

Article

Linguistic Repertoires: Modeling Variation in Input and Production: A Case Study on American Speakers of Heritage Norwegian

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Abstract: Heritage Norwegian in the American Midwest is documented through a corpus of recordings collected and compiled over a time span of 80 years, from Einar Haugen's recordings in the 1940s via the CANS corpus up to the present-day in the authors' own recordings. This gives an unprecedented opportunity to study how a minority language changes in a language contact situation, over several generations and under gradually changing circumstances. Since we also have thorough historical knowledge of the institutions and societal texture of these communities, this privileged situation allows us to trace the various sources of input available to the heritage speakers in these communities in different relevant time slots. We investigate how the quality and quantity of input at different times are reflected in the syntactic production of heritage speakers of the corresponding generational cohorts, focusing on relative ratios of specific word orders (topicalization and verb second, prenominal and postnominal possessive noun phrases) and productive morphosyntactic paradigms (tense suffixes of loan verbs). Utilizing a model of relations between input and output, receptive and productive competence, to show how input–output effects will accumulate throughout the cohorts, we explain the observed linguistic change in individuals and society.

Keywords: Heritage Norwegian; quality versus quantity of input; linguistic change; language contact; linguistic repertoires; receptive versus productive competence; syntactic variation; accommodation; intergenerational transmission



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1. Introduction

The recent massive growth spurt of heritage language research provides a rich body of new types of evidence challenging fundamental questions and assumptions in the field of linguistics. This paper provides new data to bear on the well-attested observation that the linguistic production of heritage language speakers differs from monolingual homeland speakers in a non-arbitrary fashion. [Wiese et al. \(2022, p. 3\)](#) suggest that this difference is often described in terms implying “a deficit-oriented view of heritage speakers»; employing notions such as “incomplete acquisition, attrition and loss”. The authors instead advocate terms such as “development, variation, and innovation” signaling a turn toward “a research program that does not take monolingual standard norms as a yardstick to identify what is missing or incorrect in heritage speakers’ language use”. [Wiese et al. \(2022\)](#) argue that heritage speakers are like any other type of speaker, and should be expected to exhibit interesting patterns of variation deviating from standard norms in particular ways, just like monolinguals and other native speakers. This is clearly reminiscent of the view on heritage languages in [Amaral and Roeser \(2014, p. 29\)](#), the framework of Multiple Grammars (MGs) Theory, where any human grammar consists of sets of sub-grammars, sometimes contradictory.

[H]eritage and L2 grammars are frequently described as ill-conceived versions of [. . .] artificial gold standards based on idealized L1 [. . .] monolingual grammars [. . .]. From an MG perspective [however] all grammars are created equal. Each individual will have a grammar with a unique configuration of rules, and these individual configurations may converge or diverge from what is considered standard in a given language by different social groups. However, an individual grammar is never deficient in any way.

We applaud this turn, dovetailing with an emerging wave within multilingualism research at large. The negative take on multilingual societies, where hardly any multilingual speaker can ever be assumed to reach “ultimate attainment” as “non-monolingual speakers” are inherently incapable of sufficient proficiency in any language, is being replaced with a view where multilingualism, bidialectism and heritage language maintenance creates a varied repository of potent linguistic resources, intrinsically valuable to both individuals and society.

Heritage languages undoubtedly differ from the idealized monolingual homeland variety, an observation often tied to the quantity and quality of input provided in the heritage language; cf. Polinsky and Scontras (2020, p. 14):

[R]educed input quality—in addition to reduced quantity—appears to play a central role in the unique outcomes of heritage speakers. The causes behind this effect remain to be explored, but Gollan et al. (2015) suggest that richer variety in the input could lead to more robust encoding of the relevant representations.

Meisel (2020, p. 33) questions the conjecture (adopted by “virtually all heritage language scholars”) that the quality of input received by heritage language learners is lessened due to the reduced number of potential interlocutors. “In comparable situations of bilingualism, children still develop two native competences,” and Meisel argues instead that quantitative differences are the cause of heritage speakers’ divergent development. The challenge is to quantify the necessary minimum, an issue where “heritage language research has not yet provided valuable information”.

