An Event Conflation Model based on the Realization Event

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Abstract

In this theoretical analysis, we first identify four event components essential to the conceptualization of Realization – manner salience, agentivity, the intended result and the real-world result. We move on to establish an event conflation model which reflects their interplay in an attempt to outline the speech generation mechanisms behind different lexicalization patterns. By offering alternative interpretations for some well-established findings in the Motion domain from the Realization perspective, we also explore the possibility of applying unified analysis to different macro-event types.

Key words

realization – manner salience – fulfilment type – lexical inadequacy – agentivity

1 Introduction¹

Talmy's (1985, 1991, 2012) event conflation theory captures a significant divergence in macro-event lexicalization across world languages: verb-framed

¹ This paper was presented on the 19th China International Forum on Cognitive Linguistics in November 2019. We would first and foremost like to thank the two anonymous reviewers for

languages (V-languages) tend to encode the framing event in the verb, whereas satellite-framed languages (S-languages) often do so via satellites.²

The remainder of this section is a brief overview of Realization under the Talmyan framework. The Realization event portrays the relationship between the agent's action and intention of performing the action. Talmy (2012) outlines four pairs of semantically complementary verb fulfilment types and corresponding satellites. The classification of verb fulfilment types centers on the presence and the relative scope of the agent's intention with regard to his or her action. Specifically, *intrinsic-fulfilment verbs* denote action only and take *further-event satellites* (e.g. *I kicked the hubcap flat*). *Moot-fulfilment verbs* denote both action and intention, but the latter's fulfilment remains unclear and needs to be indicated by *fulfilment satellites* (e.g. *The police hunted the fugitive down*). *Implied-fulfilment verbs* encode both action and a likelihood of intention fulfilment; thus *confirmation satellites* are taken to finalize goal achievement (e.g. *I washed the shirt clean*). *Attained-fulfilment verbs* have clear and definite indication that the goal of the action is successfully achieved; satellites to these verbs are *pleonastic satellites*, which are often semantically redundant (e.g. *I killed him *dead*). Four additional satellite types are outlined specifically for Mandarin Chinese—*underfulfilment*, *overfulfilment*, *antifulfilment* and *other-event satellites* (Talmy 2012: 276–277), which are used when the agent's intention is not fulfilled in a canonical way.

Several issues are present in current Realization research. The first issue is the relative dearth of Realization within event conflation study. Although five macro-event types have been identified in the event conflation theory – Motion, State Change, Action Correlating, Temporal Contouring, and Realization – attention has been primarily focused on Motion (Li 2013). A further issue concerns the element of 'intention' in the Realization event. Events denoted by intrinsic-fulfilment verbs are believed to differ in nature from those denoted by verbs of the other fulfilment types, because the agent in the former has no intention beyond merely conducting the action itself. In *I kicked the hubcap flat* (Talmy 2012: 262), for example, it is argued that the agent had no intention to flatten the hubcap. Given that the other three fulfilment types all indicate intention on the part of the agent, intrinsic-fulfilment falls out of the general paradigm of

their extensive and detailed feedback on this paper. We are also indebted to Liu Linjun for inspiring the first author and guiding her through an earlier version of this study. Special thanks are due to Leonard Talmy and Fuyin Thomas Li for their encouragement and insightful comments. All errors, of course, remain ours.

2 This binary typology has been challenged by scholars such as Slobin (2004), Zlatev and Yangkang (2004) and Chen and Guo (2009), who propose equipollent-framing as a third possibility. The typological stance of this paper is clarified in section 3.2.

fulfilment analysis. We attempt to solve the problem by proposing a schematic ‘zero Intention’ (Intention_{ZERO}) element in intrinsic-fulfilment verbs, thereby aligning such verbs to the existing paradigm (section 2.3.2).

Having identified the issues in current Realization research, the present study has a three-fold aim. First, we attempt to identify the major event components in the conceptualization of Realization (Section 2). Second, we establish a model for Realization event conflation and lexicalization to illustrate the interplay between the event components and pinpoint the lexical causes for lexicalization variation (Section 3). Lastly, we endeavor to provide alternative interpretations from the perspective of Realization for well-studied phenomena in Motion, thereby offering alternative windows for macro-event analysis (Section 4).

2 Conceptualizing Realization

This section proposes four components essential to the conceptualization of Realization: (lack of) attention to manner of action, the (non-)agentivity interpretation of the relationship between the agent’s action and the result enacted, the intended result, and the real-world result. Their interplay is examined in terms of event segmentation strategies and lexical inadequacies. The current study’s theoretical approach to Realization conceptualization may inspire empirical research that could validate the arguments made. Of note, the current discussion pertains to linguistic cognition and does not attempt to account for non-verbal thinking.

2.1 *Manner of Action*

When the agent conducts a certain action, his or her movements follow a certain manner. Although manner of action is a directly observable component of the Realization event, it may have varying degrees of cognitive salience to users of different languages. While little previous research to our knowledge has touched upon manner salience in Realization, it is a well-studied topic in the domain of Motion in both theoretical and empirical forms. Lexicalization-wise, it is well-established that V-languages often omit manner in Motion event description (e.g. Talmy 1985: 69). Various empirical studies have also reported that manner information has higher cognitive salience in S-languages than in V-languages in both verbal and non-verbal conditions (e.g. Naigles et al. 1998; Hohenstein 2005; Maguire et al. 2010). Turning to Realization, the assumption is that S-language users are also more oriented toward manner of action information than their V-language counterparts. It is based on this assumption that the rest of the discussion unfolds. While this study offers no

empirical evidence for this claim, theoretical deduction will show that differences in attention to manner are indeed likely to lead to lexicalization variation (section 3).

2.2 *Agentivity*

When a certain result happens subsequent to an action, language users may interpret their relationship in different ways. In this paper, agentivity refers to the attribution of a result to the agent's action of interest, while non-agentivity refers to the disconnection between the two. In other words, the agent may or may not be held responsible for the result brought about by his or her action. Understandably, it is only under the agentivity reading that macro-event expressions can be produced, as the non-agentivity reading would detach the result from the agent's action, giving rise to simplex events.

