Meaning and measures: Supplementary material

1 SUPPLEMENTARY TABLES AND FIGURES

1.1 Tables

Table S1: Results of the systematic review of CHIELD. Cases that deserve special attention are marked with an asterisk and discussed in the main article text.

Study	Hypothesis	Complexity type	Measure	Measure type	Study type
Atkinson et al. (2018a)	larger groups and more shared knowledge → more transparent linguistic conventions	relative	description systematicity; use of geometric descriptions	absolute	
	larger groups and more shared knowledge → more transparent linguistic conventions	relative	interpretability of descriptions by naive observers	relative	
Atkinson et al. (2018b)	non-native speakers acquire a simpler morphological system	relative	number of parameters in a descriptive model	absolute	experiment
	learning input from both natives and non-natives → simplification	relative	number of parameters in a descriptive model	absolute	
	native speakers simplify their language when talking to non-natives	relative	proportion or regularized forms	absolute*	
Baechler (2014)	languages spoken by small and isolated communities with a dense network may complexify their grammar	absolute	number of morphological features in a formalized representation of paradigms	absolute	typological
Bentz (2016)	prehistoric language contact around equator → morphological simplification	relative	word entropy	absolute	corpus

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Study	Hypothesis	Complexity type	Measure	Measure type	Study type
Bentz and Berdicevskis (2016)	imperfect acquisition by adult learners → morphological simplification	relative	word entropy	absolute	corpus; experiment
Bentz and Winter (2013)	more adult learners → loss of case	relative	presence/number of cases in the grammar	absolute	typological
Frank and Smith (2020)	language simplification can occur during natural population growth as a result of increased numbers of learners in the population	relative	number of variants shared by all adult agents in the population	absolute	agent-based model
Good (2015)	creolization facilitates paradigmatic simplification rather than syntagmatic	relative	number of linguemes	absolute	typological
Hudson Kam and Newport (2009)	adults will reproduce inconsistent input	relative	proportion of main variant	absolute	experiment
	children will regularize inconsistent forms	relative	proportion of main variant	absolute	
Kemp and Regier (2012)	good systems of categories are simple, and they enable informative communication	relative	minimum description length	absolute	typological
Koplenig (2019)	more adult learners → simpler morphology	relative	values of grammatical features	absolute	typological
	more adult learners → higher info-theoretic complexity	relative	minimum-description-based entropy	absolute	corpus
	larger population → simpler morphology	unspecified*	values of grammatical features	absolute	typological
	larger population → higher info-theoretic complexity	relative	minimum-description-based entropy	absolute	corpus

Study	Hypothesis	Complexity type	Measure	Measure type	Study type
Kusters (2003)	Large societies with loose social networks will have simpler morphology	relative	presence of certain grammatical features	absolute*	typological
Lewis and Frank (2016)	Longer descriptions should be more conceptually complex	relative	number of primitive parts in the artificial meaning stimuli	absolute	experiment
	if conceptual complexity is related to a basic cognitive process, we should be able to measure it using an implicit task	relative	study time of objects in a memory task	relative	
	the complexity→length bias should be observed in natural language, too	relative	explicit rating task	relative	
Lupyan and Dale (2010)	as adults learn a language, features that are difficult for them are less likely to be passed on to learners	relative	values of grammatical features	absolute	typological
Nichols and Bentz (2018)	high altitude → isolation → morphological complexification	unspecified	number of units in a grammatical (sub)system; number of departures from the ideal form-function; word entropy	absolute	typological; corpus
Nichols and Bentz (2018)	low altitude → contact → morphological simplification	relative		absolute	
Rácz et al. (2019)	speaker group size → kinship complexity	relative	number of distinctions across cousin terms	absolute	typological

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Study	Hypothesis	Complexity type	Measure	Measure type	Study type
	specific social practices → kinship complexity	absolute	number of distinctions across cousin terms	absolute	typological
Reali et al. (2018)	small linguistic communities favour linguistic innovations that are hard to learn	relative	predefined property of a modelled convention	relative	agent-based model
Reilly and Kean (2007)	imageability → word structure → learnability and processing ease	relative	formal properties of a word: length, syllable structure etc.	absolute*	corpus
Sinnemäki (2014)	complexity trade-off (best explained by processing preferences) exists between case marking and rigid word order	relative	grammatical properties of case marking system and word order	absolute	typological
Szmrecsanyi and Kortmann (2009)	contact → less ornamental complexity	relative	number of certain grammatical rules	absolute	typological
	contact → less ornamental complexity	relative	number of certain grammatical rules	absolute	typological
	contact → less L2-difficulty	relative	number of certain features judged to be L2-difficult	absolute*	typological
	contact → less grammaticity	relative	text frequency of grammatical markers	absolute	corpus
	contact → more transparency	relative	share of regular allomorphs as a percentage of all bound grammatical morphemes	absolute	corpus
Tinits et al. (2017)	contextual pressures → referential overspecification	relative	number of communicatively irrelevant markers	absolute	experiment

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