Although we are in no position to pin-point the necessary minimum for “successful acquisition of a (heritage) language”, this paper adds to the discussion on the intertwining aspects of quantity and quality of input in a heritage language context. We give an overview over the main sources of (Norwegian) input available to a typical speaker of Heritage Norwegian in a Norwegian settlement in the American Midwest at different times in a time span of roughly 80 years of history of this diaspora. We further trace how a selected set of morphosyntactic features in the available data, within the same time period, gradually responds to this changed availability of input sources through five idealized generations—cohorts distinguished by their birth year.

The linguistic production of heritage speakers has been shown to display simplification on all linguistic levels; the morphosyntactic features we study are also simplified under crosslinguistic influence. We frame our observations in the presence vs. absence of *productive distinctions* acquired and maintained by language users. This allows us to refrain from otherwise required separation between features at different linguistic levels (e.g., vocabulary, morphosyntax, phonology) and to talk about *linguistic repertoires*¹ instead. These features cluster and covary, and in many cases a separation is neither possible nor fruitful (cf. discussion in Section 5).

Ideally, the process of language acquisition and maintenance for all types of speakers should be captured by the same type of model, and in Section 5 we introduce a model which is suitable for all types of language contact situations and has the advantage that differences between speakers of Heritage Languages and other native speakers are minimized² (cf. Amaral and Roeper 2014, p. 29).

Moreover, language acquisition and maintenance may possibly always take place in language contact situations; “multilingualism is the normal condition for human language” (Wiese et al. 2022, p. 3) and every language user is multilingual in a particular sense of the

word, namely that “any person (no matter how “monolingual”) has numerous grammars” (Roeper 1999, p. 170); cf. also Cook and Newson (2007); Eide and Sollid (2011); Roeper (2016); Eide and Åfarli (2020), inter alia. In this case, the model should apply even in what is usually seen as purely “monolingual” situations.

In this model, heritage speakers are no different from other speakers, as the linguistic biography for each language user will be unique by necessity, no matter the acquisition situation. This unique linguistic biography will be determined not only by each and every source of input available to the speaker and the speaker’s continuous intake, but also by the temporary and more permanent selections and choices made by the speaker regarding production, determined in part by the speaker’s preferences, leniency and personality. Not all speakers are equally prone to accommodate their language to an interlocutor, and speakers are put in situations where such choices are necessary to very different degrees. This affects the speaker’s production, the memory strength of specific linguistic features, and correspondingly the possibility for maintenance viz language attrition in the individual speaker. As the production of one generation constitutes substantial parts of the relevant input for the next generation, the individual choices of each speaker will accumulate and eventually manifest as linguistic changes in the society; more so if the available input sources are few.³

2. Studying Norwegian Immigrants in the American Midwest: Language and Society

Norwegian immigration into the American Midwest started with the arrival of a group of 53 Norwegians, (mostly) confessed quakers, in New York in 1825. By 1930, more than 800,000 Norwegians had arrived in the US and 40,000 in Canada (Johannessen and Salmons 2015, p. 10). Only Ireland had a higher emigration rate than Norway; in both countries, a huge population growth prompted this emigration surge—the number of Norwegian immigrants in the US matched the remaining population in Norway in 1800 (Haugen 1953, p. 29), and the number of people reporting Norwegian descent in the US (about five million; US 2000 census) matches the current population of Norway.

The Norwegian North American Heritage Language (henceforth NorNAHL⁴) has been subject to linguistic studies since the early 1900s. The pioneer of the field is George T. Flom, professor of linguistics at the University of Iowa (1900–1909) and the University of Illinois (1909–1927), who published a range of papers between 1901 and 1931 on various aspects of NorNAHL. His main focus was on the vocabulary and especially on the integration of English loanwords into NorNAHL vernacular (e.g., Flom 1929), a trend continued by many linguists studying NorNAHL in the 20th century (e.g., Hjelde 1992, 1996; Åfarli 2012; Riksem 2018; Johannessen and Laake 2017; Hjelde et al. 2019).