Fausey and Boroditsky (2011) identify a factor which impacts on agentivity readings. If an agent explicitly demonstrates an intention to bring about a result, eye-witnesses very often attribute the result to the agent. When the results are clearly accidental, however, languages seem to differ in their event construal. The authors find that speakers of satellite-framed English made significantly more agentive interpretations in accidental cases than their verb-framed Spanish counterparts. For instance, in a situation where someone brushed against a vase and it shattered on the ground, English speakers were more inclined to use the transitive structure to describe the event (i.e. *She broke the vase*), whereas Spanish speakers tended to disconnect the result from the agent and produce intransitive descriptions such as *Se rompió el florero* (roughly 'The vase broke (itself)'). The agentive/non-agentive divergence reflects the different event segmentation strategies adopted in Realization conceptualization. That is, some languages prefer to conflate the action and the subsequent result into one macro-event and hold the agent responsible for the whole event, whereas other languages tend to treat them as independent simplex events.

It should be clarified that holding an agent responsible for a result is not the same as suggesting that the agent *intends* to enact that particular result – the result could be either intended or merely accidental. While the accidental situation has been illustrated above, the remainder of this subsection examines the applicability of agentivity/non-agentivity readings in intended situations. For example, a canonical washing event can be described in English as *I washed the shirt clean*, where the agent is believed to be responsible for the intended state change of the shirt. By contrast, as Romance languages seldom produce such resultative constructions (e.g. Fontanals 2000),³ the agent's action and the

3 It should be noted that in Romance languages such as Spanish, 'adverbial' resultative constructions with static readings (e.g. *John cut the meat thin (=thinly)*) do exist. It is the 'true'

change of the shirt would be more conventionally verbalized separately, leading to a non-agentive interpretation. A case in point is the following Spanish sentences *El hombre lavó su ropa* ('A man washed his clothes') and *La ropa se volvió limpia* ('The clothes became clean'). In sum, the agentivity/non-agentivity readings apply regardless of whether the agent actually has the relevant intention in conducting the action in question.

Notably, it has been suggested by Beavers and Koontz-Garboden (2011) that manner information is generally related to agentivity (or in their terminology, 'actorhood'). In this light, attention to manner of action would most likely lead to the agentivity interpretation—if the agent's manner of action is considered relevant in the coming about of a certain result, it naturally follows that the agent is responsible for that result. Linking back to the assumption that S-languages are more oriented toward manner of action than V-languages, the agentivity reading is also likely to be more frequent in the former than in the latter.

2.3 *The Intended Result*

The intended result in this paper refers to the canonical result of the action denoted by the event verb. This notion may at first glance seem comparable to the 'intention' element in the Talmyan Realization framework (see section 1 for a brief overview), but the two concepts have fundamental differences. The Talmyan 'intention' concept refers to the agent's real intention when conducting a certain action. By contrast, the notion of the intended result finds its basis in world knowledge and does not concern the agent. Although the 'intended result' may indeed reflect the agent's actual intention, the two notions are not necessarily always identical. To illustrate, in the vase-breaking scenario above, world knowledge tells us that the behavior of brushing against a fragile object with too much physical momentum canonically causes the object to go off balance, fall under the gravitational pull and smash as it lands on the ground, hence the canonical consequence of 'breaking'. But this provides no information as to whether the agent's behavior is intentional or accidental. Moreover, as Thepkanjana and Uehara (2009: 593–594) argue, 'the agent's intention is not crucial at all in the domain of realization', as evidenced by the acceptability for sentences such as *I wiped the table clean* and *He drowned her* to take the modifiers *accidentally* and *unintentionally*.

The intended result concept differs from Talmy's 'intention' in one further aspect. While 'intention' only applies to the analysis of moot-, implied- and

resultative constructions with state change readings (e.g. *John hammered the metal flat*) that are rare (Napoli 1992; Fontanals 2000).

attained-fulfilment given that the agent is believed to have no intention in mind when carrying out action denoted by intrinsic-fulfilment verbs, the ‘intended result’ concept proposed in this paper covers all fulfilment types. This is achieved by the introduction of a special type of intended result (Intention_{ZERO}) in 2.3.2.

It should be noted that the intended result concept essentially depicts a tendency for a result to happen, but makes no assertion that it will happen. Rapaport Hovav and Levin (2010) oppose the idea that manner verbs lexicalize the realization of prototypical results, although manner verbs can often indicate the happening of those results, they can be denied (e.g. *I scrubbed the tub for hours, but it didn't get any cleaner*). Since Realization describes goal achievement, the intended result is an event component that must be indicated in the macro-event expression. Linking back to the assumption that S-languages are oriented toward manner of action while V-languages are not (section 2.1), it seems that the two language types also tend to respectively use manner verbs and result verbs to indicate the intended result in macro-event expressions (although exceptional cases do exist). For instance, while satellite-framed English would produce *I washed the shirt clean*, in which the cleansing intention is introduced by the manner verb *wash*, verb-framed Spanish could only represent the same intended result using a result verb, as in *Limpié mi ropa* (‘I cleaned my clothes’).⁴

A clarification to be made at this point is that manner verbs can also appear in Realization expressions in V-languages, though not as main verbs, as illustrated by the contrast between the synonymous examples from English and Japanese (V-language) *eat up* and *tabe-kireru* (‘eat-cut’). In the former, the satellite *up* symbolically represents the final state of the food consumed; the dynamic tendency for the food to disappear is indicated by *eat*. In the Japanese example, such dynamicity is arguably represented by the verb *kireru* (‘cut’), which is frequently used to denote accomplishment. This suggests that even though manner verbs and results verbs can both appear in the same macro-event expression in V-languages, the intended result still tends to be indicated by the latter. This is a fundamental difference between S- and V-languages; it is also in this sense that the two language types have different manner salience.

