Parameterizing culmination: Lexical sources, event structure, and implicatures in incremental-theme predicates

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Abstract. Telic incremental-theme predicates in Mandarin systematically allow incomplete interpretations, in contrast to their English counterparts. This paper argues that this contrast reflects differences in the lexical encoding of culmination. I propose that Mandarin incremental-theme verbs encode a **PART-OF** operator, which introduces minimal distributive affectedness. The familiar incompletion flavor arises through scalar implicature, triggered by lexical competition between bare predicates and their stronger alternatives. Under this analysis, culmination is not reducible to telicity but constitutes an independent dimension of event realization. The proposal motivates a typological perspective in which languages vary in where culmination is encoded and in how it interacts with telicity in the grammar.

Keywords. culmination; telicity; incremental-theme predicates; Mandarin; typology

1. Introduction. In the literature on lexical aspect, predicates such as *eat five cookies* are typically classified as accomplishments, i.e., situation types that combine dynamicity with an inherent endpoint (Vendler 1967; Dowty 1979; Smith 1997). As telic predicates, they are generally assumed to entail culmination under past tense or perfective morphology:

(1) a. Mary ate five cookies.
b. # ...but she didn't eat them completely.

The contrast above reflects the culmination entailment associated with English accomplishments. Once (1a) is asserted, the event is interpreted as completed: the consumption of five cookies must be fully realized. Consequently, neither proper subevents (e.g., eating fewer than five cookies) nor superevents (e.g., eating five cookies and then more) qualify as instances of the described event. The continuation in (1b) is therefore contradictory.

Crosslinguistic evidence, however, challenges this assumption. A growing body of research has documented non-culminating (partial-realization) readings among accomplishment predicates across languages (Singh 1991, 1998; Koenig & Muansuwan 2000; Chief 2007; Koenig & Chief 2008), even under perfective morphology.

Mandarin Chinese provides a clear illustration:

(2) Lisi chi le wu kuai binggan, dan mei chi wan.
Lisi eat PFV five CLF cookie, but NEG eat finish
'Lisi ate five cookies, but he didn't finish them.'

Unlike its English counterpart in (1), sentence (2) is fully coherent despite the denial of completion. The predicate *chi le wu kuai binggan*, therefore, does not entail total consumption.

This crosslinguistic asymmetry raises two central questions. First, how are non-culminating readings systematically licensed in languages such as Mandarin? What mechanisms allow accomplishment predicates to tolerate incomplete realization? Second, what does this pattern reveal

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about the grammatical status of culmination and its relation to telicity? In particular, is culmination a parameterizable property, and if so, how should such variation be characterized across languages?

This paper proposes a lexical account of incomplete interpretations in Mandarin. Focusing on consumption predicates such as *chi* 'eat', I argue that these verbs encode only minimal distributive affectedness. This lexical underspecification allows partial realization to satisfy the truth conditions, while the familiar incompletion flavor arises through scalar implicature triggered by lexical competition. The broader theoretical implication is that culmination is independent of telicity. This distinction motivates a typological perspective in which languages vary in where culmination is encoded and how it interacts with other aspectual notions in the grammar.

The remainder of the paper is organized as follows. Section 2 presents empirical diagnostics for Mandarin non-culminating accomplishments and identifies the conditions under which incomplete interpretations arise. Section 3 develops a lexical account combining semantic and pragmatic mechanisms. Section 4 explores the typological implications of the analysis. Section 5 concludes.

2. Empirical diagnostics. This section establishes the empirical profile of incomplete interpretations in Mandarin accomplishments. I first show that non-culmination cannot be reduced either to the absence of genuine accomplishments or to the semantics of the perfective marker *-le*. I then identify two semantic conditions that systematically govern non-culminating predicates, which play a central role in the analysis developed in this paper.

Given the flexibility of (non-)culmination interpretations in Mandarin, one might propose that the language lacks genuine accomplishments altogether—that is, that Chinese verbs are inherently atelic (Tai 1984; Smith 1997; Huang 2015). Alternatively, incomplete interpretations might be attributed to the semantics of the perfective marker *-le*, which has been argued to encode only maximal realization relative to a reference time (Martin 2019). The diagnostics below do not support either view.