Professor Flom’s investigations laid the important groundwork for his student Einar Haugen, who started collecting data in 1936 for what was to become *The Norwegian Language in America* (1953). Like Flom’s papers, Haugen’s study—often referred to as the starting point of contact linguistics as a scientific field—also had vocabulary integration as one main area of interest, but Haugen’s approach was broader and methodologically more advanced than that of his predecessor. Haugen had 98 informants complete a very extensive questionnaire of (up to) 795 items (later reduced to about 550), usually requiring 8–12 h of test time for each informant, and he recorded more than 50 h of interviews with altogether 207 speakers of NorNAHL. This allowed Haugen to address a wider range of topics (including folklore and onomastics), explicitly separating language issues from societal issues. Thereby, he established core premises to scholars within the field, not only in language contact and bilingualism, but in the field of linguistics at large.

Around 30 years after the publication of Haugen’s seminal and groundbreaking work, the University of Wisconsin-La Crosse launched *The Norwegian Language and Culture Project* prompting a renewed exploration of NorNAHL in which Arnstein Hjelde was invited to conduct fieldwork on the *Trønder* dialect in the US. This led him to further explore and document the Norwegian spoken in the area surrounding the two small Wisconsin towns

Coon Valley and Westby, where he collected about one hundred hours of recordings of contemporary NorNAHL.

Apart from Hjelde's work, the studies and publications on NorNAHL in this time were still few and far apart, but a real game changer was to appear on the scene: *The Norwegian American Dialect Syntax Project (NorAmDiaSyn)* led by the very industrious professor Janne Bondi Johannessen at the University of Oslo.⁵ In September 2010, she brought a group of Norwegian trained linguists to conduct thorough fieldwork on NorNAHL to the Midwest, and for the next decade she arranged numerous field trips, organized and co-organized many conferences and co-edited a number of books and special volumes on NorNAHL and other heritage languages (cf. [Johannessen and Salmons 2015](#); [Johannessen and Putnam 2020](#); [Johannessen 2021](#)). She even managed to track down (with the aid of her colleague Kristin Hagen) a long-forgotten chest filled with wax cylinder recordings of NorNAHL speakers made by Norwegian professors Didrik Arup Seip and Ernst W. Selmer, still in the "America-trunk" where they were stored for the Atlantic crossing to Norway in 1931.

Janne Bondi Johannessen's ever-present objective was to make research data available to the entire research community, resulting (among many other things) in the searchable corpus CANS—*Corpus of American Nordic Speech* ([Johannessen 2015](#)). This corpus rests heavily on fieldwork conducted in 2010 and onward under Johannessen's leadership, where the heritage speakers were recorded on video, typically in conversation with another heritage speaker and/or a fieldworker. These recordings normally lasted between one and two hours. A selection of these recordings is transcribed and included into the corpus. CANS has been extended continuously and currently its Norwegian part consists of about 750,000 individual words. At present, it includes some of Haugen's and Hjelde's original recordings and also some examples of American Swedish. CANS has provided materials for over 100 scientific papers by more than forty scholars since its inception, with more to come.

2.1. Rural Settlements and Close-Knit Communities

Leaving their farming communities behind, most Norwegian immigrants sought the means to continue a life as farmers in the new environments, and the Midwest promised the land necessary to build new, close-knit farming communities. Most Norwegian settlements resulted from chain immigration, as new groups of immigrants clustered where family members and neighbors had landed and settled before. The rather impressive long-lasting preservation of NorNAHL in the US was clearly facilitated by this strong clustering tendency. Here, the Norwegians resemble the Swedish, the latter amounted to one million immigrants in the relevant time slot. The Danish immigrants came in relatively smaller numbers (275,000 in 1840–1914), settled in urban areas, and often married non-Danish partners. Hence, unlike Swedes and Norwegians, Danish immigrants, to a lesser degree, dominated entire communities (cf. [Kjær and Larsen 1972](#); [Johannessen 2018](#)). Norwegian sociologist P. A. Munch, studying Norwegian settlements in the late 1940s, observed that some of these communities could be rather self-absorbed, unforgiving and isolated from the greater society ([Munch 1949](#), p. 784):

There is a strong loyalty to the community and a correspondingly strong social pressure against any deviation from the accepted local pattern. What foreign elements have come in have either been assimilated completely to the cultural pattern of the community or they have been isolated socially until they preferred to leave.

