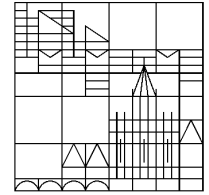Universität
Konstanz

Adult language acquisition and change

STARFISH

SOCIOLINGUISTIC TYPOLOGY
AND RESPONSIVE FEATURES
IN SYNTACTIC HISTORY

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Universität Konstanz

Diachronic Generative Syntax (DiGS) 24, Paris, July 2023

This talk

What is the place of adult language acquisition in theorizing about syntactic change?

- Child vs. adult language acquisition
- Conceptual foundations for adult language acquisition
- Studying adult language acquisition and change empirically:
  the STARFISH project

This talk: definitions

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Definitions:

- **Child** language acquisition (L1+):
  acquisition **during** the critical period
- **Adult** language acquisition (L2+):
  acquisition **after** the critical period

Existence of critical/sensitive periods is by now uncontroversial (Guasti 2016: §1.5)

Child language acquisition

Child language acquisition has always been central to formal approaches to diachronic linguistics (Halle 1962; Closs 1965; Lightfoot 1979; Roberts 2022: ch. 3)

Whitman, Jonas & Garrett (2012: 4): **"syntactic change (and language change generally) is basically about what happens in first language acquisition"**
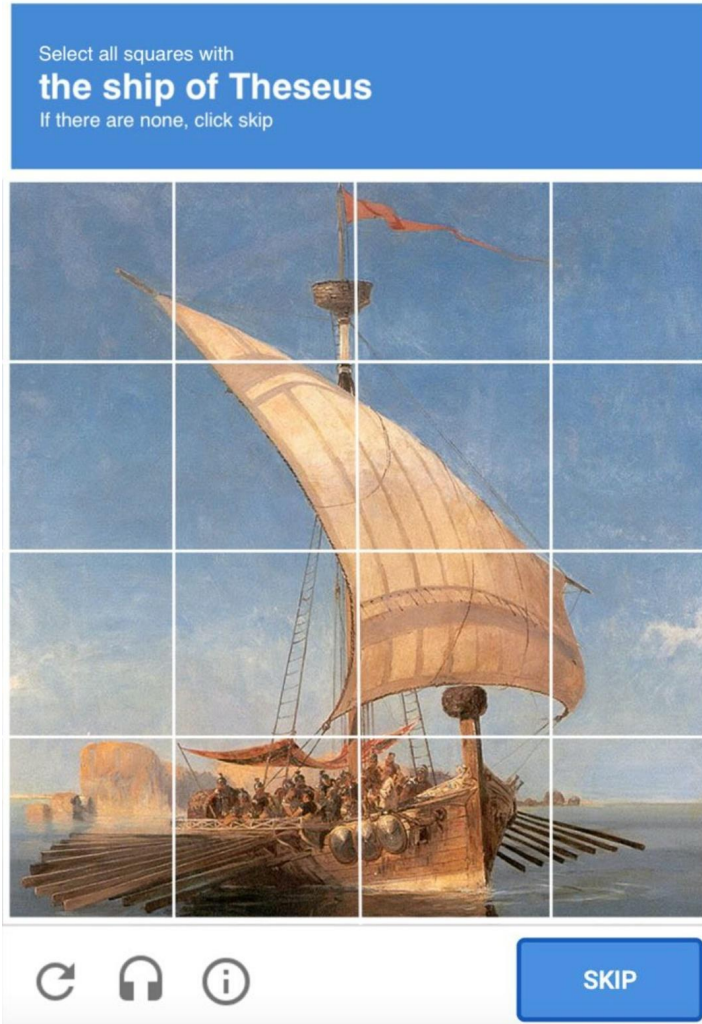
Link to what Jonas, Whitman & Garrett (2012) call the "basic methodology of generative work on syntactic change"

– Careful formal description of synchronic language stages

– Emphasis on reliable and well-understood data (and languages)