2.1. AGAINST THE ABSENCE OF ACCOMPLISHMENTS. A defining property of accomplishments is telicity, typically diagnosed by the compatibility with *in*-phrase adverbials (Dowty 1979). Mandarin predicates that allow incomplete interpretations nonetheless pass this diagnostic:

(3) a. Lisi yi xiaoshi nei chi le wu kuai binggan.
Lisi onehour in eat PFV five CLF cookie
'Lisi ate five cookies in an hour.'

b. * Lisi yi xiaoshi nei chi le binggan.
Lisi onehour in eat PFV cookie
'Lisi ate cookies in an hour.[1]'

The felicity of (3a) shows that *chi le wu kuai binggan* denotes an event bounded within the specified interval and therefore behaves as a telic predicate. By contrast, predicates with non-quantized objects, such as *chi le binggan* 'eat cookies', remain atelic, as reflected in their incompatibility with the same diagnostic.

[1] Although (3b) is grammatically well-formed in Mandarin, it does not pattern with *in*-phrases when these are used as aspectual diagnostics of telicity. In this configuration, the temporal interpretation shifts: rather than expressing completion within the specified interval, the sentence receives a prospective reading, indicating that the event is expected to begin within an hour.

These facts demonstrate that the incomplete interpretations observed in Mandarin cannot be attributed to the absence of genuine accomplishments.

2.2. AGAINST A PERFECTIVE ACCOUNT. A second hypothesis attributes incomplete readings to the semantics of the perfective marker *-le*. It is well established that *-le* does not entail culmination, but signals that an event is realized relative to a reference time (Li & Thompson 1989; Smith 1997). One might therefore suggest that incomplete interpretations arise from this weakened notion of realization (Martin 2019).

However, *-le* is neither sufficient nor necessary for generating incomplete interpretations. As shown by the following example, such readings arise even in the absence of perfective marking:

(4) Lisi dasuan chi wu kuai binggan, dan bu chi wan.
Lisi plan eat five CLF cookie, but NEG eat finish
'Lisi plans to eat five cookies, but not to finish them.'

Here, the predicate occurs in a future-oriented context without *-le*, yet the incomplete interpretation persists. This suggests that *-le* merely marks event realization, while the conditions determining culmination must originate elsewhere.

2.3. TWO CONDITIONS ON NON-CULMINATION. Having excluded these alternatives, we turn to two empirical conditions that characterize Mandarin non-culminating accomplishments.

The first concerns individual minimal affectedness.

(5) a. Lisi chi le wu kuai binggan, yi kuai ye mei chi wan.
Lisi eat PFV five CLF cookie one CLF even NEG eat finish
'Lisi ate five cookies but did not completely finish even one.'

b. # Lisi chi le wu kuai binggan, zhi chi le si kuai.
Lisi eat PFV five CLF cookie only eat PFV four CLF
'Lisi ate five cookies but only ate four.'

The contrast above shows that incomplete realization is not arbitrary. Sentence (5a) is felicitous when each individual in the quantified set is minimally affected, even if none is fully consumed. By contrast, (5b) is infelicitous because one individual remains entirely unaffected.

This yields the following generalization:

(6) Generalization I: Individual Minimal Affectedness
A partially realized accomplishment is true only if the predicate applies distributively to each member of the quantified set, such that each is at least minimally affected.

A second property concerns the compatibility of these predicates with explicit culmination.

In Mandarin, obligatory culmination is typically expressed through resultative verb compounds (RVCs), which combine a main verb with a resultative element denoting the result state of the theme.

(7) #Lisi chi guang le wu kuai binggan, mei chi wan.
Lisi eat empty PFV five CLF cookie NEG eat finish
'Lisi ate up five cookies but didn't finish (them). '

For example, in (7), the compound *chi guang* ‘eat up’ encodes the complete disappearance of the cookies, rendering the denial of completion contradictory.

