Mandel, Mark A. 1979. Natural Constraints in Sign Language Phonology: Data from Anatomy. Sign Language Studies 24(1). 215–229. (Mandel 1979)

presented by Kie Zuraw, 14 Jan. 2020

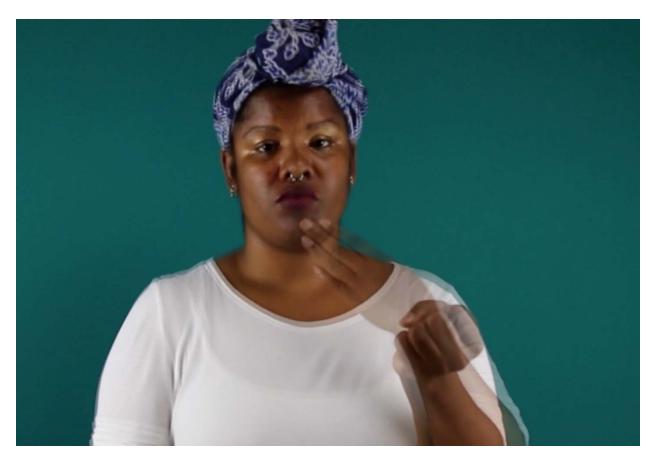
- **1.** The knuckle-wrist connection
 - It's hard to fully bend (flex, close) all three finger joints while also bending the wrist
 - Mandel's experiment to try
 - let your hand hang forward, relaxed
 - then curl up the fingers
 - wrist will probably straighten up
 - It's hard to fully straighten (extend or retroflex, open) all three finger joints while also extending the wrist
 - Mandel's experiment
 - extend your fingers as much as possible, so they actually arch back a little
 - extend wrist
 - fingers will probably go from retroflexed to straight
 - This is because the muscles that bend and straighten the knuckles pass over the wrist and aren't long enough
- 2. Search of the Dictionary of American Sign Language (Stokoe, Casterline & Croneberg 1965)
 - 62 signs where fingers open or close while wrist either flexes or extends
 - Most of them follow the pattern of avoiding knuckle-wrist conflict
 - o but not all!
 - o So this is a **probabilistic phonotactic** with **phonetic grounding**

Hand mov	ement	palmward	dorsad	7
Finger	open	17	8	25
action	close	8	29	37
		25	37	n = 62

(p. 220)

- 3. Loan adaptation of fingerspelled words into ASL
 - Battison's (1978) corpus includes 11 relevant examples (exactly 2 handshapes, change from first to second involves opening or closing fingers, wrist flexes or extends)
 - 9/11 follow the predicted pattern
 - o the two exceptions flex only one knuckle and may be restricted by the morphology of a native sign being copied over

	WRIST A		ACTION EXTENSION	ī		
opening finger action	#OR #OK #ASK	m				
closing	#NO #WOULD(b)	k (m) k m	#GO #BS #BUT #YES #WHAT(c) #WOULD(a)	k m (m)		
Legend:	(a), (b), etc., from Battison (1978), distinguish different forms of loan sign. Here unless noted such forms are combined; e.g. #YES(a) and #YES(b) are considered a single entry					
	k, finger action only at first knuckle					
	m, possible morphological modeling on a native sign					
	(m), possible morphological modeling only for some forms					



ASL BULLSHIT (B.S.) from (Hochgesang, Crasborn & Lillo-Martin 2019)

- From Mandel's description this is different from the B.S. reported in Battison, which is two-handed
- But it does still show a change from extended fingers/neutral wrist to flexed fingers/extended wrist

4. Variation or **diachronic change** in some ASL words

- EXPLODE
 - Citation form per (Stokoe, Casterline & Croneberg 1965): hands open while separating and uncrossing
 - iconic but phonetically unnatural
 - Mandel's consultant says "I know it should be like that, but..." and closes her hands while separating and uncrossing
 - uniconic, phonetically natural
 - o A more recent citation form shows handshape not changing at all:
 - by the way, I also looked at a few ASL news videos about explosions, and they seemed to use the older form



(Hochgesang, Crasborn & Lillo-Martin 2019)

STEAL

- Citation form per (Stokoe, Casterline & Croneberg 1965): should and elbow do the work of moving hand as fingers close from V to bent-V shape
 - Similar citation form from Lifeprint:



 But Mandel's consultant accomplishes most of the hand motion by extending the wrist (while flexing the fingers)

¹ https://www.lifeprint.com/index.htm

References

- Battison, Robin. 1978. Lexical borrowing in American Sign Language. Silver Spring: Linstok Press. Hochgesang, Julie, Onno Crasborn & Diane Lillo-Martin. 2019. ASL Signbank. New Haven, CT: Haskins Lab, Yale University. https://aslsignbank.haskins.yale.edu.
- Mandel, Mark A. 1979. Natural Constraints in Sign Language Phonology: Data from Anatomy. *Sign Language Studies* 24(1). 215–229. doi:10.1353/sls.1979.0006.
- Stokoe, William, Dorothy Casterline & C. Croneberg. 1965. *A Dictionary of American Sign Language on Linguistic Principles*. Silver Spring, MD: Linstock Press.