

Deconstructing notions of morphological complexity: lessons from Creoles & sign languages

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SignMorph

Who we are



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Outline

- Background
 - Complexity metrics
 - Morphology in sign languages
 - Relationships between complexity and (i) time depth (ii) linguistic typology
- Recommendations

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Complexity metrics

complexity of a language

phonetics - phonology - **morphology** - syntax - ...

inflectional - derivational

The diagram consists of two arrows pointing downwards from the word 'morphology' in the line above. A red arrow points to the word 'inflectional' in the line below, and a black arrow points to the word 'derivational' in the line below.

(formal) Morphological complexity

- Formal complexity metrics count **units** (within other units)
 - Higher number = more complex
- The units differ
 - **Morphemes** in words
 - ***Meanings** marked in morphemes
 - **Features** marked e.g. in a phrase
 - Times the **same meaning** is marked in a phrase/clause

Turkish vs. Spanish

tan- **iş-** **tır-** **il-** a- **ma-** **dık-** **lar-ın-** dan- **dır**

know-**RECP-CAUS-PASS-** can- **NEG- NMLZ-** **PL-3.POSS-** able- **3.COP**

'It is because they cannot be introduced to each other'

(Bickel & Nichols 2007: 191)

yo habl- **é**

1.SG speak- **1SG.PST.IND.PFV**

'I spoke' (Vellupillai 2012)

Spanish is more complex than Turkish
under this metric because
a single morpheme is
marking multiple meanings

Flaws

- Inflectional morphology used to characterise languages as wholes
 - why inflection when most Atlantic Creoles are derived from languages without a lot of inflection?
 - why *only* inflection?
 - why characterise languages that do not show inflection with inflection? (Bonami & Luís 2013)
- Complexity metrics are arbitrary
 - They do not arise from an independent theory of complexity (DeGraff 2001)

Morphology in sign languages

“The paradox of sign language morphology”

*“Sign languages seem to present the impossible combination of **Navajo-like** and **Tok-Pisin-like** languages, a typological puzzle”*

(Aronoff et al. 2005)

“The paradox of sign language morphology”

*“Sign languages seem to present the impossible
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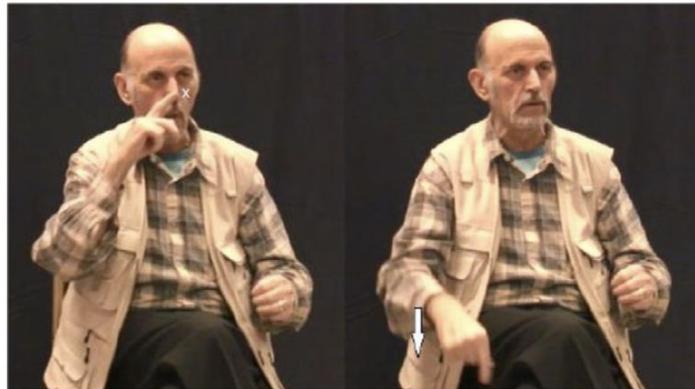
*agglutinating/fusional
i.e. “complex”*

*analytical
i.e. “simple”*

(Aronoff et al. 2005)

Why “Tok Pisin-like”?

- Tok Pisin likely used to represent simplicity, in colloquial and linguistics-senses
- Morphology does not look like it does in spoken languages
- It is not necessarily **sequential joining of affixes**



UN-

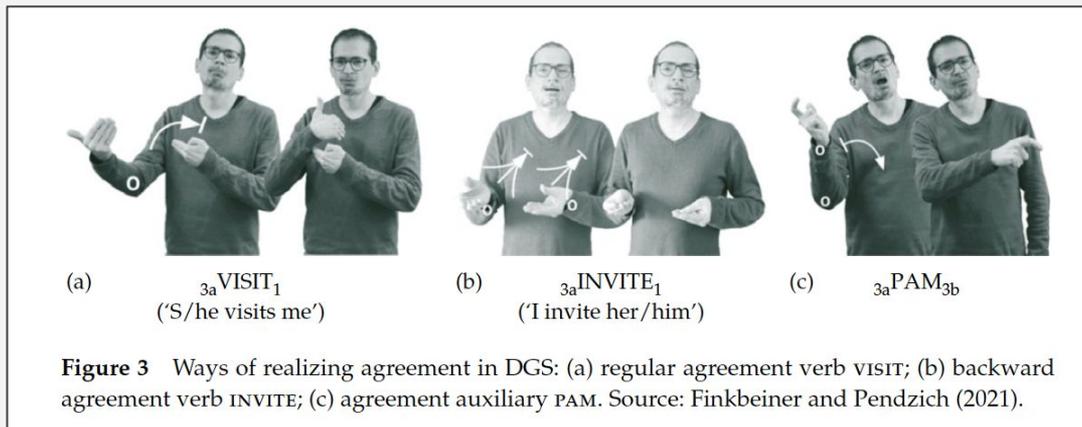
DEEP

Negative prefix in NGT. Source: Klomp (2021, 186).

