasionally transitive</td>
<td>Typical resultatives Causatives</td>
</tr>
<tr>
<td>Event-argument</td>
<td>/</td>
<td>One V transitive/intransitive, Other V intransitive</td>
<td>Manner constructions</td>
</tr>
<tr>
<td>Resultative</td>
<td>/</td>
<td>Both intransitive</td>
<td>Typical resultatives</td>
</tr>
</tbody>
</table>

Even without the results of this paper, this schema is highly problematic. For example, our Type IV CRCs (ArgA + ArgN) such as (13ab) are semantically cause-effect, but ‘share’ both A and O, rather than the O of V1 being the A of V2. However, even if the table were expanded to include every combination of individual argument structures possible,
the examples in Section 4.1, which cannot be easily separated into individual argument structures, still cannot be included.

Since the language of argument structure composition and argument sharing cannot be applied to all SVCs, one possible way to improve upon the typology of serial verb constructions is to take the multivariate approach (Bickel 2010) and decompose traditional concepts into smaller features. For example, traditional statement formats such as ‘The O of V1 is shared with the S of V2’ may be decomposed step-by-step into:

1. Is it possible for V1 to appear in a monoverbal clause with one of the arguments of the SVC as the O?
2. Is it possible for V2 to appear in a monoverbal clause with one of the arguments of the SVC as the S?
3. If 1 is possible, is there no change in verbal semantics? How about 2?
4. Are the NP targeted by 1 and 2 the same?

If, in traditional terms, ‘the O of V1 is shared with the S of V2’, then the answers are ‘yes’ to all four. The exceptions discussed in Section 3.3 all have ‘no’ to at least one of these answers. These variables can describe both ‘straightforward’ SVCs capturable by the decompositional approach, and more unusual constructions.

In approaches such as Haspelmath (2016), which strictly demarcate language-internal descriptive categories and comparative concepts for typology, one may continue using the decompositional approach if the comparative concept is carefully defined to exclude examples not amenable to decomposition. Indeed, Haspelmath already excludes our causative and perhaps manner CRCs (using his no predicate-argument structure between verbs criterion), and CRCs where one of the Vs is absent from monoverbal constructions (using his independent verb criterion). However, he does not go far enough; his independent verb does not guarantee that the verb has identical semantics in monoverbal and multiverbal contexts, nor that all and only arguments that would appear with the individual verbs show up in the SVC. Thus, Haspelmath’s definition needs to be further tightened to test generalisations hinging on decomposition (Generalisations 7–10) against Cantonese. Once tightened, Generalisation 7 (all SVCs share arguments) still seems unsupported:

(88) 但 好 驚 行 煥 對 鞋
daan6 hou2 geng1 haang4 laan6 deoi3 haai4
‘But (I’m really afraid I’ll wear out the shoes by walking.’ [SEA162].

Here, the shoe would be the sole argument of wear out in a monoverbal clause, and the unexpressed I would be the sole argument of walk. Thus, there is no argument sharing despite the decompositional approach working.

5.4. Theoretical Implications on Constructional Change
5.4.1. Constructional Levels, SVC Symmetry and Grammaticalisation

As mentioned above, the existence of multiple levels of CRCs poses a challenge to Aikhenvald and Dixon’s symmetric-asymmetric typology, since the CRC level is symmetric while specific subconstructions may be symmetric or asymmetric. This raises the question of how to reconcile with our approach to A&D’s generalisation that asymmetric SVCs are sites for grammaticalisation (while symmetric SVCs are lexicalization sites). For example, in the A&D account, in Cantonese asymmetric causative CRCs (Section 3.3.5), the cause verbs are semantically light and grammaticalising into causative markers. However, if the higher-level construction, CRCs, is symmetric, aren’t causatives simultaneously favourable and unfavourable for grammaticalisation?