The Norwegian settlers rapidly refurbished their societies with a number of key societal institutions promoting "horizontal ties" ([Salmons 2005a, 2005b](#)) between the Norwegian immigrants, such as churches, hospitals, old people's homes, schools for Norwegian language learning, newspapers in Norwegian and even colleges, e.g., Luther College (Decorah, Iowa) and St. Olaf College (Northfield, Minnesota). The Norwegian churches, almost exclusively Lutheran, imported pastors from the homeland from the outset, regularly providing services and confirmation ceremonies in Norwegian up until WWII in some settlements.

This early installment of key institutions led to rather self-contained communities where the inhabitants could cope without speaking much English.

Even way beyond first-generation immigrants, individuals are attested to prefer to conduct their daily communications in Norwegian instead of English. “Some speakers, and not only the first generation, still [in 1986] found it easier to speak Norwegian”; Moen (1991, p. 113). An informant quoted by Moen stated that “Speaking English makes me sweat”, and our informant “Lars”,⁶ born in 1961, claims that his parents (third-generation immigrants) and his family spoke only Norwegian at home (Hjelde 2012, p. 183). This does not signal a community of a monolingual Norwegian-speaking majority—this preference for Norwegian applies to a proportion of the immigrants only. Similar cases are attested in the Midwest for German.⁷ The normal speaker in these settlements, like heritage speakers around the world (cf., e.g., Rothman 2009; Benmamoun et al. 2013) would acquire a minority language (Norwegian) as their first language in the family home, and proceed to learn the dominant language of the larger society (English).

Though the Norwegian settlers could dominate an area to the extent of active exclusion of other nationalities, they were not in a position to isolate themselves totally and avoid contact with the majority of the English language. Connections between local and central authorities had to be maintained (“vertical ties”; cf. Salmons 2005a, 2005b), and for many Norwegian immigrants, their sudden and sometimes reluctant immersion into English happened when they started school at six. In most cases, this encounter did not lead to a rapid language shift to English within the community; instead, most speakers ended up as balanced (or unbalanced) bilinguals with English as their dominant language.

The impact of this bilingual state on NorNAHL is evidenced in extensive lexical borrowing of English words, subject to early linguistic investigations (cf. above). Here is Haugen’s (1938, p. 39) description:

The shell is still Norwegian, but the inward pattern, the spirit of the thing, is American. This is Norwegian-American, the language of the Norwegian immigrant.

The impact from English, omnipresent in the greater society, constitutes one of the two important axes of crosslinguistic influence (CLI) relevant to the context of NorNAHL in the American Midwest. The second axis is the influence from other Norwegian dialects and standards in the immigrant’s daily input. Certain Norwegian settlements were somewhat heterogeneous at the outset, with immigrants from different parts of Norway, but many were linguistically rather homogeneous communities, each characterized by the dominance of a single Norwegian dialect, usually determined by the origin of the majority of the immigrants. The relevant communities in Haugen’s study mostly belong to the latter; with one or two dominating dialects, with others also present in the community. In communities with one type of prevailing Norwegian input, maintaining distinctive features of the original Norwegian dialect may seem easier. However, even in this context the key institutions (churches, newspapers), together with letters from home and other written sources, provided a rich environment for input in Norwegian from various varieties in different proportions. For a typical Norwegian immigrant in these communities at this time, different dialects, standards and varieties would be present in these input sources, although people would avail themselves to this input to different degrees (cf. below for details).

2.2. *Selecting the Communities*

Our study includes data from three different locations in southern and western Wisconsin and eastern Minnesota, namely the settlement encircling the two towns Westby and Coon Valley in Vernon County, Wisconsin; the small-town Blair, Trempealeau County, also Wisconsin; and the settlement around the two small neighbor towns Wanamingo and Zumbrota in Goodhue County, Minnesota (cf. Figure 1. Although Coon Valley/Westby were dominated by immigrants from the area around Mjøsa (especially Gudbrandsdalen), the immigrants in Blair more often originated from Solør, near the Swedish border (cf. Figure 2). In Wanamingo/Zumbrota many trace their roots to Stjørdalen, northeast of Trondheim,

and this settlement served as a major abutment for other Stjørdalen settlements further west.