4 Manner verbs certainly exist in V-languages, but they are unlikely to appear in ‘true’ resultative constructions (as shown in note 3, such constructions themselves are rare in Romance languages). Therefore, we do not consider manner verbs in V-languages capable of denoting the intended result in macro-events, as they by definition entail ‘true’ results.

2.3.1 Theoretical and Language Evidence for the Intended Result

Many studies lend support to the idea of the canonical course of event development. To name but a few, Wechsler (1997: 310) gives special prominence to the ‘canonical or normal result state ... denoted by the verb’ in his semantic account of English resultative constructions. Another thread comes from Dowty’s (1979: 148) concept of ‘inertia worlds’, ‘which are exactly like the given world ... in which the future course of events develops in ways most compatible with the past course of events’. In light of Realization, an ‘inertia world’ can be perceived as the most typical trajectory for an event to take. Further, Thepkanjana and Uehara (2009: 594) observe that ‘what is at issue [in Realization events] ... is not the degree of the agent’s intention inherent in a transitive verb. Rather, it is the degree of the likelihood that an event take place as a result of the causing action that is inherent in the causing verb’. In discussing the event ‘inherent in the causing verb’, the authors indicate the existence of an idiosyncratic result associated with the verb.

Language data also support the existence of the intended result. A practical way to identify a verb’s canonical event information is to consider the event that springs to mind when the verb appears in a simplex event lexicalization pattern. A case in point is *He swam the Thames*. Although lexicalization-wise this sentence is only a simplex event, what it describes is nevertheless a macro-event, i.e. he swam across the river,⁵ as in a swimming challenge. When a simplex event can be used as some ‘shorthand expression’ for a macro-event, it is probably an evidence that the macro-event is conceived as the prototypical event information of the verb. Similar examples include *The horse jumped the stream* and *She skated the canals* (Hwang et al. 2013). Another piece of evidence comes from concession. For instance, in *I washed the shirts but they were still dirty*, the basis for concession to hold is the understanding that the intended result of washing is to make something clean. Thus, it is unnecessary to articulate the intention by saying *I washed the shirts to make them clean, but they were still dirty*. This is in line with Grice’s (1975) second maxim of quantity–‘Do not make your contribution more informative than is required’.

2.3.2 Introducing Intention_{ZERO}

As mentioned in section 2.3, there is no unified paradigm for analyzing ‘intention’ across different fulfilment types in the Talmyan framework—namely, the

5 One reviewer quite perceptively pointed out that although ‘across’ is the normal interpretation here, ‘along’ could also be legitimate, had the river been shorter. Encyclopedic knowledge (e.g. what qualifies as a swimming challenge) indeed plays a key role in the conventionalization of any verb’s intended result.

agent has no intention in mind when carrying out action denoted by intrinsic-fulfilment verbs, but has one when conducting action denoted by verbs of moot-, implied-, and attained-fulfilment. To circumvent the elusive question of what the agent truly attempts to do, we propose that the focus of discussion be shifted to the intended result canonically encoded in the verb. In this light, we further argue that intrinsic-fulfilment verbs should be analyzed as denoting a schematic $\text{Intention}_{\text{ZERO}}$ (i.e. to cause no impact on the object of interest), rather than no intention. The rationale behind lies in the analogy between Realization and Motion: if static locatedness (Be_{LOC}) is regarded as a special type of motion (Talmy 2012: 25), the lack of intention could be likewise considered as a special type of intention. Linking back to the sentence *I kicked the hubcap flat*, the verb's intended result may well be interpreted as 'to cause the hubcap to experience no change in any way'. If some influence happens to be exerted on the hubcap, the $\text{Intention}_{\text{ZERO}}$ can be consequently rejected by, for instance, the addition of satellites specifying the actual result achieved. Since the other three fulfilment types all denote some kind of intention, the concept of $\text{Intention}_{\text{ZERO}}$ conveniently aligns intrinsic fulfilment to the established paradigm for fulfilment type analysis.

The introduction of $\text{Intention}_{\text{ZERO}}$, however, does not mean that the intrinsic-fulfilment verb receives any semantic enrichment. It should be regarded as a means of applying uniform schematic analysis to all four types of verb fulfilment. Notably, since a verb's $\text{Intention}_{\text{ZERO}}$ is only discussed in the macro-event context where a further event does occur, it is always to be defeated.

2.4 *Real-World Result*

The term 'real-world result' refers to the actual result caused by the agent's action. As previously mentioned, two event segmentation strategies based on (non-)agentivity interpretations may be adopted in event conceptualization – the result could be either attributed to or disconnected from the agent's action. The more straightforward between the two strategies is comprehensibly the non-agentivity reading, in which case language users directly verbalize the real-world result without reference to the agent's action. However, under the agentivity reading, two complications could arise when the real-world result is examined in relation to the intended result. First, the intended result may not be fully achieved in reality; second, the result achieved could deviate from the intended result. The remainder of this subsection illustrates these two complications in terms of lexical inadequacies.

The first complication describes the situation where, although the event follows its canonical course of development, the implication of the intended result does not guarantee its full achievement. This problem is outlined by Talmy

(2012) as fulfilment type differences and is hereafter referred to as *type-1 lexical inadequacy*. Namely, except for attained-fulfilment verbs, intrinsic-, moot- and implied-fulfilment verbs are unable to independently affirm the achievement of their intended goals and thus resort to satellites. As speakers of a language community may have different ideas with regard to a verb's fulfilment type (Talmy 2012: 268–269), we categorize the fulfilment types into two broader groups—indefeasible fulfilment (i.e. attained-fulfilment) and defeasible fulfilment (i.e. intrinsic-, moot- and implied-fulfilment).