Crucially, however, predicates that allow incomplete interpretations remain compatible with explicit culmination:

(8) Lisi chi le wu kuai binggan, chi guang le.
Lisi eat PFV five CLF cookie eat empty PFV
‘Lisi ate five cookies and ate them up (completely).’

This yields a second generalization:

(9) Generalization II: Culmination Assertion Compatibility
Although Mandarin partially realized accomplishments do not entail maximal affectedness, they remain compatible with explicit culmination assertions.

The empirical facts established in this section lead to three conclusions. First, the predicates under discussion are genuine telic accomplishments. Second, non-culmination cannot be reduced to the semantics of the perfective marker *-le*. Third, Mandarin non-culminating accomplishments obey two constraints: Individual Minimal Affectedness and Culmination Assertion Compatibility. Any adequate analysis must therefore account for these conditions.

In the next section, I argue that these properties follow from the lexical semantics of incremental-theme verbs: incomplete interpretations arise from lexical underspecification and are further strengthened through scalar implicature.

3. A lexical account.

3.1. INCREMENTALITY AND LEXICAL UNDERSPECIFICATION. To account for the Mandarin–English contrast in culmination entailments, I adopt the theory of incremental-theme predicates (Dowty 1991; Krifka 1992, 1998). I argue that the contrast arises specifically with strictly incremental predicates, whose semantics establishes a homomorphic mapping between the part structure of the theme and the temporal structure of the event.

The central proposal is that Mandarin incremental-theme verbs lexically encode a covert **PART-OF** operator. This operator weakens the affectedness requirement on the theme, allowing minimal distributive realization, and thereby licenses incomplete interpretations.

From a mereological perspective, verbs such as *eat*, *drink*, and *build* are incremental predicates. Unlike inherently atelic predicates (e.g., activities) or telic ones (e.g., achievements), they establish a structure-preserving mapping between the theme and the event. This mapping is captured by the incremental relation INC, which links parts of the theme to subparts of the event. As a result, the internal structure of the theme measures event progression: as more of the theme is affected, more of the event is realized.

This mapping transfers the reference properties of the theme to the event predicate:

(10) Schema for Aspectual Composition (after Krifka 1992)
$\phi = \lambda e.\exists x\,[P(e) \wedge \delta(x) \wedge \mathbf{INC\_TH}(e,x)]$
i. If δ is quantized, ϕ is quantized (telic).
ii. If δ is cumulative, ϕ is cumulative (atelic).

Under this view, predicates with quantized incremental themes are expected to yield telicity, and—under standard assumptions—completion in perfective contexts.

Incrementality distinguishes verbs such as *eat* from predicates that lack a theme–event mapping.

(11) a. Mary is eating an apple and is halfway through it.
b. * Mary is pushing a cart and is halfway through it.

In (11a), the internal structure of the apple tracks event progress; in (11b), the cart does not. This contrast underlies the familiar asymmetry in telicity diagnostics as in (12) and completion entailments as in (13):

(12) a. Mary ate an apple in an hour.
b. * Mary pushed a cart in an hour.

(13) a. # Mary ate an apple, but she didn't finish it.
b. Mary pushed a cart, but she didn't finish.

However, not all incremental predicates behave identically. Following Beavers (2012), strict incrementality (SINC) requires:

(14) a. Mapping to Unique Subevents (MUSE)
Each distinct portion of the theme maps to a distinct subevent.
b. Mapping to Unique Subobjects (MUSO)
Each subevent maps to a distinct, non-overlapping portion of the theme.

Predicates such as *eat five cookies* satisfy both conditions, yielding a monotonic mapping between event development and theme consumption. By contrast, predicates such *as read a book* may violate these conditions (e.g., via skipping or rereading), weakening completion entailments:

(15) Mary read a book in an hour/for an hour.

(16) Mary read a book, but she did not finish it.