– Scepticism towards independent diachronic principles

"Languages" as the Ship of Theseus

Select all squares with
the ship of Theseus
If there are none, click skip

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"Writers seem to regard grammars as historically transmittable, as objects floating smoothly through time and space … this is essentially a mystical view; grammars are discontinuous—created afresh by each language learner, who is influenced only by the data to be mastered and the theory of grammar restricting available hypotheses"
(Lightfoot 1979: 388)

"the Ship of Theseus is simply a case where our concepts just don't give an answer … the objects that we talk about are really objects of thought which are constructed by mental operations"
(Chomsky 2009)

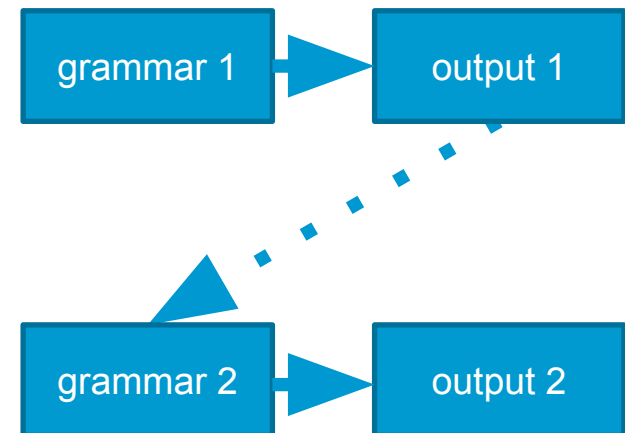**STARFISH**

Logical possibilities

If languages are not smoothly-floating objects over time (see also Walkden 2021) **then what we pretheoretically call "language change" involves different grammars in different minds at different points in space and time.**

Two logical possibilities:
i. Differences **between** minds
ii. Change **within** minds

Most writers in the DiGS tradition have gone with option i.: innovations arise due to "the gulf between speaker and hearer", "a cloud of murky E-language" (Walkden 2014: 32).

This is the heart of Andersen's (1973) model of change, which I called the "Z-model" (2014: 32).

Evidence for option i.: differences between minds

In early work (e.g. Lightfoot 1979), the link between child language acquisition and change was central, but usually not based on detailed engagement with acquisition literature or evidence.

Since the 1990s, DiGS work has also incorporated engagement with formal models of learning and learnability (e.g. Niyogi & Berwick 1995, Yang 2002, Kodner 2020)

Since the 2010s, DiGS work has also incorporated direct engagement with experimental and corpus-based work on child language acquisition (see esp. Cournane 2014, 2017)

– Cournane (2014): children make input-divergent lexical mappings with modals in the direction of root > nonroot, as we see in the historical record

Arguments against option i.

Bybee & Slobin (1982), "Why small children cannot change language on their own": widely cited as evidence against a role for children in change (e.g. Croft 2000: ch. 3)

But in fact they show that morphophonemic innovations in *all three* groups they study – preschool children, third-grade (8–9yo) children, and adults – parallel ongoing change.

"It seems reasonable to conclude, then, that young children are not the only, and perhaps not the primary instigators and perpetrators of morpho-phonemic change" (B&S 1982: 34)

"Our data suggest … that current changes in a language will be better reflected in adult innovations, and that adults are actually responsible for carrying out morpho-phonemic change. Young children, on the other hand, give a better indication of the full range of possible changes" (B&S 1982: 37)

# The child acquirer can't *not* be involved in change

As is often observed (see e.g. Roberts 2022: 345), the idealization in L1 acquisition studies that children converge perfectly to the "target" grammar cannot be maintained in a theory in which child input-divergent innovations result in diachronic change.

Walkden (2012): even if child language acquisition is deterministic, there is no guarantee that the PLD will lead to target convergence!

This fact casts doubt on a strong "inertial" theory of syntactic change (Longobardi 2001).