The second complication concerns the possible discrepancy between the real-world result and the intended result indicated by the verb (hereafter *type-2 lexical inadequacy*). Unlike canonical events, reality can go in unexpected directions. When discussing 'inertia worlds', Dowty (1979: 3) further notes that 'the actual world does not have to be an inertia world'. Certain languages such as Russian may resort to morphological markings when reality deviates from the idealized world (Kagan 2011), which evidentiates the psychological reality of the discrepancy between the intended result and the real-world result. Moreover, Talmy (2012) outlines several Mandarin Chinese cases where satellites are used to erase the goals inherently intended by event verbs. An example is *Wǒ xǐ-pò-le chèn yī* ('I washed-torn the shirts', p. 277), where the action of washing unexpectedly leads to laundry damage. In this case, the satellite *pò* is used to reject the canonical course of event development and specify the real-world result. Notably, such discrepancies only apply where manner verbs are used to indicate intended results, as result verbs are not found in atypical, non-habitual situations (Fillmore 1970)—if the real-world result deviates from the intended result indicated by a result verb, language users would simply use another verb. Conversely, type-2 lexical inadequacy often occurs with manner verbs, because the intended result in such verbs is indicated by and therefore bundled up with manner information, which in turn needs to be a legitimate reflection of event observation. To illustrate, Chinese speakers would hardly describe the above washing example as *Wǒ jiǎn-pò-le chèn yī* ('I cut the shirt torn with scissors')—although *jiǎn* (to cut with scissors) can indeed indicate the right intended result, it is not a loyal portrayal of the agent's action.

Admittedly in the case of type-2 lexical inadequacy, there remains the theoretical possibility for speakers to replace the original manner verb choice with a new one which represents a better match between manner of action and reality. But the prerequisite for such replacement is adequate lexeme in the language in question. For instance, in observing the aforementioned hubcap-flattening example, if there were a verb available in the English lexicon that means 'to kick on something with the aim of flattening it', speakers would arguably use this verb in the description of the event. However, due to language

economy considerations, the possibility for a language to invent lexemes for infrequent, unexpected cases would be rather low. If a verb were to be introduced for any happening in reality, the language's lexicon would become infinitely large.

3 Establishing the Realization Model

Having identified the event components of Realization, we establish a model for Realization event conflation and lexicalization, with the interplay between the event components illustrated (section 3.1). As the discussion so far has only unfolded on the basis of the dichotomous typology, section 3.2 is an attempt to accommodate equipollent-framing into the model. Section 3.3 tentatively explains why a language may have a dominant lexicalization pattern despite the phenomenon of mixed typology.

3.1 *The Realization Model*

The Realization model is presented in Table 1. The table reads from left to right, with each row representing a possible process of event lexicalization. The two leftmost columns depict the interplay between the four Realization event components; the two middle columns record the possible lexical inadequacies under such interplay and their corresponding coping strategies; the two remaining columns offer the lexicalization patterns yielded and summarize the event information expressed in each pattern. It should be emphasized that the analysis in this subsection applies to lexicalization patterns, rather than language types.

As shown in Table 1, event conflation begins with event segmentation. As mentioned in 2.2, focus on the agent's manner of action is likely to induce the agentivity interpretation. Under this reading, the agent's intended result is often indicated by a manner verb, so event lexicalization depends on whether and to what extent the real-world result matches the intended result canonically encoded by the manner of action observed (i.e. whether and to what extent language users are allowed the optimal verb lexeme that both encodes the observed manner of action and indicates an intended goal that indefeasibly matches the real-world result). Three ensuing possibilities are presented below.

First, if such a verb lexeme is available and meanwhile has indefeasible fulfilment, speakers may produce a verb-framed lexicalization pattern (hereafter V-pattern 1) with both the manner of action and the real-world result linguistically verbalized. A case in point is *The stranger drowned him* (Talmy 2012: 270).

TABLE 1 The Realization model

Event lexicalization process					
→					
Event segmentation strategy	Match between intended & real-world results?	Lexical condition	Strategy for coping with lexical inadequacy	Lexicalization pattern	Event information expressed; Example
Agentivity reading + <i>Manner focus</i> [Intended result indicated by manner verbs]	Yes	Lexical adequacy [<i>Indefeasible fulfilment</i>]	N/A	V-pattern 1	Manner, agentivity, real-world result e.g. <i>The stranger drowned him.</i>
		Type-1 lexical inadequacy [<i>Defeasible fulfilment</i>]	Satellities needed to <i>affirm</i> achievement of intended result	S-pattern	Manner, agentivity, real-world result e.g. <i>I washed the shirt clean.</i>
	No	Type-2 lexical inadequacy [<i>Defeasible fulfilment</i>]	Satellities needed to <i>specify</i> real-life result	S-pattern	Manner, agentivity, real-world result e.g. <i>Wǒ xǐ-pù-le chèn-yī</i> (‘I wash-torn the shirt.’)
Agentivity reading – <i>Manner focus</i> [Intended result indicated by result verbs]	Yes [No type-2 lexical inadequacy]	Lexical adequacy [<i>Indefeasible fulfilment</i>]	N/A	V-pattern 2	Agentivity, real-world result e.g. <i>Apagué la vela</i> (‘I extinguished the candle.’)
		Type-1 lexical inadequacy turned into lexical adequacy	New main verb needed to <i>reconstruct</i> the macro-event	V-pattern 2	Agentivity, real-world result e.g. <i>konru-(vi)ffēn</i> (‘kill-left’)
Non-agentivity reading	N/A	N/A	N/A	Simple event pattern	Real-world result e.g. <i>Se rompió el florero.</i> (‘The vase broke (itself).’)

Both the manner of action and the intended goal of taking some animate object's life are encoded in the verb. As *drown* is an attained-fulfilment verb (Talmy 2012: 269), its intended goal is believed to have been indefeasibly achieved. Therefore, satellites are not needed, producing V-pattern 1. This conflation process lexicalizes the manner of action, agentivity, and the real-world result, with the intended result indicated by the manner verb.