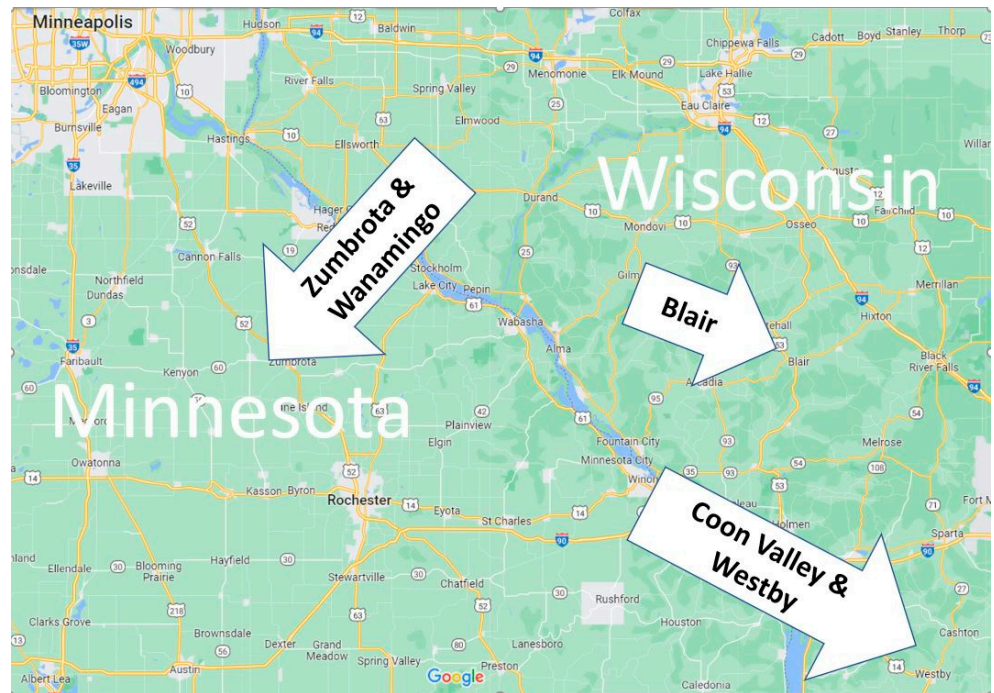


Figure 1. Map with the location of Wanamingo, Zumbrota, Blair, Westby and Coon Valley.

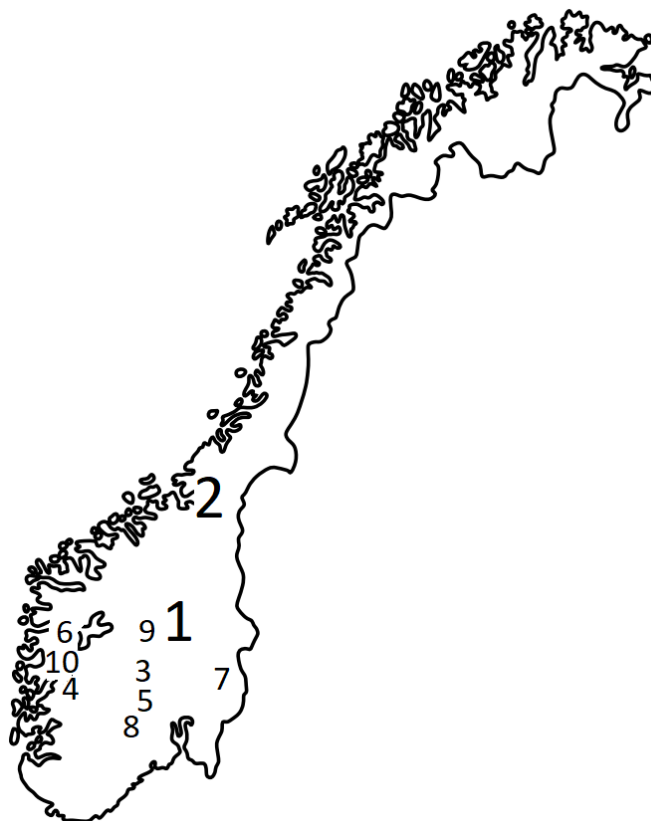


Figure 2. Map indicating the localization of some of the Norwegian places mentioned in this study: 1 Gudbrandsdalen, 2 Stjørdal (Trøndelag), 3 Hallingdal, 4 Hardanger, 5 Numedal, 6 Sogn, 7 Solør, 8 Telemark, 9 Valdres, 10 Voss.