"even if the PLD comes from a single target grammar, the actual data presented to the learner is truncated, or finite. After a finite sample sequence, children may, with non-zero probability, hypothesize a grammar different from that of their parents" (Niyogi & Berwick 1995: 896)
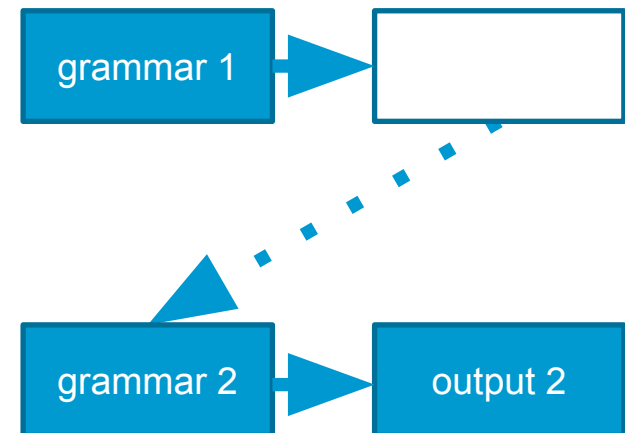
Evidence for option ii.: change within minds

Grammar change within minds clearly exists, in the form of development/maturation.

$< S_O, …, S_S >$ (e.g. Roberts 2022: 317; cf. Cournane 2019)

What about post-critical-period change, i.e. lifespan change?

The 'adolescent peak' (e.g. Tagliamonte & D'Arcy 2009) and evidence from sociosyntactic studies more broadly (e.g. Sankoff 2019) show that frequency changes across the lifespan, among already-acquired options, are possible.

More general research on syntactic change across the lifespan suggests that it depends what and when (Anthonissen & Petré 2019).

Following Roberts's (2019: 75–89) parameter-size approach, we might speculate that **nano**parameters and (to a lesser extent) **micro**parameters are susceptible to lifespan change, but **meso**- and **macro**parameters are not.

The 'A-rule' approach

Andersen (1973: 773): the acquirer 'can devise ad-hoc rules to cover up the inadequacy of his [sic] analysis': ADAPTIVE rules or A-rules. These can be added later in life.

cf. Closs (1965: 402), following Halle (1962): "innovations consist primarily in the addition of single rules to the grammar of the adult speaker. … [T]hese innovations are passed on to the next generation when the child imitates the adult. A child may internalize the adult's grammar; or, more probably, he [sic] will simplify it. This is because children have an ability, not shared by most adults, to construct … the simplest grammar capable of generating sentences."

We will return to the A-rule approach later.
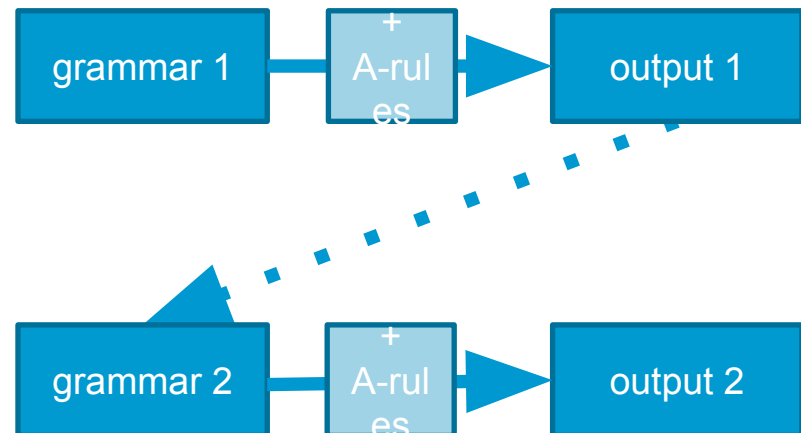
Excluding lifespan change by fiat

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Faarlund (1990: 10): "the internalized grammar of an adult speaker may change", but "such changes do not constitute a diachronic linguistic change until a future generation of speakers have adopted the mixed system as their own".

