

Variation and change in lexical productivity across the lifespan:

An interdisciplinary investigation of Swabian and standard German

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This paper advances an innovative cross-disciplinary approach in exploring the extent to which lexical productivity can explain variation and change in speakers' use of dialect features across the lifespan. The corpus consists of 20 panel speakers of Swabian, a high Alemannic dialect spoken in southwestern Germany, recorded in two different communities, Stuttgart and Schwäbisch Gmünd, first in 1982 and again in 2017. Positioned at the intersection of the fields of dialectology (dialect contact and attrition studies), sociolinguistics (variationist lifespan studies), psycholinguistics (lexical frequency distribution studies), and psychology (aging and cognition studies), this interdisciplinary investigation offers an alternative account of the ostensible changes in individual speech patterns across the lifespan which reflect an apparent loss of dialect features.

Analysing lexical productivity in spontaneous speech is “tricky business”: it is particularly problematic to deal with the significant number of highly collinear variables and to find a statistical measure that is independent of the length of the text (Baayen 2001). By calculating intra-speaker vocabulary growth trajectories and using generalised additive mixed-effects models, the results show that, rather than lose dialect, speakers gain a vast amount of new knowledge over their lifetime that is not dialect, which exerts a cumulative and competitive influence on their choice of dialect and standard forms (see Figure 1). The findings support language development as a process in which speakers acquire greater awareness of the standard language throughout their lifetime, gained through their participation in various educational, commercial, and public institutions (Eckert 1997; Labov 1964; Sankoff and Laberge 1978), without a concomitant loss of dialect forms.

Myriad studies have shown that language choice is greatly influenced by the speakers' local orientation (e.g., Hoffman and Walker 2010), ‘dialect identity’ (e.g., Moore and Carter 2015; Schilling-Estes 2004), and changing indexicalities (e.g., Eckert 2008). In Swabia, particularly in the large urban centre of Stuttgart, the prominence of Swabian has changed substantially over the years. The findings indicate a clear trend: the higher the speakers' Swabian orientation, the more dialect features they use; and conversely, the lower the speakers' orientation, the more standard features they employ (see Figure 2).

Swabian orientation influences lexical productivity by reflecting the three classic patterns of individual change (Sankoff 2006): *lifespan change*, speakers moving in the direction of the overall community change by speaking less dialect and more standard; *speaker stability*, individuals resisting change and continuing to use a similar amount of dialect; and, *retrograde change*, speakers moving in the opposite direction of the general community change and speaking more dialect today than they did in 1982 (see Figure 3).

Finally, the results reveal that, contrary to studies which have found low-frequency forms are the first to disappear (e.g., Hay et al. 2015), for these Swabian speakers, it is the low-frequency forms that have become more frequent across their lifespan. This suggests an *age of acquisition* effect, reflecting the enduring role that dialect plays in the lives of speakers throughout their lifetime.

Figures

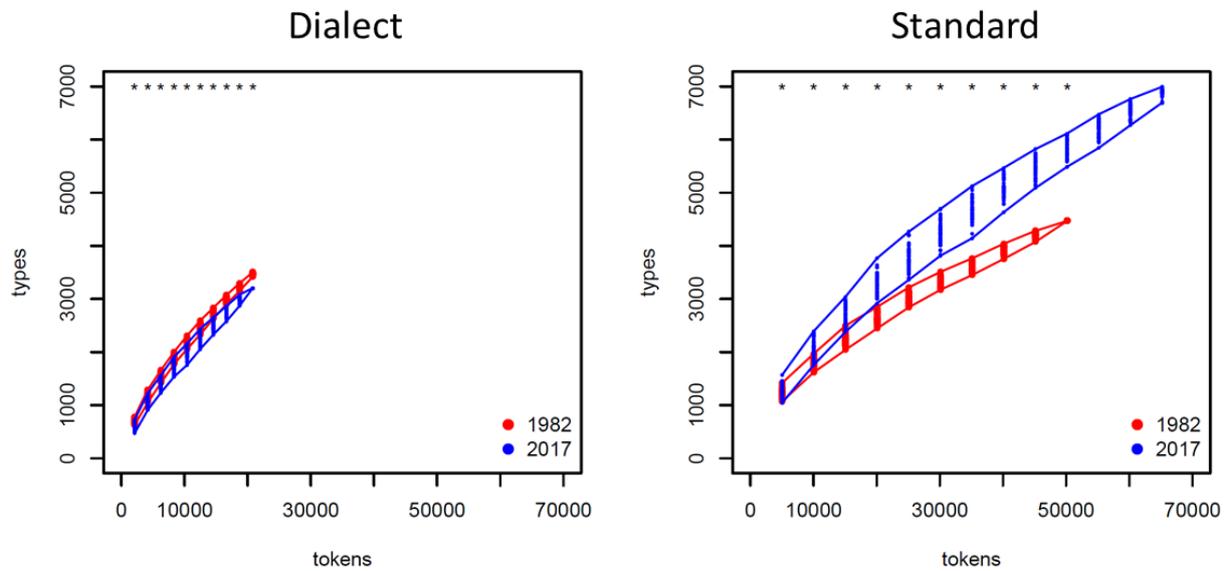


Figure 1. Projected vocabulary size and growth curve (dialect and standard language), using a Monte Carlo partial randomisation technique with 50 permutations and ten equally-spaced measurement points, for 20 Swabian panel speakers over a 35-year lifespan. The left plot shows dialect vocabulary, which has remained fairly constant across the years; the right plot depicts standard vocabulary, which has considerably increased for all speakers in 2017. The asterisks at the top signify that there is a significant difference between the measured intervals as evaluated by a non-parametric Wilcoxon test ($p < .05$).

