The structured stability of American Norwegian past tense morphophonology

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Although heritage language (HLs) morphology is prone to change (e.g., Benmamoun et al. 2013:141), tense is argued to be fairly stable (Polinsky 2018:174). This position is supported in Lykke's (2020) examination of American Norwegian (AmNo) tense morphology. Tense distinctions in Germanic languages, Norwegian included, demonstrate a high degree of allomorphy, e.g., distinct (phonologically unpredictable) suffixes, stem alternations, and a combination of the two. This allomorphy generally remains consistent in AmNo, with sporadic innovations (Lykke 2020), despite contact with English where tense inflects using similar classes, but with different distributions. In this presentation, we advance a formal account of the AmNo tense allomorphy. Our preliminary analysis demonstrates that the high degree of consistency and the constrained variation we find falls out from an integrated bilingual grammar (e.g., Putnam et al. 2018; Natvig 2021), where Norwegian and English representations are subsets of one overarching system.

The study draws data from the Corpus of American Nordic Speech (CANS, Johannessen 2015), using a subcorpus of all speakers from Coon Valley and Westby, Vernon County, WI. In the current version of CANS (3.1) this subcorpus contains 41 speakers, born between 1920 and 1957, recorded between 2010 and 2012. By extracting tokens tagged as preterit or perfect participle, excluding incorrectly tagged items, we obtained a dataset of 9161 tokens, with 772 unique forms. We then manually evaluated forms for whether they conform to expected verbal class distributions: vowel alternation ('strong'), vowel alternation and dental suffix ('mixed'), a dental suffix ('*Te*'), or an unstressed -*a* suffix ('*a*'). Each form was categorized as being inflected as 'expected', 'unexpected', or 'unclear' based on verb class, with unclear usually meaning a present tense form in a past context or reduction of -*a* to -*e* for *a*-verbs, also resulting in ambiguous past and non-past forms.

In-progress results in Table 1 shows the distributions of unique phonetic forms based on verb class. These are inflected for expected class in over 85% of strong, mixed, and *Te*-verbs and in approximately 67% of *a*-verbs. Yet for all these classes, there are fewer than 5% unexpected forms. These patterns demonstrate remarkable stability in the overall system, although with structured variation particularly in terms of the choice of dental suffix, -*t(e)* or -*d(e),* for mixed and *Te*-verbs, and the realization of the unstressed vowel for *a*-verbs. For our presentation, we expand our analysis and examine these distributions within and across speakers. Results test the ability of our proposal for the division of labor of syntactic and phonological representations to patterns of allomorphy to formally model inter- and intraspeaker morphological variation.

Our analysis has additional ramifications beyond Norwegian. Specifically, we argue that Germanic tense allomorphy arises from two representational phenomena: (1) class distinctions, i.e., preterit marked with vowel alternations only obtain from different syntactic representations, and (2) alternations within the same class, specifically the -*te* and -*de* allomorphs of the *Te*-verbs, owe to parallel phonological structures, where distinct phonologically predictable forms may spellout one 'syntactic' morpheme (Papillon 2020). We further argue that these parallel representations may host phonological content from multiple source languages, when they correspond to the same syntactic features.

Table 1. Number of unique AmNo forms that are 'Expected', 'Not expected', and 'Unclear' for each verb class.

Verb class	Expected	Not expected	Unclear	Total
Strong	224 (87.8%)	12 (4.7%)	19 (7.5%)	255
Mixed	63 (90.0%)	1 (1.4%)	6 (8.6%)	70
-Te	296 (85.8%)	10 (2.9%)	39 (11.3%)	345
-a	68 (66.7%)	2 (2.0%)	32 (31.4%)	102
Total	651 (84.3%)	25 (3.2%)	96 (12.4%)	772

References

Benmamoun, Elabbas, Silvina Montrul & Maria Polinsky. 2013. Heritage languages and their speakers: Opportunities and challenges for linguistics. *Theoretical Linguistics* 39(3–4): 129–181.

Johannessen, Janne B. 2015. The corpus of American Norwegian speech (CANS). In Beáta Megyesi (Ed.), Proceedings of the 20th Nordic Conference of Computational Linguistics (NODALIDA), 297–300. Linköping: Linköping University Electronic Press. https://www.duo.uio.no/bitstream/handle/10852/43898/2/NODALIDA-CANS-proc-trykt-2015.pdf

Lykke, Alexander K. 2020. Variation and change in the tense morphology of heritage Norwegian in North America. Oslo: University of Oslo doctoral dissertation.

Natvig, David. 2021. Modeling heritage language phonetics and phonology: Toward an integrated multilingual sound system. *Languages* 6(4): 209.

Papillon, Maxime. 2020. Precedence and the lack thereof: Precedence-Relation-Oriented Phonology. College Park, MD: University of Maryland doctoral dissertation.

Polinsky, Maria. 2018. *Heritage languages and their speakers.* Cambridge: Cambridge University Press.

Putnam, Michael T., Matthew Carlson & David Reitter. 2018. Integrated, not isolated: Defining typological similarity in an integrated multilingual architecture. *Frontiers in Psychology* 8:2212.