These are all rural, traditional farming communities on the Mississippi river near Midwestern towns, established around 1850 and subject to the chain immigration and clustering tendencies discussed above. They belong to a belt of old Norwegian settlements in counties where the density of Norwegian descendants is among the highest in the US. In the US 2000 census, in Wanamingo 38% claimed a Norwegian descent, in Vernon County (Westby/Coon Valley) 36%. A total of 3–5% of the population in these areas report in 2000 that they still speak Norwegian at home, “sometimes”. As witnessed by Einar Haugen who visited in the early 1940s, Norwegian was widely spoken even by the younger generations.

The area around Coon Valley and Westby seemingly maintained NorNAHL for the longest time as a widespread home language as well as in official settings. Here, NorNAHL was the dominating church language until the Second World War, gradually replaced by English, with a few occasional services in Norwegian even in the 1990s. Norwegian was the only foreign language offered at the local high school until the late 1980s, and the strong position of NorNAHL is still evidenced in the continued use of Norwegian, in the names of Norwegian congregations and churches (Haugen 1953, pp. 65–67) but also in place names. Coon Valley—perhaps helped by its more Norway-like landscape, displays a plethora of Norwegian names, such as *Øyumsdalen*, *Sørryggen*, *Bredebygda*, *Skogdalen* and *Indihaugen* (Kruse 1991).

3. Main Sources of Norwegian Input

In these settlements, constituting a rather long-lasting Norwegian diaspora, the number and presence of societal institutions would provide a heritage speaker with a variety of potential sources for Norwegian input. Although, as is the typical situation for a heritage speaker who (by definition, cf. above) acquires the heritage language in the family home, the family’s spoken language and hence the local dialect is always fundamental, while a range of other spoken and written varieties would be available as relevant and regular Norwegian input to a heritage speaker in these communities, although to differing degrees throughout the history of this contact situation.

3.1. *The Local Spoken Dialect(s): Family, Neighbors and Settlement*

The linguistic situation in the family home is evidently key to almost any heritage language acquisition. The communities relevant to this study were characterized by a strong tendency among the Norwegian immigrants toward endogamy. A total of 75% of all Norwegian-Americans in the Coon Valley and Westby area reported to have single Norwegian ancestry (1990 US census). Ethnicity played a significant role in finding a spouse, enforced by religion, as most Norwegian-Americans were Lutherans. Unlike Swedish immigrants, who spread across different denominations, Norwegian immigrants remained strictly Lutheran, to the extent that Lutheranism became an expression of Norwegian ethnicity in the Midwest (Joranger 2010; Aschim 2019). Aschim further notes that “the correct doctrinal Lutheranism was a matter of contention” and “by 1876, Norwegian immigrants could choose between five different competing Norwegian-language Lutheran church bodies” (cf. also Granquist 2015, p. 186). Marrying a fellow Norwegian often did not suffice, as there was pressure to marry within the same church, and according to one of our informants (born in 1929) “dating a boy from a different church would be considered a sin”. Marrying an Irishman or a German, the Catholic neighbors, would definitely be frowned upon.

Even if the importance of ethnic background in marriage faded over the years, the strict preference throughout several generations toward endogamy and the resulting all-Norwegian household clearly facilitated Norwegian heritage language transmission. For the early generations in these communities, the typical Norwegian family would work together at the farm, with parents and older siblings who were bilingual, but also including grandparents who were unable or reluctant to speak English. Hence, the family would speak Norwegian in the home, providing a young NorNAHL learner with ample spoken input daily. Most children were Norwegian monolinguals before starting school, enforcing

an abrupt language-shift to English which could be quite traumatic for many six-year-olds, as speaking Norwegian at school may elicit disciplinary measures. Certain informants in later generations told similar stories, for instance “Lars”, born in 1961, by his own admission spoke hardly any English before he started school in 1967. Unlike earlier generations, however, by then Lars’s lack of English skills made him a strange animal, evoking ridicule from his classmates (Hjelde et al. 2019, p. 189).