Another possible situation under the agentivity reading with a manner focus is where speakers can find a verb lexeme whose intended result does match the real-world result, yet the match is incomplete, as the manner verb has defeasible fulfilment and is not capable of indicating the full achievement of its intended result (i.e. type-1 lexical inadequacy). In such cases, satellites are used to affirm the full realization of the intended goal, producing the satellite-framed lexicalization pattern (hereafter S-pattern). This pattern conveys the same semantic information as V-pattern 1, with the intended result indicated by the manner verb. An example is *I washed my shirt clean* (Talmy 2012: 263). While the intended result of the washing action dovetails into the real-life result, the full realization of that goal is not independently entailed by *washed*, but rather affirmed by satellite *clean*.

The last possibility under the agentivity reading with a focus on manner is when such a perfect verb lexeme (i.e. one that independently encodes the manner of action, the pertinent intended result and the full achievement of that result) is unavailable (i.e. type-2 lexical inadequacy). Speakers can nevertheless persist with the encoding of manner. A precondition for exercising this strategy is that the manner verb chosen must have defeasible fulfilment, as the verb's original intended result (including Intention_{ZERO}) needs to be rejected before the real-life situation can be introduced. Accordingly, this strategy necessitates the use of satellites, in so doing also producing the S-pattern. The Chinese sentence *Wǒ xǐ-pò-le chèn yī* ('I washed-torn the shirts', Talmy 2012: 277) serves as an example, where the action of washing leads to the uncanonical result of laundry damage. Satellite *pò* is used to specify the real-life result.

As Table 1 shows, the agentivity reading can also obtain when manner of action is not in focus. That is, the real-world result is still attributed to the agent's action, yet how the result is brought about by the agent is no longer important. In such cases, the intended result of the agent's action is often indicated by a result verb. As manner of action no longer features, the verb identification task is thus easier, because now the verb only needs to encode the intended and the real-world results, instead of satisfying a three-way match between the two results and manner of action. Consequently, type-2 lexical inadequacy is non-existent in such cases, for the result verb is selected to directly match the real-world result (section 2.4). Similar to manner verbs, result

event's dynamicity in (1a) is indicated in the verb 'kill', in (1b) the dynamicity shifts to the new verb 'leave'. This is what distinguishes (1b) from the previous satellite-framed examples, as the dynamicity of those events still remains in the manner verbs when satellites are introduced; the satellites only add static information of the final state (e.g. *clean* in *I washed the shirt clean*). Since (1b) also directly encodes the full achievement of the (new, more abstract) real-world result, it can be perceived as having the same speech generation mechanism as the previous situation, therefore also producing V-pattern 2.

The last scenario portrayed in Table 1 differs from all previous ones for its non-agentive reading of events. In such cases, the real-world result is viewed in isolation from the agent's behavior. The expression produced under the non-agentivity reading thus follows the simplex event pattern, as the example *Se rompió el florero* ('The vase broke (itself)') in 2.2 illustrates.

As shown in the Realization model, there are two types of V-patterns (1 and 2). Despite their syntactic similarity, their mechanisms for speech generation differ. V-pattern 1 is the product of perfect matching between manner of action, intended result and real-world result, whereas V-pattern 2 is an effort to directly encode the real-life result. Conversely, the generation mechanisms in the two S-pattern cases are identical, attending to both manner of action and real-world result information.

3.2 *Accommodating Equipollent-Framing into the Model*

The discussion so far has unfolded around V- and S-patterns. As a revision of Talmy's dichotomy in the Motion domain, equipollent-framing (hereafter the E-pattern) has been reported in languages with serial verb constructions (svcs), bipartite verbs and preverbs (Slobin 2004, 2006), where Path and Manner are expressed by grammatically equivalent forms (Ameka and Essegby, 2013). Although the E-pattern has been gaining recognition in typology research, there are also studies showing that a three-way typology is unnecessary (e.g. Talmy 2012; Lambert-Brétière 2009). The typological stance taken in this paper is outlined below. Due to the lack of language data of bipartite verbs and preverbs in Realization, only svcs will be examined. svcs often contain two verbs (hereafter simplified as V₁ and V₂), which cannot be morphologically distinguished from each other in terms of main verb status. However, we argue that V₂ constituents should not be categorized as main verbs.

Presented below is a summary of the major reasons in the literature against treating V₂ verbs as main verbs. Firstly, the verbs which can appear in the V₂ position form a closed class, which is typical of satellites (Talmy 1991, 2012). Secondly, although such V₂ verbs can often function as independent verbs, they tend to have more concrete meaning when they do so, whereas their

semantics seems more grammaticalized in the V2 position (Croft et al. 2010; Shen 2003). Further, such verbs might show phonetic weakening in V2 position, which is a sign of grammaticalization (Li 1986).

Using language data from Mandarin Chinese SVCs, where V1 and V2 verbs often respectively express manner and result information, we propose a further reason why SVCs can be regarded as satellite-framed. Namely, V2 verbs do not have the same capacity in terms of encoding result achievement in V2 position as they do as independent verbs. Given that fulfilment type has a significant impact on the lexicalization of Realization, this can be held as an important verb property. If the verbs occurring in the two syntactic positions are the same lexeme, they should exhibit identical fulfilment type properties. Sentences (2a) and (2b) present the behavior of one such verb *sǐ* (to die). In V2 position, *sǐ* indicates infeasible fulfilment of result; as an independent predicate, it denotes defeasible fulfilment.⁸

sǐ in V2 position: infeasible fulfilment

- (2a) Tā bǎ jī shā-sǐ-le, * dàn jī hái huó-zhe.
 3SG ACC chicken kill-die-PST but chicken still live-PROG
 ‘S/he kill-died the chicken, *but the chicken is still living.’
 *S/he killed the chicken (to death), *but the chicken is still alive.*

sǐ as independent verb: defeasible fulfilment

- (2b) Tā sǐ-le sān-cì, dōu méi sǐ-chéng.
 3SG die-PST three-CLF all NEG die-succeed
 ‘S/he “died” three times, but was not successful with dying.’
 S/he made three attempts to die, but none succeeded.