In fact, our approach is in concert with Bisang’s (2009) modification of A&D’s generalisation. Adopting a definition of grammaticalisation as the process where an originally open-class form becomes the marker for a construction, Bisang restates the diachronic statement as follows: symmetric SVCs are starting points of grammaticalisation, and as certain verbs in the symmetric SVC come to be grammaticalised as markers for a specific con-
struction, they become members of a closed class, creating asymmetric SVCs. Thus, rather than asymmetric SVCs favouring grammaticalisation, it is grammaticalisation that leads to asymmetric SVCs. The asymmetric causative CRC, then, was formed with the (symmetric) CRC as the starting point and came into being as the causer verb became a semantically light constructional marker.29

As this grammaticalisation process progresses, some verbs take on meanings much more abstract and general than their lexical sources, which the literature has typically referred to as (resultative, phase, directional, etc.) ‘particles’. The tail end of this process can result in the construction dropping out of the CRC altogether. For example, consider the directional V2 返 faan1 ‘result’, which has been grammaticalised into a stance marker (Chor 2013) and is no longer indicative of the result:

(89) 冲 返 個 靚 涼
    cung1 faan1 go3 leng3 loeng4
‘Let me take a nice shower.’ (Chor 2013).

Expressions using this sense of faan1 no longer have potential forms, and so are not CRCs.

5.4.2. Semantic Orientation as Potential Initiator of the Grammaticalisation of Verbal Particles

Our holistic approach to argument structure also sheds light on the mechanisms involved in some grammaticalisation pathways whereby asymmetric SVCs are created. Since the V2 only has to be semantically oriented towards ArgA and does not need to have a predicate-argument relationship with it, the V2 can appear with more types of ArgAs, widening the range of contexts the V2 appears in and therefore favouring its grammaticalisation (cf. Himmelmann 2004) as a verbal particle relevant to the result of V1. This section will focus on Mandarin, where examples where ArgA is not an argument of V2 are also easily found, and historical texts are easily available.

Consider Mandarin 光 guāng ‘bare’ (J. Wang 2010), which has been grammaticalised into a quantifying particle meaning all of ArgA was removed. Before grammaticalisation, we see uses where guāng as V2 clearly means ‘bare’:

(90) 誠 恐 他 吃 光 了 世界
    chéng kǒng tā chī guāng‑le shìjiè
‘She sincerely feared that it would eat the world bare.’ [Sānbǎo Tàijīn Xīyángjí 43].

Later, bridging constructions such as the following began to arise:

(91) 怎的 把 一 盘 肉 包子 通 吃 光 了
    zěnde bā yì pán ròu bāozi tōng chī guāng‑le
‘How did he eat a whole tray of met buns bare?’ [Sūn Páng Dòuzhì Yányì 20].

Here, if the classifier (i.e., tray) is seen as the head of ArgA, then it is an argument of bare. However, in our approach, CRCs allow V2s to only semantically orient towards ArgAs, and meat satisfies this condition. So, if meat is treated as the head of ArgA, it still fits into the construction.

This process eventually gave rise to constructions with only the latter interpretation, i.e., the present quantifying use, which is now most common, and can no longer be decomposed into two clauses with guāng meaning ‘bare’:

(92) 如果 蟲子 把 樹葉 都 吃 光 了
    rúguǒ chóngzǐ bā shùyè dōu chī guāng‑le
‘If bugs eat up all the leaves . . . ’ [SEA149].

Mandarin constructions with V2s such as 破 pò ‘break’, 穿 chuān ‘pierce’, or 透 tòu ‘pass through’ followed a similar path. They are often used metaphorically when the ArgC
sees through some incorrect or deceptive thing, e.g., a façade or illusion. One frequent collocation is 看破 kàn pò ‘look break’, frequently used when the ArgC has seen through the empty and transient nature of worldly matters:

(93) 把 興 亡 看 破
bā xīng wáng kàn pò
DISP prosperity vanquishment look break
‘(I) saw through prosperity and vanquishment (i.e., am no longer bothered by them).’ [Jīnhānzǐ, Si Shi Huai Gǔ Qiū Cí from Bēn Tàng Jī].