These observations lead to the conclusion that even in English, completion entailments arise robustly only with strictly incremental predicates. Crucially, it is precisely within this class that the Mandarin–English contrast emerges.

I propose that this contrast lies in the incremental kernel of the verb. English *eat* requires maximal affectedness of the theme, whereas Mandarin *chi* requires minimal distributive affectedness. This weaker requirement is captured by a covert **PART-OF** operator encoded in the lexical semantics of the verb.

(17) **PART-OF**
[[[V_{root}] [**PART-OF**] v] [**INC_TH**] VP]
PART-OF is a weak partial order $\sqsubseteq$ over individuals.

Although introduced by the verb, this operator semantically targets the internal argument by selecting a subpart of the theme. Event measurement is thus defined over parts of the theme, rather than the whole.

Comparable mechanisms have been proposed crosslinguistically. Partee (1991), for example, analyzes incorporated A-quantifiers that attach to the verb but quantify over the theme. In Warlpiri, the morpheme *puta* expresses a similar partitive effect:

(18) Warlpiri (Partee 1991)
Nagapa O-ju puta-nga-nja

Water AUX-1SG PART-drink-IMP
'Just drink some of my water.'

Mandarin differs in that the **PART-OF** operator is phonologically null.

Under this proposal, the lexical entry for Mandarin *chi* is given in (19):

(19) $[\![\text{Chi}]\!] = \lambda x.\lambda y.\lambda e.\exists z\ [z \sqsubseteq x \wedge \text{eat}(e) \wedge \textbf{AG}(e,y) \wedge \textbf{TH}(e,z)]$

This entry states that agent y participates in an eating event whose theme is some subpart z of x. Crucially, z need not equal x.

Consider sentence (20):

(20) Lisi chi le wu kuai binggan
Lisi eat PFV five CLF cookie
'Lisi ate five cookies.'

Following Montague (1973) and Heim & Kratzer (1998), numeral–classifier phrases such as *wu kuai binggan* are generalized quantifiers of type <<e,t>,t> and undergo Quantifier Raising (QR) at Logical Form. The quantificational DP denotes a function requiring that at least five individuals satisfy the predicate:

(21) $[\![\text{Wu kuai}]\!]$ is a function of F in $D_{<<e,t>,\ <<e,t>,t>>}$ such that for any $g,h \in D_{<e,t>}$, $F(g)(h) = 1$ iff $|\{x \mid f(x) = g(x) = 1\}| \geq 5$.

The compositional derivation proceeds as in (22):

(22) a. LF with QR [wukuai binggan 1 [Lisi [chi t_1]]]
b. Chi t_1 $\lambda y.\lambda e.\exists z\ [z \sqsubseteq x_1 \wedge \text{eat}(e) \wedge \textbf{AG}(e,y) \wedge \textbf{TH}(e,z)]$
c. Lisi [chi t_1] $\lambda e.\exists z\ [z \sqsubseteq x_1 \wedge \text{eat}(e) \wedge \textbf{AG}(e,\text{Lisi}) \wedge \textbf{TH}(e,z)]$
d. Existential closure $\exists e \exists z\ [z \sqsubseteq x_1 \wedge \text{eat}(e) \wedge \textbf{AG}(e,\text{Lisi}) \wedge \textbf{TH}(e,z)]$
e. 1 [Lisi [chi t_1]] $\lambda x_1.\exists e \exists z\ [z \sqsubseteq x_1 \wedge \text{eat}(e) \wedge \textbf{AG}(e,\text{Lisi}) \wedge \textbf{TH}(e,z)]$
f. Wukuai binggan $\lambda h.|\{x \mid h(x) = \text{cookie}(x) = 1\}| \geq 5$
g. Wukuai binggan 1 [Lisi [chi t_1]]
$|\{x \mid \exists e \exists z\ [z \sqsubseteq x \wedge \text{eat}(e) \wedge \textbf{AG}(e,\text{Lisi}) \wedge \textbf{TH}(e,z)] = \text{cookie}(x) = 1\}| \geq 5$

The LF structure is shown in (22a). After QR and existential closure over the event, the derivation yields the truth condition as shown in (22g). The sentence is therefore true iff there are at least five cookies such that Lisi ate a part of each. In this way, the **PART-OF** operator preserves incrementality while shifting the interpretation from maximal to partial realization.