Although the chain immigration tendency caused many dialectically rather homogeneous settlements in the Midwest, the dialectal input in the community could still be varied. Homeland Norwegian has great dialectal diversity, but prior to the mass emigration, most people in Norway had little exposure to dialects other than their own, tending to live their lives in the area where they were born. Haugen (1953, p. 341) notes that for many early Norwegian immigrants, emigration caused their first exposure to dialectal variation. His study on settlers in Koshkonong, one of the first successful Norwegian settlements, lists the largest group as originating from Upper Telemark, the second largest from Sogn, but also many from Voss, Lower Telemark and Numedal, Hallingdal, Valdres, Hardanger and Eastern Norway (cf. Figure 2). Even if these different groups tried to cluster and form groupings on their own, “any kind of strict segregation was out of the question” (op.cit.).

The communities in our study were each characterized by the prevalence of one dominating dialect, but with other dialects represented. Coon Valley and Westby had the Gudbrandsdalen dialect as its main variety, with some competition from the Telemark dialect. There was even a substantial group of so-called Flekkefjordings, and a large settlement of people from Sogn a bit further south. In Wanamingo and Zumbrota, people spoke the Stjørdalen dialect, but had other dialects around the neighborhood, evidenced by place names such as Toten, Eidsvold, Dovre, Sogn, Henning and Vang (Valdres). Blair, though dominated by immigrants from Solør, also had several variants, as “(m)any different dialect areas are found within this region” (Haugen 1953, p. 612).

Several NorNAHL settlements over time developed a regional spoken variety, a koiné; the Coon Valley and Westby community serving as a case in point (Hjelde 2012).⁸ No koineization can take place unless the different dialects forming the input of the process are regularly used within the community, which entails that the NorNAHL dialects are not confined to being strict home languages (op.cit). Haugen’s recordings in Coon Valley provide an interesting testimony to the massive presence of Norwegian dialects within the community from a man of German heritage background (born in 1894) recorded speaking the local Norwegian dialect of the community in a native-like manner. He explains that since all of his playmates spoke Norwegian, he had no choice but to acquire Norwegian himself, as his third language. This further suggests that English was not voluntarily spoken at any range among his Norwegian friends. The recordings also contain narratives from bidialectal children growing up with one dialect at home and another one spoken by their peers. The daily walk to school was spent becoming mentally and linguistically prepared to speak the community dialectal variant, and the walk back home to switch back to thinking and speaking in the dialect of the family home.

After a koiné had formed in the community, the earlier dialectal variation in the community was reduced. At later stages, as the community shifted their main language from the heritage language to English, the family was left as the last stronghold where Norwegian was, and still is, spoken at some rate. Eventually (especially after WWII), Norwegian was reduced to being a home language, and from then on, the heritage speakers would hardly be exposed to any varieties different from their own.

3.2. Other Spoken Input: Church and Confirmation

At one point there were more than seven thousand Norwegian-American churches and congregations according to Haugen (1939, pp. 65–67). The Norwegian-American Lutheran church was probably the most important institution for maintaining NorNAHL in the immigrant community and constituted a pivotal arena for many Norwegian immigrant families, of course for matters concerning their faith, but clearly also socially. Not only

did the immigrants convene and talk before and after service, the church hosted a range of social gatherings and groups, such as Ladies Aid, Bible study groups and parochial schools. Already in 1844 Norwegian settlements in Wisconsin wrote to their mother church in Norway asking for a Norwegian minister to be sent to the Midwest to work among the immigrants (Blegen [1940] 1969, p. 141). This would provide another source of spoken Norwegian input, as these pastors were university-educated and would speak a version of “educated Norwegian”. Maintaining NorNAHL in the liturgy and including the Norwegian Lutheran hymns (from *Landstads salmebok*) as unequivocal parts of the service retained Norwegian as the lingua sacra for early Norwegian immigrants. Young Lutherans attended confirmation lessons, which, like the official confirmation ceremony (a public profession of faith and a rite in which adolescents become full members of the church and adult members of the general society) was offered in Norwegian in many congregations until the 1920s; cf. Gilbertson (2009, p. 5).

If the person was confirmed in the Norwegian language, she had to read and memorize entire religious texts. Therefore, she would be able to easily recite [. . .] Bible verses, passages from sermons, and other religious phrases. The Norwegian language persisted longest when it came to matters of faith. Even if a person could attend school, conduct business, or read newspapers in English, their entire religious vocabulary was in Norwegian.