Examples like this are likely very uncommon across sign languages

Why “Navajo-like”?

- Navajo used to represent complexity
- Sign languages can mark grammatical properties in ways not observed or possible in spoken languages
 - this can be viewed as “complex” (in a colloquial sense)



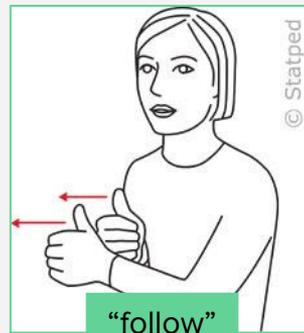
Subject and object marked by beginning and end points of signs respectively

Why “Navajo-like”?

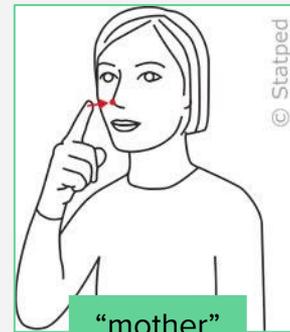
- Sign languages show classifier predicates



The six ducklings turn back and follow their mother



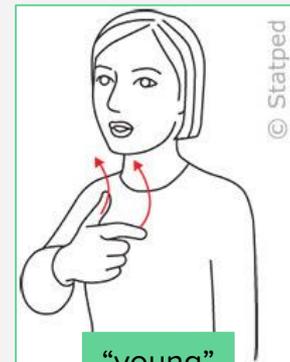
“follow”



“mother”



“duck”



“young”

Flaws

- Uncritical extrapolation from ideas about Creole complexity to sign language complexity
- Not much is known about sign language morphology and the prevalence of “complex” structures
 - most examples are cherry-picked from Western sign languages
- Comparing structures in sign languages that do not have parallels in spoken languages e.g. use of space to mark thematic roles

Relationships between complexity and (i) time depth (ii) linguistic typology

Time depth and complexity

- Argument

- Complexity, that is inflectional morphology, takes time to develop

- Implication

what is considered a language is ideological e.g. pidgins vs. creoles

- **Languages** that developed later should be less complex than those that developed earlier

- **Creoles** should be less complex than **other languages**

*typical understanding is
the Atlantic Creoles*

*only spoken languages, probably
biased to Indo-European languages*

Creole Exceptionalism/Distinctivism

- *“a set of beliefs, widespread among both linguists and non-linguists, that creole languages form an exceptional class on phylogenetic and/or typological grounds”* (DeGraff 2005: 533)
- linked to McWhorter (2001 and others), *“The world’s simplest grammars are creole grammars”*
 - Also Peter Bakker, Mikael Parkvall, David Gil

McWhorter (2001) complexity metric

- (inflectional) morphology
 - more units = more complexity due to assumed greater learning/processing difficulty
 - inflectional morphology used to argue for overspecification, structural elaboration and irregularity as it *“vividly embodies all the types of complexity”* (McWhorter 2007)
- Phonemic inventories, syntax, semantics/pragmatics
 - more rules = more complexity

Large-scale quantitative analyses

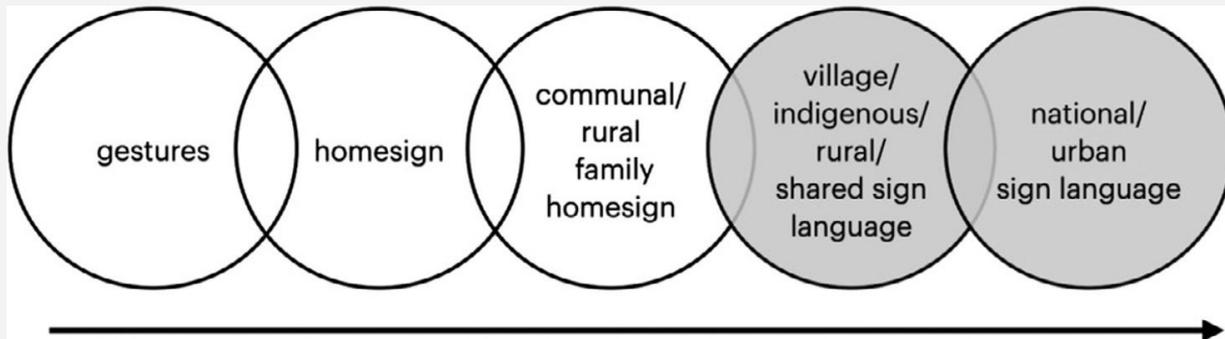
- Bakker et al. (2011)
 - 5 studies
 - Features from samples of Creoles (Hancock 1987; Holm & Patrick 2007 cited in Bakker 2011)
 - Creoles with different lexifiers, geographical spread, development history
 - Do not find a statistically significant relationship between presence of Creole features and lexifier, area, type and age