Due to the reasons above, SVCs do not seem to express the real-world result using V2 ‘verbs’. It is perhaps more appropriate to treat these V2 constituents as framing satellites that can also function as verbs in certain cases, as opposed to the S-pattern, whose framing satellites exhibit no such potential. Hence, we are inclined to view SVCs as satellite-framed. Notably, the scope of the term ‘satellite’ shall be hereafter expanded to cover both satellites in the traditional sense and satellite-like elements (such as V2 verbs) in equipollently-framed languages, and no further distinctions will be made between S-languages and equipollently-framed ones in the remainder of this paper.

8 One might suggest that the difference in fulfilment type properties is induced by the syntactic environments *sǐ* appears in, and not by the verb itself. Whatever the cause, a verb’s fulfilment type remains its distinguishing feature from the Realization perspective. Since the verb exhibits different fulfilment properties in the two occasions, we consider them as two different lexemes.

3.3 *Extending the Realization Model to Language Typology*

The Realization model so far applies only to lexicalization patterns, rather than language types. This subsection extends the model to the holistic language level.

By portraying the generation mechanisms behind lexicalization patterns as the interplay between event segmentation and lexical inadequacies, the Realization model captures the phenomenon of mixed typology on the intralinguistic level. As shown in the model, high and low manner salience can have a crucial impact on the lexicalization of Realization. Specifically, attention to manner necessitates the agentivity reading in the event segmentation process and eventually leads to either V-pattern 1 or the S-pattern. On the other hand, low manner salience could give rise to both agentivity and non-agentivity interpretations, respectively yielding V-pattern 2 and the simplex event pattern. Following the assumption that S-languages are more oriented toward manner of action than V-languages (section 2.1), it can be deduced that in the Realization domain, S-languages generally exhibit V-pattern 1 and the S-pattern, whereas V-languages often display V-pattern 2 and the simplex pattern. The most important argument to be made is that the existence of mixed typological patterns within a language does not undermine the possibility for it to be dominated by one of the lexicalization patterns. To this we now turn.

For S-languages, while both V-pattern 1 and the S-pattern are possible, the former is lexically rare, as predicted by Rappaport Hovav and Levin's (2010) manner-result complementarity theory. The term 'result' in the authors' work refers to 'the coming about of a result state' (p.1) and corresponds to the concept of real-world result in the Realization framework. According to this theory, there is only one root per verb lexeme,⁹ and a lexeme can only contribute manner or result information. Thus in terms of Realization, verbs that independently encode both manner of action and the full achievement of their intended results are rare. This lexical rarity impedes V-pattern 1 from becoming the dominant lexicalization pattern. Thus, for languages that conventionally verbalize manner of action in Realization, it is the S-pattern that is likely to be dominant, giving rise to S-languages on the holistic language level. Notably, due to the rarity of V-pattern 1, this lexicalization pattern will not be addressed further. When the term 'V-pattern' is used in the remainder of this paper, it refers to V-pattern 2 only.

The picture is more straightforward for V-languages. While manner salience is low in such languages, the real-world result can still be attributed to the agent, yielding V-pattern 2. However, when the non-agentivity reading obtains,

9 While some researchers (e.g. Beavers and Koontz-Garboden 2011: 37) suggest that this statement needs further validation, we take it for granted.

it gives rise to simplex events. Since typological discussions are based on macro-event lexicalization, these expressions should not be considered and therefore do not blur typological classification.

A phenomenon absent in the discussion above is the existence of S-pattern expressions in V-languages, at least in the Motion domain (Aske 1989). The rationale for excluding S-pattern expressions in V-languages is that, although they syntactically exhibit the macro-event lexicalization pattern, they do not qualify as macro-events per se in V-languages. This issue is developed further in section 4.1 as an attempt to provide an alternative explanation for the boundary-crossing constraint (Slobin and Hoiting 1994; Slobin 2004). Very briefly, it is obvious that the verbs in such S-pattern expressions encode manner of motion; according to the manner-result complementarity theory, these verbs are unlikely to encode result (i.e. Path¹⁰) information. Furthermore, the satellites to these verbs tend to express locative information, rather than resultative states (Tesnière 1965: 303). Therefore, the result element seems to be nonexistent in such verb-plus-satellite combinations, which hence do not technically qualify as macro-events. Again, given that the discussion of lexicalization patterns is restricted to macro-events, the so-called S-pattern in V-languages is not represented in the Realization model. Although such apparent S-pattern expressions abound in V-languages (Aske 1989), they do not enter the macro-event discussion, and therefore have no influence on the typological categorization of these languages.

Having justified the legitimacy of discussing language types despite intra-linguistic variation, Table 2 sums up the clustering features in each language type.

As shown in Table 2, high and low manner salience produce different clusters of features in the domain of Realization. The bond between the clustering features is likely to be strengthened and may 'come to be automated over years of learning and practice' (Slobin 1997: 444; cf. Levelt 1989: 160). After years of language learning and use, speakers of different language types would develop their preferred way of event observation in event description. For instance, S-language users often hear manner of action being mentioned in day-to-day speech and would be more likely to become sensitive to that information, while speakers of V-languages would be less likely to do so.

10 One might argue that the concept of result corresponds to goal, rather than Path, in Motion events. However, as Beavers and Koontz-Garboden (2011) argue, 'result' refers to change along a scale and need not entail a new final state (i.e. event goal) that did not hold at the beginning of the event. For that reason, we treat result as the equivalent to Path in the Motion domain.

