

Core Research Questions

- > **Mechanism:** Is the shift from synthetic to analytic structures universal or language-specific?
- > **Rate:** Does grammatical decay follow a constant mathematical rate?
- > **Contact:** Does translation accelerate internal structural drift?
- > **Method:** How do we bridge gaps in sparse historical data?

We investigate whether syntactic change follows universal laws or is driven by specific historical contingencies.

Interlingual Translation (LCTT)

- > Source language syntax often "**shines through**" into the translation.
- > Creates **Loan Translation Contagion**, where foreign patterns are copied.
- > Causes temporary **divergence** from natural native speech norms.



Translation acts as a contact mechanism that can introduce foreign structures and accelerate language change.

Models of Transmission

- > **Internal (Acquisition):** Children simplify complex input to reduce cognitive load.
- > **External (Diffusion):** Communities adopt features due to social prestige or contact.
- > **Competition:** These two forces constantly reshape the grammar.



Language evolution is driven by the constant tension between cognitive simplification and social emulation.

The Path of Grammaticalization

- › **Lexical to Functional:** Concrete words become abstract tools.
- › **Semantic Bleaching:** The original meaning fades (e.g., 'will' = 'want'
\$\rightarrow\$ Future).
- › **Decategorialization:** Loss of morphological inflection.
- › **Erosion:** Phonetic reduction of the word form.

This unidirectional process drives the massive shift from synthetic (case-based) to analytic (preposition-based) syntax.

Intralingual Retranslation

- > Updating a text within the **same language** over time.
- > Filters out transient, low-prestige variations.
- > Acts as a powerful **standardizing force** on grammar.
- > Reveals the "lag" between written and spoken forms.



Neogrammarians vs. Analogy

- > **Sound Laws:** Mechanical, exceptionless, and unconscious change.
- > **Analogy:** Cognitive pattern-matching that regularizes exceptions.
- > **Syntactic Reanalysis:** Speakers re-interpreting the underlying rule of a sentence.

We test whether syntactic change proceeds mechanically like sound change or relies on cognitive pattern matching.

The Diachronic Data Gap

- › **Elite Bias:** Surviving texts represent high-register, formal speech.
- › **Temporal Gaps:** Centuries of silence between key manuscripts.
- › **Dialectal Inequality:** Standard dialects overshadow regional variation.

Advanced computational modeling is the only way to reconstruct continuous linguistic timelines from sparse historical data.

Kroch's Constant Rate Effect

- > Change spreads via an **S-Curve** (slow start, fast middle, slow end).
- > **Uniformity:** The rate of change is constant across different contexts.
- > **Competition:** Old and new grammars compete in the speaker's mind.

Mathematical models predict that structural changes spread at a uniform rate, regardless of surface complexity.

The Greek-English Parallel

- > **Parallel Drift:** Both evolved from Synthetic to Analytic.
- > **Case Loss:** Both shed complex inflectional systems.
- > **Fixed Order:** Both adopted rigid word order constraints.
- > **Divergence:** English lost almost all case; Greek retained some.

Comparing these two distinct branches allows us to isolate universal drivers of change from language-specific accidents.

The Bible as "Constant Variable"

- > **Fixed Semantics:** The meaning remains constant across millennia.
- > **Conservative Register:** Resists colloquial change, preserving archaic forms.
- > **Quantifiable Deviation:** Easy to measure against secular texts.



Using a fixed source text allows us to isolate purely grammatical evolution, filtering out changes in topic or meaning.