

Introduction: Frequency is not theory-agnostic

Models of language change often focus on frequency as a driving force. Frequency is generally fairly simple to estimate, especially at the lexical level, and supposedly theory-agnostic. In particular, frequency has been demonstrated to be a driver of morphological and lexical change [1–3], especially (ir)regularisation [4, 5]. However, both regularity and frequency involve a number of subtleties such that even closely related languages with similar vocabularies and lexical frequency distributions can exhibit remarkable differences in their diachronic development, as evident in the comparison between English and German (cf. [6, 7]).

A world in a grain of sand: Microtypology

Previous work [7] showed that the different inflectional paradigms of German strong verbs (*Ablautreihen*) regularise at different rates, suggesting a sensitivity to factors beyond simple token frequency. As the German dialects show a remarkable diversity in verbal morphology, we sought an even more fine-grained microtypological comparison of regularisation by comparing German dialects.

Moreover, dialects are the language actually learned and spoken by native speakers. They therefore are more reflective of natural trends in language change and less bound to the distorting effects of standardisation. Dialects provide an excellent testing ground for theories of language change.[8].

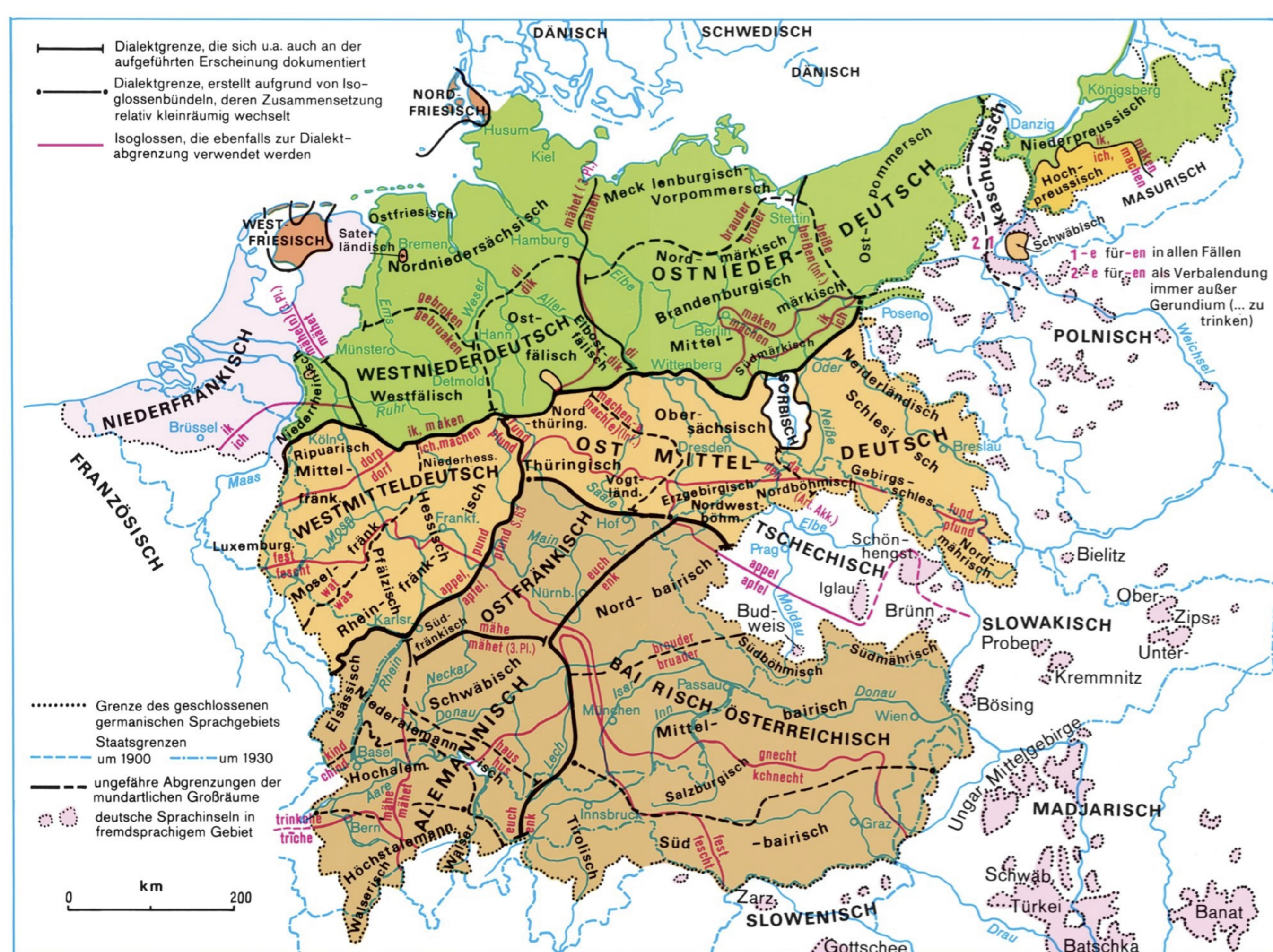
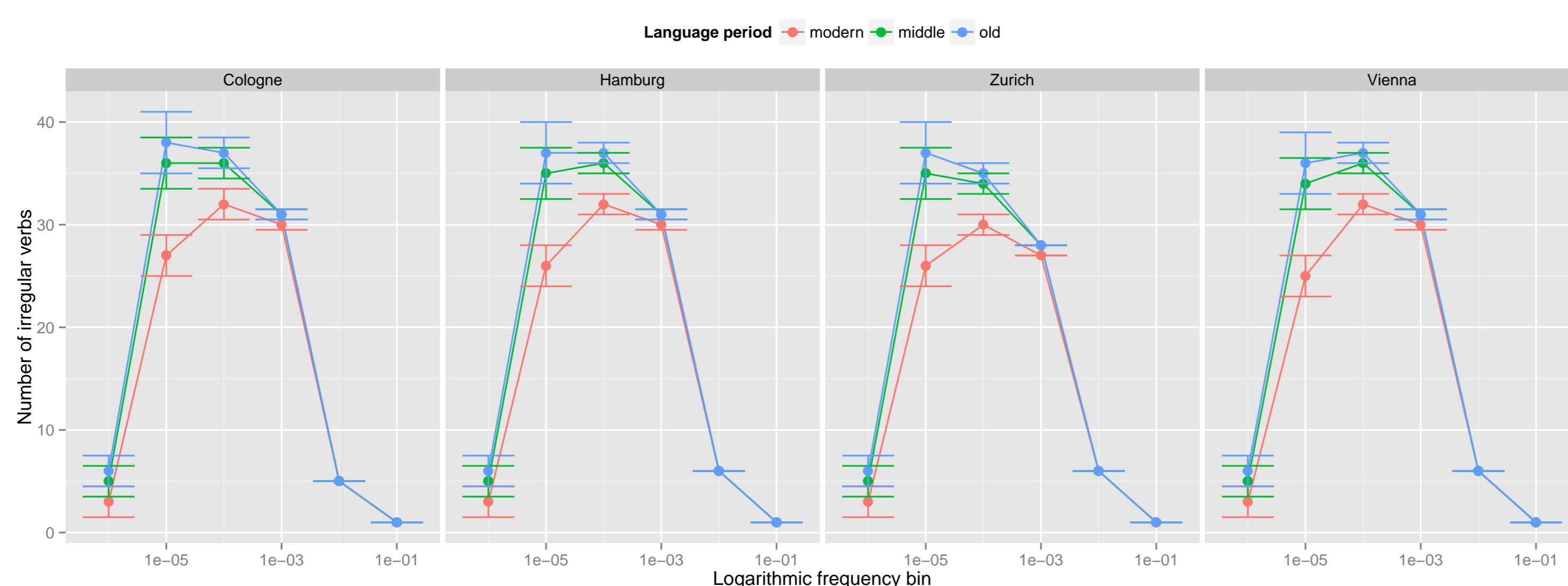