Defining diachronic linguistic change in this way is coherent, but not very helpful.

Adult (second/subsequent) language acquisition

Adult language acquisition (of an L2+), after the critical period, is also lifespan change (in that it occurs after S_S has been reached).

In generative work, the diachronic consequences of adult language acquisition have been under-researched (important exceptions: Weerman 1993, Meisel 2011).

The project STARFISH (Sociolinguistic Typology And Responsive Features In Syntactic History) is an attempt to remedy this situation.

Like Weerman and Meisel, I'll argue in this talk that adult language acquisition can play an important role in change – alongside (not instead of!) child language acquisition.

Transfer/CLI

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Transfer effects – what is usually called cross-linguistic influence (CLI) in the adult acquisition literature – are the most straightforward case of L2 influence in diachrony.

Generally instances of "imposition" in the terminology of van Coetsem (1988, 2000) and Winford (2005).

Example: Pereltsvaig (2015), building on Santorini (1989), argues that embedded V2 in Yiddish arises from L1 Slavic speakers learning Yiddish as adults and imposing aspects of Slavic syntax.

I'll put aside transfer effects today – though they show a clear role for adult acquisition.

What's special about adult language acquisition?

In other words: what's the difference between acquisition within the critical/sensitive period(s) and acquisition afterwards?

There is an entire field of scholarship dedicated to answering this question: see White (2003) for an overview.

Any attempt to theorize about the role of adult language acquisition in diachrony should take its lead from this literature, and not develop hypotheses *ex nihilo*.

UG or not UG: is that the question?

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Early (pre-2000) work attempted to characterize adult acquisition in terms of access (full, partial, or none) to UG.

In the context of GB/early P&P this made sense. But in the context of the Minimalist Program it doesn't seem hugely useful (cf. Bley-Vroman 2009).

What is in UG? Biberauer (2019a):

a. "the basic operations:

   i.   feature-sensitive – as opposed to 'blind' or Simplest – Merge, and

   ii.   likewise feature-sensitive Agree,

b. a formal feature template of some kind (e.g. [iF]/[uF]), or possibly just the notion 'formal feature, distinct from phonological and semantic feature' (i.e. [F]) to be fleshed out in ways appropriate to the substantive content of the formal features in the system."

Without all of this (and absent some other mechanism), no language is possible.

Is there a difference?

Yes.

Bley-Vroman (2009): adult language learning is a) not reliable and b) not convergent.

Ultimate attainment is generally limited, if we use the right tasks to assess it.

Even extremely proficient L2 learners of Spanish (who perform at ceiling in offline comprehension tasks) display errors in elicited production of grammatical gender agreement (Grüter et al. 2012).

Are all differences due to L1 transfer?

No.

This view predicts that L2+ competence in aspects where the L1 and L2+ are identical should also be identical (and performance hence at ceiling).

This prediction can be shown to be false.

–Sorace et al. (2009: 464): adult learners of any null subject language appear to "use overt subject pronouns as a compensatory 'default' strategy", regardless of the structure of their L1.

–Bini (1993): this also holds for L1 Spanish speakers learning Italian.

So what's the (fundamental) difference?

Early (pre-2000) work attempted to characterize adult acquisition in terms of access (full, partial, or none) to UG.

In the context of GB/early Principles & Parameters this made sense. But in the context of the Minimalist Program it seems like a mistake (cf. Bley-Vroman 2009).

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Without all of this (and absent some other mechanism), no language is possible.

Characterizing the difference

Bottleneck Hypothesis (Slabakova 2009)

Adult acquisition of syntax is unproblematic in and of itself, but restricted by the difficulty of acquiring functional morphology.

Interface Hypothesis (Sorace 2011)

Properties of syntax that must integrate with other types of information such as pragmatics, semantics or prosody are vulnerable in adult acquisition.

Interpretability Hypothesis (Hawkins & Hattori 2006; Tsimpli & Dimitrakopoulou 2007)

Uninterpretable features are not accessible to adult acquirers.