TABLE 2 Clustering Realization features in language types

Language type	Manner salience	Event information expressed	Event segmentation strategy	Fulfilment type(s) of event verb	Macro-event lexicalization pattern(s)
S-language	High	Manner of action, Agentivity, Real-world result	Agentivity reading	Defeasible	S-pattern
				Indefeasible (rare)	V-pattern 1 (rare)
V-language	Low	Agentivity, Real-world result	Agentivity reading	Indefeasible	V-pattern 2
		Real-world result	Non-agentivity reading	N/A	N/A

A pertinent question here is why languages should not be thought to have flexible attention to manner of action. A potential explanation is given below. If a language could freely shift between high and low attention to manner, the language would encounter the pressure to invent enough lexemes to suffice the lexical requirements for both V- and S-patterns, thus resulting in an uneconomical lexicon. Therefore, we posit that languages would exhibit relatively stable manner-orientation in Realization conceptualization. Understandably, there are exceptions to these tendencies. For instance, although English is considered as a high manner salience language, *I flattened the hubcap* is a legitimate non-manner alternative to *I kicked the hubcap flat*.

At this stage, it is appropriate to review the assumption that S-languages are more oriented toward manner of action information than V-languages (section 2.1). In essence, this is a Thinking-for-Speaking (Slobin 1987) hypothesis pertaining to Realization. This assumption provides the foundation for section 4, where relevant findings in the Motion domain are interpreted from the perspective of Realization.

4 Applying the Realization Model to Motion

In this section, we attempt to accommodate two findings in the Motion domain under the Realization framework, thereby exploring the possibility of a unified explanation that holds across event types.

4.1 *The Boundary-Crossing Constraint*

Following Aske's (1989) clarification that S-pattern expressions with manner-of-motion verbs do exist in verb-framed Spanish, Slobin and Hoiting (1994) and Slobin (2004) establish the boundary-crossing constraint for V-languages. Namely, for V-languages to encode events using the V-pattern, the element of boundary-crossing needs to be present; otherwise, the S-pattern would be used for event description. This subsection attempts to offer an alternative window for this phenomenon from a Realization perspective.

Prior to any detailed analysis, let us have a closer look at the parallelism between Motion and Realization. As a brief review, Realization conceptualization consists of four components—agentivity, manner of action, the intended result, and the real-world result. Agentivity is omitted from the following discussion as it is the prerequisite for the macro-event interpretation to obtain. Comparing the other three Realization elements and the Motion components of Manner and Path, analogies could be drawn between manner of motion and manner of action, and between Path and real-world result. However, the latter pair of correspondence is not so straightforward as it seems. This is presented next.

Talmy (2012) notes that boundary-crossing is perceived as a type of state change by V-language users. When state change is achieved, the event enters a *heterogeneous* stage which differs from the initial state; before state change is achieved, the event remains *homogeneous*. The same interpretation applies equally well to Realization, i.e. an event is homogeneous before the real-world result happens, at which point the event becomes heterogeneous. So technically, the former Motion-Realization analogies should be rewritten as follows – while manner of action still corresponds to manner of motion, the real-world result should specifically correspond to boundary-crossing Path.

There is one remaining Realization component which does not feature in the Motion event, i.e. the intended result. The intended result is essentially a dynamic concept in that it suggests a transition tendency from one state to another. It has been suggested in section 2.3 that S-languages and V-languages indicate this element by using different types of verbs, which has potential consequences in event conceptualization. Specifically, by indicating the intended result in manner verbs, S-languages regard manner of action as having the dynamic potential of leading to a heterogeneous result. In contrast, by indicating the intended result in result verbs, V-languages consider manner of action as a static property lacking that dynamicity. If this understanding could carry over into the Motion domain, it would suggest that manner of motion also receives different treatment in S- and V-languages. Namely, S-languages would consider manner of motion as a contributor to the coming about of

TABLE 3 Parallelism between Realization and Motion

	Realization	Motion
S-language	<i>Manner-of-action verb</i>	<i>Manner-of-motion verb</i>
	[+ intended result]	[+ heterogeneous potential]
	<i>Real-world result</i>	<i>Boundary-crossing path</i>
	[heterogeneous]	[heterogeneous]
V-language	<i>Manner-of-action verb</i>	<i>Manner-of-motion verb</i>
	[– intended result]	[homogeneous state]
	<i>Real-world result</i>	<i>Boundary-crossing path</i>
	[heterogeneous]	[heterogeneous]

heterogeneous boundary-crossing Path, while V-languages would view manner of motion as irrelevant to that process. This explains why manner-of-motion verbs in V-languages are not compatible with boundary-crossing Paths, as shown in Table 3.

However, it should be noted that manner of action, when viewed in isolation, is nevertheless essentially a homogeneous property. The contention here is that it can be associated with the tendency to usher in a heterogeneous state in S-languages, while in V-languages this is rare. So when manner-of-action verbs appear in S-languages, there is the possibility for the event to become heterogeneous; whereas when such verbs appear in V-languages, they can only portray homogeneous event segments.

A revisit to Table 2 shows that the event information linguistically expressed in S-languages includes both the homogeneous element of manner and the heterogeneous element of real-world result. In contrast, V-languages typically only encode the heterogeneous event information of result. We thus propose that V-languages are likely to be sensitive to event heterogeneity, whereas manner-oriented S-languages are not. Bearing in mind the general tendency that S-languages denote the intended result using manner verbs and that V-languages do so with result verbs, it follows that the former often include the homogeneous stage as part of macro-event description, whereas the latter need to wait until the event enters a heterogeneous stage to start effective macro-event encoding.

Based on the differences in sensitivity to event heterogeneity, we make the following proposal as an extension to the boundary-crossing constraint: *V-languages only grant macro-event status after an event enters a heterogeneous*

stage. For V-languages, a macro-event is primarily the coming about of a heterogeneous stage, so the homogeneous stage where an agent performs a certain manner of action with yet no result is not considered a part of the macro-event per se. Reflected in the Motion domain, V-languages only regard the heterogeneous boundary-crossing Path as a true indicator for macro-event status.

