

# Verbal form and event structure in sign languages

Kathryn Davidson<sup>1</sup>, Annemarie Kocab<sup>1</sup>, Laura Wagner<sup>2</sup> and Andrea Sims<sup>2</sup>

<sup>1</sup>Harvard University and <sup>2</sup>The Ohio State University

## Intro: Event Visibility Hypothesis

Much recent attention given to idea of a universal “iconic” relationship in sign languages between form of verbs and their corresponding event structure

- Wilbur (2008): Presence of EndState morpheme (abrupt deceleration) indicates bounded event



Figure 1: Video stills from ASL-LEX project, Caselli et al. (2017)

Intuition: as if in spoken languages, telic predicates must be expressed with verbs ending in stop consonants

- Strickland et al. (2015) argue that this relationship is even *transparent to non-signers*

## Critical ingredients of the Event Visibility Hypothesis

- Verbal form reflects **telicity** value
- Universal** across verbs and sign languages
- Method of marking telicity is **iconic**

Implementation varies with focus on (i) iconic endpoint (Wilbur 2008, Malaia and Wilbur 2012), or (ii) iconicity of subparts of processes (Wright 2014), or (iii) overall measure function of event progress/form expression (Kuhn 2017)

## (Notes on tense & pluractionality)

- No dedicated tense marking in ASL (incl. future)
- Pluractionality in ASL interacts with Endstate (Klima and Bellugi 1979, Rathmann 2005, Kuhn and Aristodemo 2017), so focus on singular events

## Three reasons for rejecting strong forms of Event Visibility Hypothesis

### 1. Independent tests for telicity

Wilbur (2008) and Strickland et al. (2015) assume telicity based on spoken language (English) glosses. Instead we use two complementary strategies:

#### 1 Lexico-conceptual test applied to ASL:

Context: *Mary ... is working on an essay, which she started on Monday and finished on Friday.*

(1) Q: What did Mary do this week?

A: IX-Mary WRITE-Endstate ESSAY

(2) Q: What did Mary do on Tuesday?

A: # IX-Mary WRITE-Endstate ESSAY

#### 2 ASL specific tests (Rathmann 2005):

(3) BOY-a IX-a NEED 5 MIN WALK #(3 ROUND).

(4) STILL RUN? vs. #STILL PUBLISH?

→ Conclusions summarized in Table 1

### 3. Telicity vs. Aspect



Figure 2: WRITE-rep (without Endstate)

For lexico-conceptual test (see above) to really track telicity, need to be sure not in imperfective aspect

- Some ASL verbs clearly not in imperfective since they “fail” test, which requires telic predicates + non-imperfective aspect, but...

#### Might Endstate track perfectivity?

- ASL has many aspect markers (Rathmann 2005)
- 50% of spoken languages (according to WALS) have perfective/imperfective marking
- Alternating verbs like WRITE (Table 1) may be evidence in favor, given interpretations

### 2. Lexical coverage

Previous work focuses only on extreme endpoints like STEAL and PLAY (equivalent in mass/count of English *milk*, *cat*, ignoring *furniture* and *stone(s)*).

- Instead, include 23 verbs based on agreement by 3 Deaf signers of American Sign Language:

	Telic	Atelic
With End-State	STEAL, DIE, DESTROY, LEARN, READ, WRITE, DRIVE, TYPE, SKI, DRINK	DRINK, SLEEP, IMAGINE, THINK
No End-State	SWIM, SKATE, LECTURE, PAINT, DANCE, BUILD	PLAY, STORYTELL, STUDY, BREATHE, READ, WRITE, DRIVE, TYPE, SKI, SWIM, SKATE, LECTURE, PAINT, DANCE

Table 1: Verb form/meaning distribution (Note: verbs in black pattern as predicted by the EVH, verbs in green are consistent)

## Still open: Morphological status

In its original formulation, the EVH is also a claim of **morphemic status of EndState marking**

- Kuhn (2017) focuses on ambiguity not predicted by Wilbur (2008)’s morphemic account:

(5) a. DIE(with small movement) ‘start to die’

b. DIE(with fuller movement, missing endpoint) ‘almost/close to dying’

(6) GIVE(fast)-GIVE(slower)-GIVE(slowest)

‘give repeatedly, while decelerating’

Proposes a lexical-conceptual account, with an iconicity function in the lexical entry for a subset of predicates in ASL, by which telicity is a by-product of reaching the boundary

- What determiners which verbs take this function?
- Why available only in sign languages? What role does gesture play?
- Alternators instead suggest morphemic analysis

## Insights from alternating verbs

We highlight the pattern seen in **alternating verbs** (e.g. WRITE, READ, DRIVE, TYPE, SKI)

- Suggest paradigmatic contrast, supporting the idea that presence/absence of EndState does involve a morphological alternation
- The No-End-State form consistently involves (non-pluractional) internal repetition, may itself be marker of progressive or general imperfective

## Conclusions

- “Event Visibility” is overly simplistic
- Sign languages are more similar to spoken languages in this area than generally assumed

## Acknowledgements

Many thanks to Kate Henninger and Andrew Bottoms for detailed consultations, Dorothy Ahn for elicitation stimuli, and feedback from audiences at the 2017 LSA Meeting and Harvard’s Language and Cognition group.

## References

- Caselli, N. K., Sehyr, Z. S., Cohen-Goldberg, A. M., and Emmorey, K. (2017). ASL-LEX: A lexical database of American Sign Language. *Behavior research methods*, 49(2):784–801.
- Klima, E. S. and Bellugi, U. (1979). *The signs of language*. Harvard University Press.
- Kuhn, J. (2017). Telicity and iconic scales in ASL.
- Kuhn, J. and Aristodemo, V. (2017). Pluractionality, iconicity, and scope in French Sign Language. *Semantics and Pragmatics*, 10.
- Malaia, E. and Wilbur, R. B. (2012). Kinematic signatures of telic and atelic events in ASL predicates. *Language and Speech*, 55(3):407–421.
- Rathmann, C. G. (2005). *Event structure in American Sign Language*. PhD thesis, University of Texas at Austin.
- Strickland, B., Geraci, C., Chemla, E., Schlenker, P., Kelepir, M., and Pfau, R. (2015). Event representations constrain the structure of language: Sign language as a window into universally accessible linguistic biases. *Proceedings of the National Academy of Sciences*, 112(19):5968–5973.
- Wilbur, R. B. (2008). Complex predicates involving events, time and aspect: Is this why sign languages look so similar. *Theoretical issues in SL research*, pages 217–250.
- Wright, T. A. (2014). *Strict vs. flexible accomplishment predicates*. PhD thesis, University of Texas at Austin.



Contact: kathryndavidson@fas.harvard.edu