Such worldly matters are generally the implied affectee even when there is no affectee made explicit. In these examples, the affectee is unproblematically an argument of ‘break,’ since they were demolished in the eyes of the ArgC. Quoting nun and Buddhologist Fat Yan, ‘In Buddhism we always say kàn pò—what are we ‘breaking’? Our wrong concepts.’

Again, as the construction developed, ArgAs began appearing that cannot be direct arguments of ‘break’ in monoverbal clauses. Sometimes, the affectee may be the person putting up a façade or act:

(94) 我 已 三 五 日 前 看 破 他 了
wǒ yǐ sān wǔ rì qián kàn pò tā le
1sg already three five day before see break 3sg ASP
‘I have already seen through him three to five days ago.’ [Sānbǎo Tàijiàn Xīyángjì 82]

Alternatively, the affectee may be the truth revealed after ‘breaking’ through the illusion. Consider (95):

(95) 如 曾 點 卻 被 他 超然 看 破 這 意思
rú Zēng Dìan què bèi tā chāorán kàn pò zhè yìsi
like Zēng Dìan but AGT 3sg transcendently see break this meaning
‘Yet as for Zēng Dīan, he transcendently realised this meaning.’ [Zhūzǐ Yútài 40].

Here, the meaning is not what is ‘broken’—rather, what ‘broke’ was the reasons (discussed in the preceding context) that make the meaning difficult to understand. Z. Wáng (2016)’s example (40) resembles this, though he did not appear to notice that the ArgA was not actually broken.

Thus, by virtue of the fact that ArgAs do not have to be ‘arguments’ of V2 in monoverbal predicates, V2s such as pò seem to be grammaticalising into a resultative particle, indicating that the preceding verb results in dispelling an illusion, rather than necessarily ‘breaking’.

In the Dàjiānggāng variety of Southwestern Mandarin, 破 [pʰo] has been further grammaticalised into a general completive marker, and this change may have involved similar processes. [pʰo] is not restricted to situations that involve breaking, literally or metaphorically, but can be used in any situation where something disappears, diminishes or is destroyed, or even changes state (Chén and Zhōng 2021). An example where the affectee is destroyed is as follows:

(96) 他 把 我 作业 烧 破 吧。
3sg DISP 1sg homework burn break
‘He burnt up my homework.’ (Chén and Zhōng 2021, p. 103).

A change-of-state example is as follows:

(97) 我 要 去 把 衣服 洗 破。
1sg want go DISP clothes wash break
‘I want to go wash up the clothes.’ (Chén and Zhōng 2021, p. 103).

The jump from examples such as (96) to change-of-state examples such as (97) may be motivated by the same principle. The clothes did not diminish or get damaged, but rather the stains on them disappeared. However, the clothes remain affected by the stain’s disappearance.
6. Conclusions

In this paper, we provide a new account of the Cantonese causative–resultative construction, a broadly defined notion covering a variety of constructions with a range of similarities across syntactic and semantic domains. Though our account is constructionist-inspired, we dispense with traditional notions common to most previous accounts, such as subject, object, pseudo-passives and inversion. Instead, we directly describe the order of ArgC (cause), ArgA (affectee) and ArgN (non-cause non-affectee) without recourse to these notions. Thus, our analysis falls in line with framework-free grammatical theory (Haspelmath 2009), assuming no a priori syntactic categories, in response to criticism (e.g., Stern 2019) that construction grammar still relies excessively on traditional categories.

We also show that the decompositional approach to resultative argument structure is empirically untenable, compared to our holistic account, where arguments belong only to the whole construction, and where the relationships between individual verbs and referents are expressed with semantic orientation instead of traditional predicate-argument terminology. This clearly shows that when two historically distinct clauses are combined, the resulting construction can become crystallised as a construction per se rather than derivative of the biclausal source, even when neither of the verbs is clearly grammaticalised; and that, pace Foley and Olson (1985), this process is not limited to constructions where the two verbs are contiguous: the verbs in Cantonese CRCs are separable by potential markers and ArgAs.