(Variant, not adopted here: only those uninterpretable features that are not part of the L1 are inaccessible to adult acquirers)

More on uninterpretable features in diachrony

Interpretability Hypothesis (Hawkins & Hattori 2006; Tsimpli & Dimitrakopoulou 2007)
Uninterpretable features are not accessible to adult acquirers.

In Minimalist syntactic theory, **uninterpretable** features:
- are present only within the syntax
- have no interpretation at the interfaces (i.e. no semantic content)

Applied to diachrony: Walkden & Breitbarth (2019), building on Trudgill (2011), predict that, in sociohistorical situations in which adult L2 learners are dominant, uninterpretable features will typically be lost over time.

- STARFISH investigates this hypothesis (and related ideas).
- Quantitative analyses and fine-grained investigations of historical corpora (e.g. including geographical predictors) have the potential to shed more light on these questions than simple "before vs. after" grammar comparison.

"Patches" in adult language acquisition

Yanovich (2019), in his commentary on Walkden & Breitbarth (2019), makes an important point: if Agree is driven by uninterpretable features, and uninterpretable features are unavailable to adult acquirers, then agreement should be completely impossible for adult acquirers, contrary to fact.

Proposal: in the absence of uninterpretable features, adult learners draw on general strategies of non-linguistic cognition in order to 'patch' their grammar (the term is from Morgan 1972, applied to L2 learning by Bley-Vroman 2009).

Patching using higher cognition plausibly incurs a higher processing and production cost.

This is one way to understand findings such as those of Grüter et al. (2012) on Spanish gender agreement in L2 adult acquirers.

Two systems

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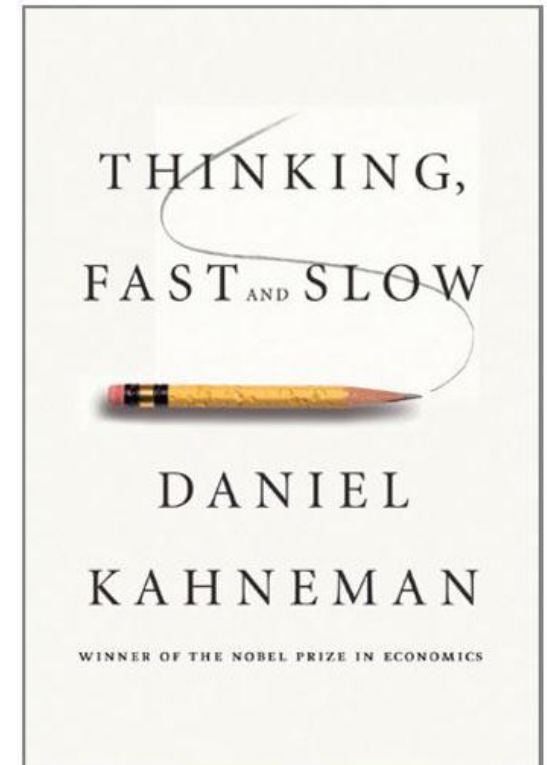**Kahneman (2011): human cognition is characterized by two modes.**

System 1
- fast
- instinctive
- below the level of consciousness
- characterized by heuristic reasoning

System 2
- slow
- effortful
- above the level of consciousness
- characterized by step-by-step reasoning

Generative linguistics is, on the whole, a theory of (the linguistic module of) System 1: everything we know about child language acquisition suggests that it belongs here.

"Patches" are part of System 2.

THINKING, FAST AND SLOW

DANIEL KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS

Case studies

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July 2023 **Adult language acquisition and change** **Universität Konstanz**

Thanks for your attention!

Thanks to the team: Henri Kauhanen, Gemma McCarley, Raquel Montero, Molly Rolf and Sarah Einhaus

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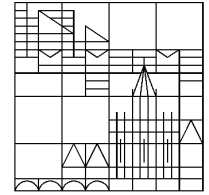
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