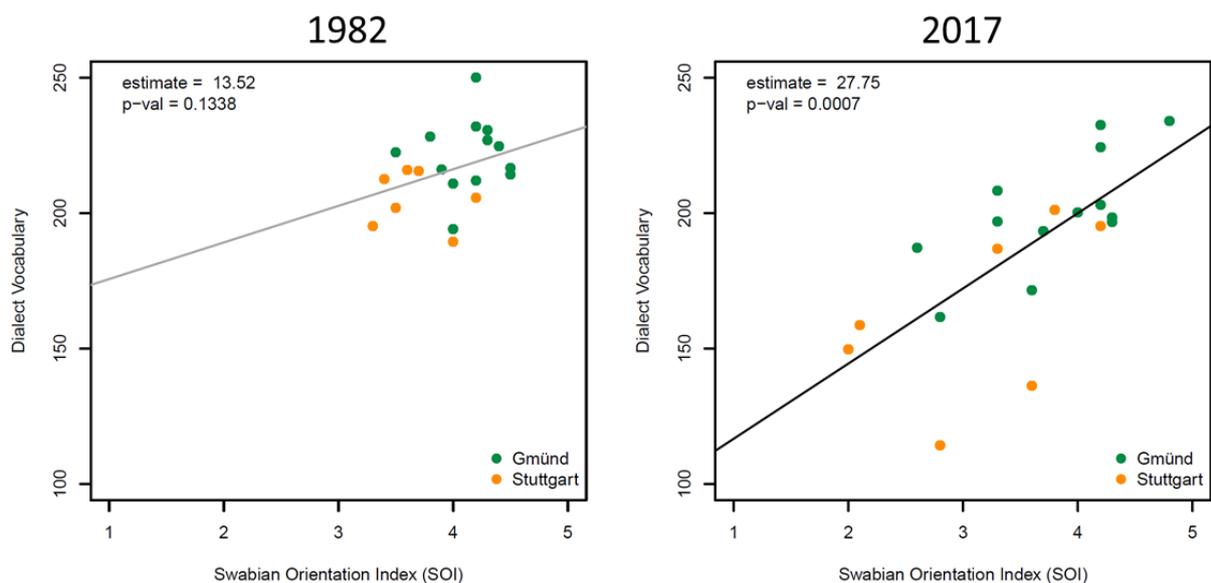


Figure 2. Dialect vocabulary size and Swabian Orientation Index (SOI) for two recording years (1982 and 2017) and two communities (Stuttgart and Schwäbisch Gmünd), measured by mean word types. 1982 shows little difference in dialect vocabulary size between the communities, while 2017 shows a significant change ($p = .00007$) in dialect vocabulary for all speakers, particularly for those speakers in the urban centre of Stuttgart.

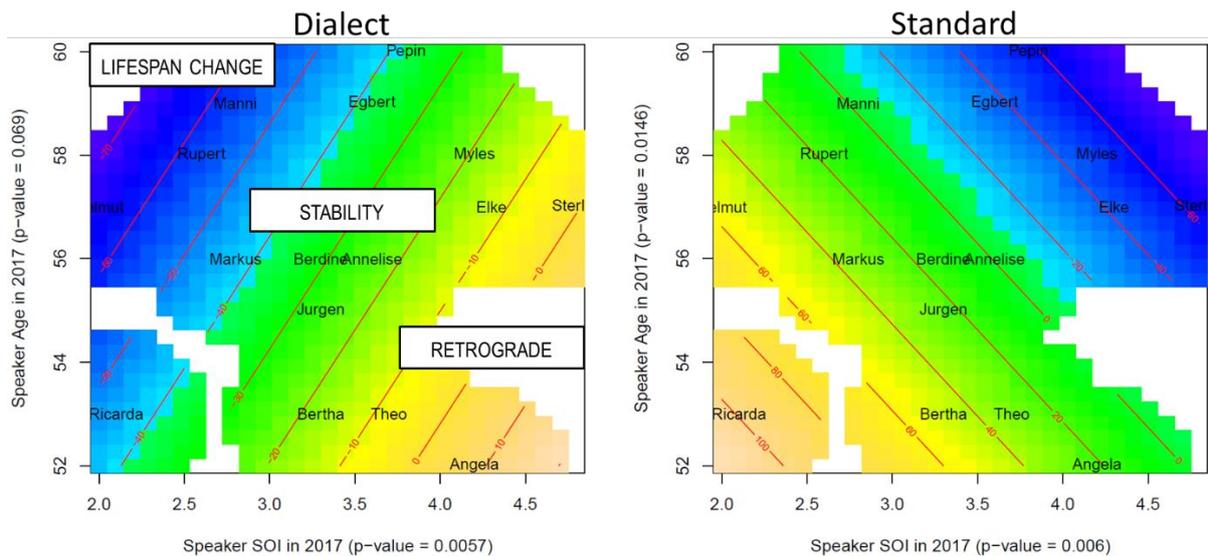


Figure 3. Dialect and standard language vocabulary change between 1982 and 2017 as a function of speaker age and Swabian Orientation Index (SOI) in 2017 (using generalised additive mixed models (GAMMs)). Contour lines connect points with the same predicted values, signifying vocabulary change: higher values are shown in darker shades of yellow, lower values in deeper shades of blue, with middle values in shades of green.

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