Finally, as a personal remark, although our paper, of course, benefited greatly from existing theoretical knowledge, we could not have arrived at our conclusions without starting our investigation by observing interesting phenomena in natural language use, which led us to document a host of phenomena that appear erratic in traditional approaches. We believe a bottom-up, observational approach can enrich traditional theoretical approaches and take us further.

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Abbreviations

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADV</td>
<td>adversative particle</td>
</tr>
<tr>
<td>AGT</td>
<td>agent marker</td>
</tr>
<tr>
<td>ASSOC</td>
<td>associative marker</td>
</tr>
<tr>
<td>BEN</td>
<td>benefactive coverb</td>
</tr>
<tr>
<td>CAUS</td>
<td>causative verb</td>
</tr>
</tbody>
</table>
Notes

1. As native speakers, we have sometimes found decontextualised examples in previous work strange-sounding.
2. Most of the data in this paper comes from Hong Kong Cantonese, which is overrepresented on the Internet; however, we also include examples from other regions, especially Mainland China.
3. Slobin (2004) is an exception in the Talmyan tradition that better resembles the serial verb tradition described in Section 2.4.
4. In the literature, thematic role-based accounts are called ‘morphological’ or ‘lexical’; grammatical relation-based accounts are ‘syntactic’.
5. This definition includes constructions with only potential forms and no non-potential forms. The definition is not new; it is often used as a test for the ‘complement’ in Chinese linguistics (e.g., Chor 2018, p. 40; Thompson 1973).
6. This is unlike Mandarin, where the negative potential form may seem discardable.
7. In all examples in this paper, the portions of the causative–resultative construction, excluding all preverbal elements, will be in boldface, except where the entire sentence belongs to the causative–resultative or where the CRC is otherwise clear.
8. Some authors use ‘causer’/’causee’. We prefer cause/affectee since ArgCs are frequently non-agentive.
9. These properties are applied to most CRCs, but some positions—in particular ArgAs between m4 and dak4—are subject to a large number of lexical and semantic restrictions (Yue-Hashimoto 2003; Lai 2018).
10. Traditionally, it is said that only pronouns may be between in non-directional CRCs (e.g., Yue-Hashimoto 1993; Kwok 2010). However, occasional exceptions do exist; see Lai (2018).
11. The analysis in C. Li (2013, p. 106) also implicitly does away with pseudo-passivation; however, he still maps the ArgA to the subject position, whereas we reject the subject position altogether.
12. Cheung (1972, p. 133) is one structuralist account that makes a distinction like our ArgA-ArgN. He frames the distinction in constituent-structural terms. For Cheung, in the case of ArgA, the V1 and V2 (which he calls a complement) form one predicate constituent, of which ArgA is an ‘object’. In the case of ArgN, V2 and ArgN form a complement, which modifies the V1, which is the head. Cheung does not offer a clear explanation of this distinction. In our constructionist framework, constituency is viewed as an emergent phenomenon, and we can explain Cheung’s intuition about constituency in terms of contiguity and semantic dependence. Langacker (1997) notes that the intuition behind constituency can be captured as follows: a constituent is an expression that is (a) contiguous and (b) connected by ‘valence links’ (i.e., strong conceptual connections). Since ArgN is typically a participant of and adjacent to V2, V2-ArgN can be considered a classical constituent. ArgA often appears in places not adjacent to the verbs, whereas the verbs are strongly conceptually connected and, in Cheung’s examples, contiguous and thus constitute a constituent too. Our description is thus compatible with and provides a semantic basis for Cheung’s account.
13. Our account is similar to Liu’s (2020) Mandarin analysis but without the layer of grammatical relations.
14. In Cantonese, ‘mechanical pencil’ can be an argument of ‘write’, but the agent, in that case, would still be a person—not the bad gesture as in the ‘inversion’ analysis.
Lee and Ackerman’s (2011) explanation does not work for Cantonese, as it requires that ‘eat’ be ambitransitive, which is not the case for Cantonese (Matthews 2006). Because of the half-written, half-spoken style of this sentence, it includes the Mandarin chunk 想着 soeng2-zoek6; the Cantonese equivalent is 拿住 gwaan3-zyu6.