3.2. INCOMPLETION AS PRAGMATIC ENHANCEMENT. In actual discourse, sentences such as (20) often convey an incompletion inference. I argue that while partial realization is licensed by the truth conditions of the predicate, the familiar incompletion flavor arises through scalar implicature, triggered by a lexical contrast between the bare verb *chi* and the stronger resultative form *chi guang*.

Recall that Mandarin expresses obligatory culmination through morphological means such as resultative verb compounds (RVCs). In the case of consumption predicates, the compound *chi guang* 'eat up' serves as the culminated counterpart of *chi*. Following Huang's (1984) Lexical Integrity Hypothesis, I treat *chi guang* as a lexicalized compound, whose internal structure is inaccessible to syntax.

Two diagnostics support this view. First, consider the placement of the perfective marker *-le*. In Mandarin, *-le* typically attaches in the post-verbal position (Li & Thompson 1989). With a simple verb, this pattern is preserved (23a), but with the compound *chi guang*, the marker cannot intervene between the two elements (23b):

(23) a. Lisi chi le wu kuai binggan.
Lisi eat PFV five CLF cookie
'Lisi ate five cookies.'

b. Lisi chi (*le) guang le wu kuai binggan.
Lisi eat PFV empty PFV five CLF cookie
'Lisi ate up five cookies.'

The impossibility of insertion suggests that *chi guang* behaves as a single lexical unit, rather than a syntactic V–result sequence.

Second, consider degree modification. As an independent adjective, *guang* 'empty' can be modified by the degree adverb *hen* 'very'; however, degree modification is impossible inside the compound:

(24) a. Zhuomian hen guang.
table-surface very empty
'The table surface is very empty.'

b. Lisi chi (*hen) guang le wu kuai binggan
Lisi eat very empty PFV five CLF cookie
'Lisi ate cookies very empty.'

This restriction follows naturally if *chi guang* forms a lexicalized verbal complex. Together, these diagnostics support the lexical integrity of the compound.

Given this status, *chi guang* encodes obligatory culmination:

(25) $[\![\text{Chi guang}]\!] = \lambda x.\lambda y.\lambda e\ [\text{eat}(e) \wedge \textbf{AG}(e,y) \wedge \textbf{TH}(e,x)]$

Here, the entire theme must participate in the event; partial realization is insufficient.

This yields a lexical scale:

(26) <*chi*, *chi guang*>
where *chi guang* $\vDash$ *chi*, but *chi* $\nvDash$ *chi guang*

That is, *chi guang* is semantically stronger: every *chi guang* event entails *chi*, but not vice versa.

Under the Gricean Maxim of Quantity (Grice 1975), the use of a weaker form implicates the negation of a stronger alternative. Given the availability of *chi guang*, the use of *chi* gives rise to the inference:

(27) Scalar implicature from *chi*
If full consumption held, the speaker would have used *chi guang*.
Therefore, full consumption is not the case.
Formally: *chi* (p) $\Rightarrow \neg$*chi guang* (p)

This inference behaves like a standard scalar implicature: it can be reinforced, cancelled, or blocked depending on context.

(28) a. Reinforcement
Wochi le wu kuai binggan, mei chi guang.

I eat PFV five CLF cookie NEG eat empty
'I ate five cookies but didn't eat them up (completely).'

b. Preemption by stronger form
Wochi le wu kuai binggan, chi guang le.
I eat PFV five CLF cookie eat empty PFV
'I ate five cookies and ate them up (completely).'

c. Neutralization contexts
The implicature disappears in negation, conditionals, or polar questions.

As in (28c), implicature depends on the Question Under Discussion (QUD). When the QUD targets culmination (e.g., *Did Lisi finish the cookies*?), the use of *chi* implicates non-culmination. When the QUD targets mere event occurrence (e.g., *Did Lisi eat*?), no implicature arises.