Large-scale quantitative analyses

- Blasi et al. (2017)
 - Compare 48 Creoles with 111 non-Creoles
 - find the Creole signal that Bakker et al. (2011) report
 - determine that it is due to over-representation of European and West African languages in sampling

Associations between language groupings and complexity

- McWhorter (2001 etc.) popularised the idea that Creoles are “simple” in comparison to **all** other languages
- There is a similar idea in which national sign languages, like American Sign Language (ASL), are assumed to be more complex or a developmental target for sign languages in less-industrialised contexts of lower mobility, like Kata Kolok and Kufr Quassem Sign Language (Kusters & Hou 2020)



Flaws

- Creole signal in Bakker et al. (2011) and Blasi et al. (2017) is due to an ascertainment bias (Meakins 2022)
 - Features to be measured are chosen from samples of Creoles
 - Features should be randomly selected from all languages

Flaws

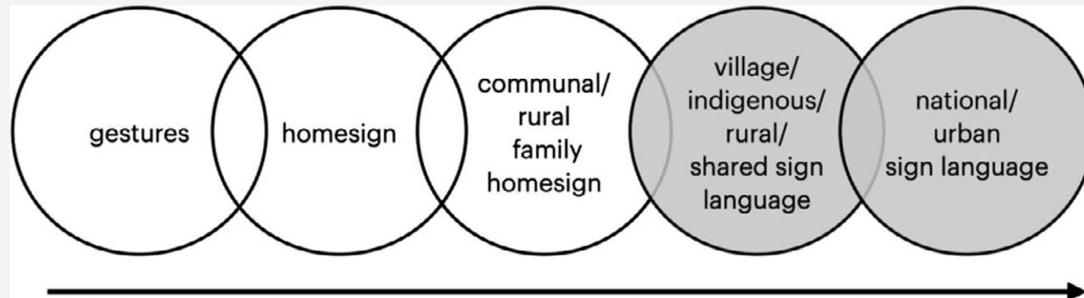
- Ideas about the simplicity of Creoles are rooted in colonialism
- Age in languages is impossible to measure (DeGraff 2001)
 - Creoles and sign languages are thought of as “young” because their development was observable in recent time
 - A direct correlation between age and complexity cannot be made while accounting for language change and language contact

Flaws

- Complexity in metrics like McWhorter (2001) should be gradient, but is treated categorically e.g. Creoles are “simple” not “simpler”

Flaws

- Linguistic continua like this one cannot be separated from global power inequalities
 - We cannot assume that Kufr Quassem Sign Language – a sign language used in a Palestinian community in what is now known as Israel – will necessarily look like Israeli Sign Language as it “matures”



Recommendations

Recommendations

- Do not use limited examples of morphology without usage data to characterise entire languages (also Bonami & Luís 2013)
- If using examples as illustrations, mark prevalence/indicate that prevalence data does not exist

Recommendations

- Do not use complexity to argue for the legitimacy of a language – languages are legitimate for their social and cultural value to their users NOT because of their form
- Avoid reductive framing like *“The world’s simplest grammars are creole grammars”*
 - Be more specific e.g. *“A study of 3 creoles and 3 non-creoles shows differences in one measure of complexity”*

Recommendations

- Do not assume that complexity (structure), time depth and sociolinguistic typology are straightforwardly related
 - Adopt a “simple” view of complexity that treats complexity “*as a descriptive category.. and excluding from its definition any theoretical assumption about when, how and why it increases or remains constant*” (Pallotti 2015: 199, also Andrason 2014)

Recommendations

- Avoid **uncritical** inter-/intra-disciplinary transfer
 - e.g. Analogies between Creole and sign language morphology are weak because the literatures differ in how they conceive of complexity
 - Ensure that comparisons are indeed comparable

Recommendations

- Do not think of science as free of ideology
 - The idea that Creoles are not different from other languages is *“imbued with a quiet moral threat”* (McWhorter 2018: 108)
 - *“I have no hidden agenda, no ideology, no prejudice... Facts about language should be our guide, not some ideology”* (Bakker 2014, 2016: 432)
 - Quantitative analysis is not neutral

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Thanks!