The sentence may be interpreted as ‘English does not manage to imitate you’, in which case it would not be an inverted construction. However, this only makes sense if jing1man4 ‘English’ is an entity capable of learning and hence the agent, such as Tsai Ing-wen, the current leader of Taiwan.

Matthews and Yip distinguish verb-particle constructions from the usual resultative on the grounds that some of the particles do not appear alone as verbs. Although we regard resultative verb-particle constructions as belonging to the causative–resultative construction, we note that this does not conflict with their classification of resultative particles as a separate part of speech from verbs, since the V2 slot of the resultative construction may be filled by particles. As an analogy, argument positions in Chinese can always be occupied by resultative particles with no derivation. We do note, however, that the possibility of the potential construction means V2 particles can be negated, which is a verb-like property. Thus, it is reasonable to continue calling the V2 slot of the causative–resultative construction ‘V2’, with the understanding that this includes verbal particles.

The word ‘causative’ is used in at least two other ways in the literature on Cantonese. Some authors use it to refer to what other authors called ‘inverted’ resultatives, as mentioned above. Others use it to refer to almost all the constructions we consider CRCs, except perhaps for those involving particles (K. Li 2002).

Some early accounts of Chinese resultatives assumed that V2 is always intransitive (e.g., Thompson 1973; Méi 1991). However, given clear evidence to the contrary (Lau and Lee 2021, or our examples like (11ab)), this does not constitute evidence against analysing 湿 sap1 ‘wet’ as transitive.

Note that this construction only appears in the potential forms. This is likely because the idiom expresses a stative meaning, whereas the CRC must be dynamic since it involves a cause and result.

The only example we could find of 即 ca4 may be being used intransitively to refer to a specific action being completed is as follows: 認真 做 功課 齊 jing4man3 zou6 gung1fo3 cai4 ‘serious do homework complete’ (‘Do seriously, homework complete.’) (SEA063) However, it comes from a half-Cantonese half-Mandarin slogan and sounds rather awkward: The clause seemed to be worded in this strange way because the slogan had to be broken down into three-syllable intonation units. Moreover, it can still be interpreted as existence if the intended meaning is that the child brings all the homework to school, rather than doing all the homework.

There were several examples where there was no manner or position explicitly specified. However, this is a special construction used on the Internet to refer to the act of posting something on the current discussion board: those examples were talking about posting pictures of legs or feet onto the discussion board. Thus, there was still an implicit location.

The the be2 界 ‘passive’ construction is harder to interpret this way, since, unlike Mandarin 被-constructions, it has other meanings, such as causatives, that do not imply affectedness on the pre-verbal argument’s part.

‘Rice’ cannot be an ArgC since it is postverbal.

Type 6 is the ‘inverted’ construction; Lau and Lee claim these do not exist in Cantonese and only use Type 6 for Mandarin, but as we have seen above, this is not true.

The sentence was taken from an advertisement for a waterproof bag; rain was never mentioned in the context before this sentence. Thus, it cannot be taken as an implicit ArgC. Furthermore, the ‘rain’ in the example itself is nonreferential.

These are manually counted tokens, not Google hits, as Google turns up many duplicates.

Aikhenvald (2018) seems to move closer to Bisang’s position, with a section on the simultaneous grammaticalisation of V2s and the assimilation of asymmetric SVCs, though it is still not clear whether she accepts that the asymmetric SVCs start from symmetric ones.


References


Lin, Mei. 2020. The argument realizaiton of Mandarin inverted resultative constructions and its motivation. Lingua 224: 1–11. [CrossRef]