Although superficially similar, the Mandarin pair <*chi*, *chi guang*> differs from the English pair <*eat*, *eat up*> in an important respect.

(29) a. Mary ate/ate up five cookies.
b. # ...but she didn't eat them completely.

In English, predicates such as *eat five cookies* already entail maximal consumption when the theme is quantized. The particle *up* therefore does not change the truth conditions but contributes expressive nuances, such as emphasis or intensity. The contrast between *eat* and *eat up* thus operates along a manner or intensity scale. Mandarin differs precisely in that the contrast directly targets event realization.

To summarize, the incompletion effect associated with Mandarin *chi* arises from the interaction of (i) lexical underspecification in the semantics of incremental-theme verbs, and (ii) pragmatic enhancement through scalar implicature triggered by the lexical contrast with *chi guang*. Together, these derive the observed pattern: partial realization satisfies the truth conditions, while the use of the weaker form typically suggests that full culmination did not occur. This analysis supports the broader thesis developed in the next section: culmination is a parameterizable lexical property.

4. The culmination parameter: A typological perspective. The analysis developed so far has two broader implications, motivating a preliminary typology of how languages encode culmination.

First, culmination constitutes an independent grammatical notion whose encoding varies crosslinguistically. In particular, languages differ in whether maximal affectedness is lexically encoded in the verbal root. This distinction underlies the Mandarin–English contrast and can be captured by the following parameter:

(30) Culmination Parameter (Version I)
Does the verbal root lexically encode culmination?
Yes → Type A (e.g., English)
No → Type B (e.g., Mandarin)

In English, incremental verbs lexically encode maximal affectedness; in Mandarin, maximal realization must be expressed elsewhere in the grammar.

Mandarin is not unique in this respect. Hindi provides a clear parallel. As shown in (31), perfective marking alone does not entail culmination, which is enforced only by an additional resultative element (*-liyaa*):

(31) Hindi (Singh 1998)

a. Mãĕ ne aaj apnaa kek khaayaa aur baakii
1 SG ERG today my cake eat.PFV and remaining
kal khaaũgaa.
tomorrow eat.FUT
'I ate my cake today, and I will eat the remaining part tomorrow.'

b. # Mãĕ ne kek khaa liyaa jo bacaa hai wo Ram
1 SG ERG cake eat take.PFV REL remain is that Ram
khaayegaa
eat.FUT
'I ate the cake, and Ram will eat the rest.'

A second implication concerns the relationship between culmination and telicity. As shown earlier, Mandarin predicates with quantized themes are structurally telic, yet do not entail maximal realization. This mismatch motivates a distinction between two notions of quantity:

(32) Two Notions of Quantity
i. Realization Quantity
How much of the event is actually realized?
ii. Structural Quantity
Does the grammar specify a non-homogeneous event structure?

Realization quantity concerns the degree to which an event is realized; maximal realization corresponds to culmination. By contrast, structural quantity concerns whether the grammar encodes a non-homogeneous event structure, which corresponds to telicity.

Mandarin incremental-theme predicates make this distinction particularly transparent, as the two notions are encoded by different components of the grammar. Realization quantity is determined by the verb's lexical semantics, which permits only minimal distributive affectedness. Structural quantity, by contrast, is introduced by the incremental theme argument. When the object is quantized—for example, a numeral–classifier phrase such as *wu kuai binggan* 'five cookies'—it introduces a calibrated scale (Kennedy & McNally 2005), consisting of a dimension (e.g., pieces), degrees (natural numbers), and an ordering relation (≤). Event development proceeds monotonically along this scale toward an upper bound, thereby yielding a non-homogeneous event structure independently of actual realization. This dissociation explains why Mandarin allows telic predicates without culmination.

However, not all languages exhibit this division of labor. Slavic languages provide a case in which culmination and telicity converge on a single morphological element.