Some empirical findings, at closer inspection, could reveal some support for the claim that V- and S-languages have different macro-event status granting mechanisms. Maguire et al. (2010) report that, when describing Motion events with nonce verbs, English participants overwhelmingly favored Manner construal, exhibiting high conformity to the typical linguistic tendencies. Meanwhile, their Spanish and Japanese counterparts fluctuated between Manner and Path readings, instead of showing an overall preference for Path. This contrast may reflect a difference in macro-event conceptualization philosophy. If V-language conventions lead speakers to only consider heterogeneous events as macro-events, then their macro-event conceptualization would be more restricted than that of S-language users. As the visual stimuli in Maguire and colleagues' experiment involved an animated star moving over, under, past and around a ball smaller in size than the Figure, the scenes did not seem to offer overt boundary-crossing indicators. That is, many of the visual stimuli could have been perceived as homogeneous situations (i.e. simplex events), which could have failed at the outset to evoke the macro-event reading among the V-language participants. This could have precluded the Spanish and Japanese speakers from exhibiting a systematic preference for Path.

4.2 *Difference in Goal Preference*

Although the Realization event is under-represented in the macro-event literature, one line of Motion research is fairly reminiscent of Realization, namely, goal prominence in event lexicalization (e.g. Georgakopoulos et al. 2019; von Stutterheim and Nüse 2003). In this subsection, goal prominence is interpreted in terms of sensitivity to event heterogeneity.

One such investigation reports that, when speakers of two S-languages (English, German) and a V-language (Greek) verbalized stimuli with no overtly reached goal (e.g. 'a man walks towards a door', as opposed to 'a man walks through a door'), the former language group encoded significantly more goal information than the latter (Georgakopoulos et al. 2019). Crucially, such difference disappeared when the visual stimuli displayed overt goal realization. The authors interpret such divergence as higher event goal salience in the mind of S-language users compared to their V-language counterparts. However, can an equation really be established between *mention* of goal information and its cognitive salience? The answer might not be so straightforward.

Clearly, the finding in Georgakopoulos et al. (2019) can be interpreted as a counterexample to the Realization model, according to which V-languages, being sensitive to event heterogeneity, should encourage rather than discourage speakers to focus on the actual realization condition of the event goal. However, a notable point is that it was in the ‘goal-not-reached’ situations, rather than ‘goal-reached’ ones, that V-language users reported less goal information. Could their seemingly nonchalant attitude of event goal have been caused by not less attention to general goal information, but rather more attention to the *lack* of goal realization in the stimuli? In other words, as those visual stimuli recorded no factual realization of the potential event goals, V-language speakers rejected goal lexicalization in their event description. In this interpretation, V-language users did not ignore event goal information – rather, they were *cautious* when verbalizing it, following a more rigorous macro-event granting mechanism than S-language users do (4.1).

This interpretation is supported by Pourcel’s (2004) memory experiment involving English and French speakers. The author reports that, when asked to recall whether a character in a film clip took off his shoe (while it seemed as if the character was going to take it off, the answer was negative), English participants produced a significantly higher error rate than their French counterparts. Pourcel (2004) attributes such false deduction to English speakers’ overarching attention to Manner, rather than Path (of which goal information is a part). This illustrates that goal prominence is not solely determined by attention to event goal, straightforward as it might sound; instead, it is the primal attention to Manner that misled English participants to arrive at the wrong conclusion. If, as claimed by Georgakopoulos et al. (2019), S-language users habitually associate more significance to goal realization, then the English participants in the film experiment would be expected to produce fewer mistakes than their French counterparts. Thus, *mention* of goal cannot be equated to *attention* to goal. Therefore, the reason behind French speakers’ choosing not to verbalize goal in the ‘goal-not-achieved’ condition might stem from their caution for—rather than lack of attention to—event goal realization.

In their investigation into pre-articulatory attention allocation, Flecken et al. (2015) observe that ‘L1 French speakers allocate more attention to ... endpoints, before utterance onset, than L1 German speakers do’ (p.100). This is direct evidence that V-language users tend to focus more on event endpoints than their S-language counterparts.

Reconciling Georgakopoulos et al. (2019) with Pourcel (2004) and Flecken et al. (2015), we suggest that the goal preference divergence between S- and V-languages may be due to more cautious event evaluation in the latter, as V-language conventions direct speakers to be more sensitive to event heterogeneity.

5 Conclusion

This study is an effort to extend event conflation research to the domain of Realization. The main components in Realization conceptualization were identified as manner salience, agentivity, the intended result, and the real-world result. The interplay between the components was shown to impact on event segmentation and to cause potential lexical inadequacies, thus giving rise to both intra- and inter-typological lexicalization variation. Departing from the Thinking-for-Speaking assumption that S- and V-languages attend differently to manner of action information in Realization, we analyzed the speech generation mechanisms behind high and low manner salience.

Several limitations are present in this theoretical investigation. First, although it is well-established that manner salience in Motion events varies between V- and S-languages, this study does not necessarily explain why languages would differ in manner salience with regard to Realization. Empirical research should be conducted to measure the psychological reality of this claim. Further, in aligning the E-pattern to the S-pattern, only one of the three attested E-patterns—the SVC—was examined due to the lack of Realization language data involving bipartite verbs and preverbs. If more language data could be obtained from those E-patterns, the alignment of equipollent-framing to the existing dichotomous typology could potentially be validated.

The Realization model contributes to event conflation research in the following ways. First, it offers a portrayal of speech generation mechanisms behind S- and V-patterns in the Realization domain. Second, while accommodating the existence of mixed typology, the model also justifies the discussion of language types by showing that languages are likely to be dominated by one lexicalization pattern. Further, the Thinking-for-Speaking assumption with regard to manner salience difference between language types could pave the way for empirical research in Realization. The last and arguably most important contribution of the model lies in its alternative interpretations of Motion phenomena from the perspective of Realization, which demonstrates the possibility of applying unified analysis across different macro-event types and could open up new directions in event conflation research.

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