Image from [9], page 230–231

German provides a particularly nice language for study due to its long and extensive tradition of variational linguistics.

Everywhere you go, there you are: Results

The distribution of irregular verbs across time is approximately the same across dialects.



Divide and conquer: Procedure for regularisation

- Our analyses followed those presented in [5–7].
- Dialects were chosen to be representative of the major German dialect groups: Cologne (West Middle German), Hamburg (Low German), Zurich (Allemanic) and Vienna (Austro-Bavarian).
- City dialects were used as
 1. they represent the largest populations and are thus more representative
 2. their reference works were most complete and
 3. common vocabulary and hence word frequencies should be more comparable across cities.
- Regularity was determined based on reference works (grammars, lexika) for the dialect in question.
- In line with [5–7], frequencies were estimated using CELEX [10].

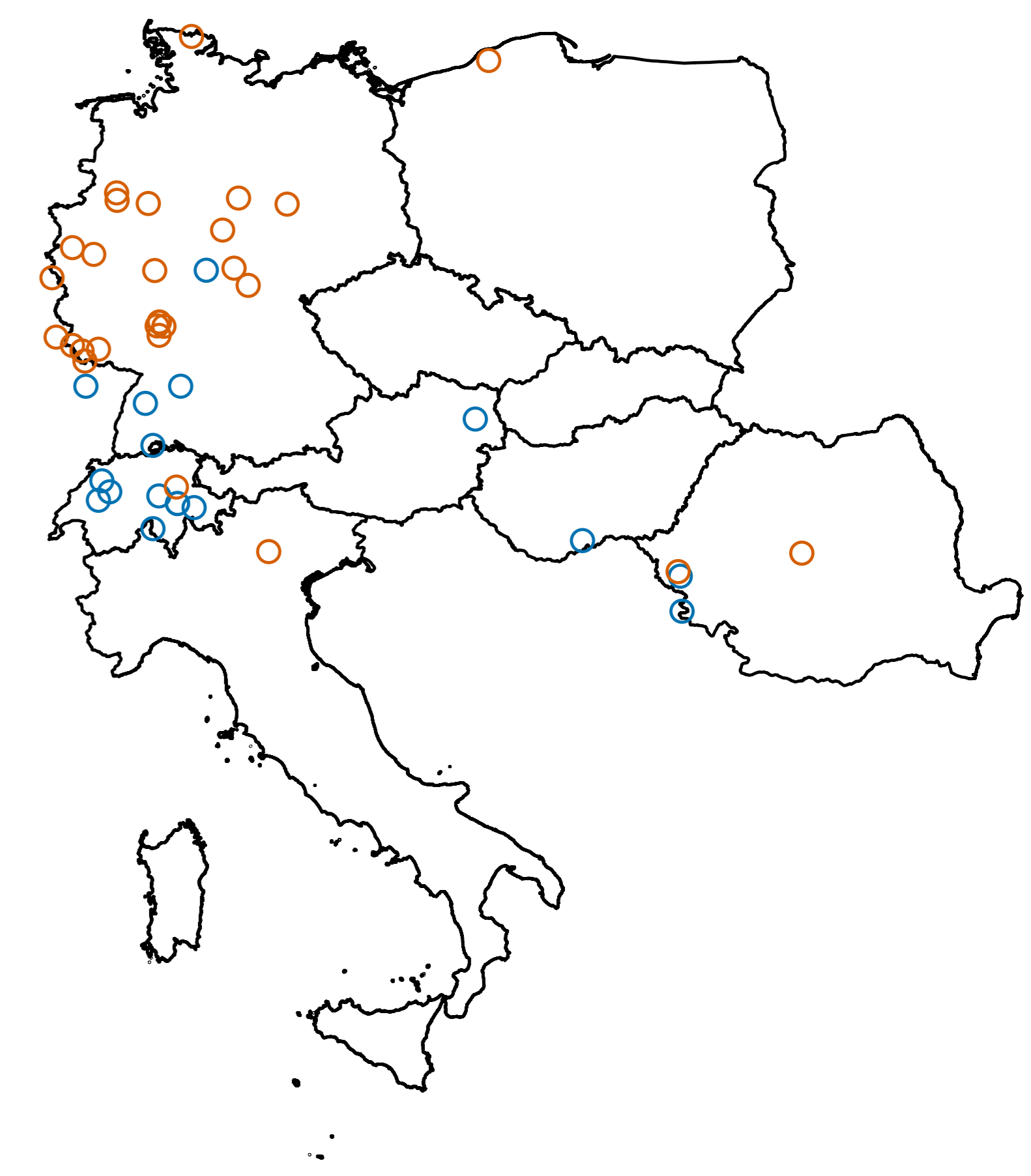
Tempest in a teacup: Morphological diversity within one language

The stability of regularisation patterns across dialects is surprising given the morphosyntactic diversity between regions. In the comparison between German and English, the subtleties of counting “types” in determining frequency underlined the importance of complex schemata in the stability of inflectional patterns [6, 7, 11]. A closer examination of the present data also reveals such subtle yet complex schemata with regional differences between different inflectional paradigms.

Back to the future: Regional patterns in the *Präteritopräsentia*

The *Präteritopräsentia* are a small group of verbs which follow a past-tense like inflectional paradigm in the present and include modal verbs.

These verbs show clear regional clustering in the **presence** or **absence** of syncretism between the infinitive and past participle (used to form one of the two main past tenses), as shown here for *dürfen* ‘to be allowed to, may’.



Cutting the Gordian knot: Global and local optima in morphology

In Standard German, the present perfect is formed via the combination of auxiliary and past participle. For the modal verbs, the embedding of an additional infinitive leads to the participle being replaced by an infinitive, a phenomenon called *infinitivus pro participio* (IPP).

- (1) Sie hat das tun wollen / *gewollt.
She has that do-INF want-INF / want-TCP.
“She wanted to do that.”

In OT terms, the IPP is a local optimum between two constraints [12]:

V-PART A participle must not embed a verb in the infinitive

MORPH Morphological requirements of the embedding verb must be observed.

Standard German

	V-PART MORPH
☛ Sie hat das tun wollen.	*
Sie hat das tun gewollt.	!*

Vorarlberg Alemannic

	V-PART MORPH
☛ Sie hot des tua wella.	

The syncretism between the infinitive and the participle allows for a solution where neither constraint is violated, thus providing a global optimum beyond the reach of most dialects.

The development of such strategies creates unpredictable differences in optimality between dialects when only frequency is considered.

Like snowflakes: Each made the same way, each unique

The German dialects provide a microtypological perspective on language change. The similarity in both token and type frequency across dialects leads to similar large-scale diachronic tendencies. However, in terms of fine-scale changes, the dialects differ greatly. The large-scale evolutionary pressures are broadly the same across languages, but the fine structure of language arises more dynamically and heterogeneously.

Literature

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