In Czech, imperfective verbs allow partial realization, while maximal realization arises with the addition of a perfective prefix:

(33) Czech (Filip 1992)

a. Pil^{I} kávu.
Drink-3SG.M coffee-ACC
'He was drinking (some) coffee.'

b. Vypil^{P} kávu.
PFV-drink-3SG.M coffee-ACC
'He drank up (all) the coffee.'

Crucially, these prefixes simultaneously encode telicity. This is confirmed by Russian aspectual diagnostics:

(34) Russian (McDonald 2008)

a.	Ja	pil	butylku vina	*za	čas /	v tečeniji	časa.
	1SG	drink-IPFV	a-bottle-of-wine	in	hour /	during	hour
	‘I drank a bottle of wine *in an hour / for an hour.’						
b.	Ja	vypil	butylku vina	za	čas /	*v tečeniji	časa.
	1SG	drink-PFV	a-bottle-of-wine	in	hour /	during	hour
	‘I drank a bottle of wine in an hour / *for an hour.’						

Thus, in Slavic, a single morphological element encodes both event boundedness and maximal realization.

These observations suggest that Type B languages do not form a homogeneous class but can be further subdivided according to the grammatical role of additional morphology.

(35) Culmination Parameter (Revised)
i. Does the verbal root lexicalize culmination?
ii. Do additional morphemes determine telicity?

Combining these dimensions yields the typological space in Figure 1.

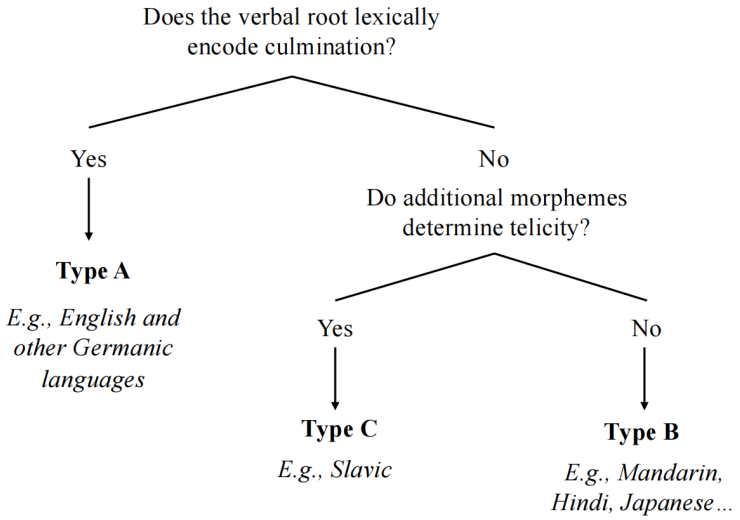

Figure 1. A Typology of culmination encoding

In Type A languages, culmination is encoded directly in the verb. In Type B languages, culmination is introduced by additional morphology whose contribution is primarily semantic. In Type C languages, additional morphology encodes both culmination and telicity, functioning simultaneously as a semantic and structural operator.

The typology proposed here is not intended as an exhaustive classification, but as a way of identifying the locus of grammatical variation. If culmination is a parameterizable property of incremental-theme predicates, crosslinguistic differences should systematically track where maximal realization is encoded: in the verbal root, in resultative morphology, or in functional aspectual structure. On this view, the typology does not define a closed inventory of language

types but rather identifies the dimensions along which languages distribute culmination and telicity within the grammar.

5. Conclusion. The Mandarin–English contrast among strictly incremental-theme predicates reflects differences in the incremental kernel of the verbal core. English verbs lexically encode maximal affectedness, yielding obligatory culmination with quantized themes, whereas Mandarin verbs encode a covert **PART-OF** operator that licenses partial realization, with the familiar incompletion effect arising through scalar implicature. These results show that culmination is not reducible to telicity but constitutes an independent dimension of event semantics. The proposed parameterization thus motivates a typological perspective in which languages vary in how culmination is encoded—whether in the verbal root, in morphology, or in functional structure—and in how it interacts with telicity across the grammar.

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