Norwegian remained the primary lingua sacra throughout the 1800s and early 1900s, until the dawn of 1917, which featured two separate developments that taken together would affect the status of the Norwegian church language to a devastating extent (Haugen 1953, p. 255). In the early years, a series of controversies led to the Norwegian-American Lutheran church splitting into several competing synods. In 1917, however, the majority of these synods remerged into one church fostering an ambition not to confine itself to being a church for Norwegian-Americans only, but to become a Pan-American Lutheran church. This of course motivated a switch to English services.

This development within the church co-occurred with the US participation in World War I, causing a wave of general xenophobia accompanied by a self-imposed urge to downplay the heritage background (Lovoll 2006, p. 227). One extreme example of this trend was the so-called Babel proclamation in Iowa, issued by governor Harding, where the use of any other language than English in public was banned. This ban included schooling and religious gatherings, as well as private telephone conversations (as the telephone line was public). Even outside of such extreme precautions, the young Norwegian-American bilingual generation gradually identified more with English than with their (old-fashioned) heritage language and culture. These developments yielded an incremental shift to English church services, first offering English services alongside Norwegian ones, before eventually fading out Norwegian as the lingua sacra. The process was completed in a couple of decades; shortly after WWI, about two-thirds of the services were given in Norwegian; two decades later, as the US entered WW2, about one-tenth; cf. the graph in Figure 3.

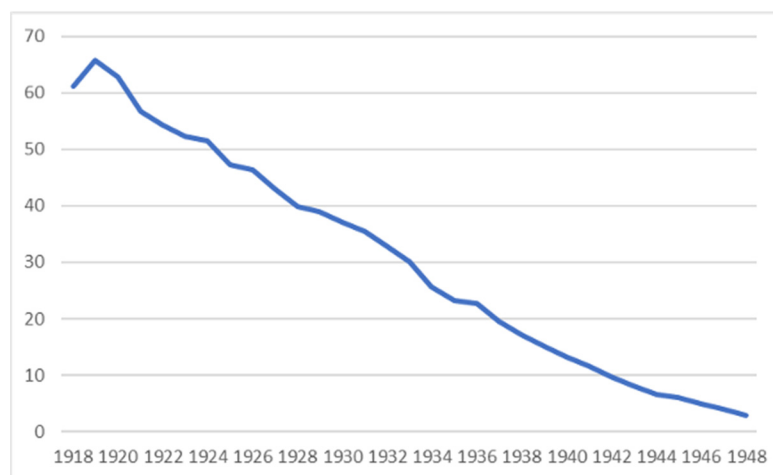


Figure 3. Percentage of Norwegian services; Norwegian Lutheran church (based on Haugen 1953, pp. 262–67).

3.3. The Written (Standardized) Language: Lingering Conservatism

In the early days of Norwegian emigration, public education in Norway was rather sparse. Obligatory lessons were limited to religion and some training in reading, with the main purpose to prepare children for confirmation. Through new legislation in 1860, the Norwegian school system was thoroughly reformed and the curriculum was extended with several topics and skills, including writing. Thus, the immigrants who arrived in the US during the last decades of the 1800s were fairly well acquainted with the written language. Lovoll (1983, p. 136) describes the Norwegian-Americans at the end of the century as “a people of readers” (et lesende folk). In 1838, the first Norwegians settled in Wisconsin, and their first newspaper in Norwegian, *Nordlyset*, was first printed in Muskego in 1847. Over the next decades, several hundreds of NorNAHL publications were printed, ranging from religious texts and political pamphlets via newspapers and cook books to novels and biographies. Immigrants also wrote significant amounts of letters to their relatives who had remained in the homeland. These “America-letters” were clearly heavily influenced by religious writings in the linguistic style chosen, turns of phrases and in other modes of expression (Gulliksen 2002; Mathiesen 2014).

Most writings by the Norwegian Americans were characterized by a conservative style, adhering to old orthography and word form standards, which many of the emigrants were familiar with prior to their emigration, and perhaps supported by the turbulent language situation in the homeland around 1900. Due to the four-hundred-year-long union with Denmark (dissolved in 1814), Danish was the written standard in Norway during most of the 19th century. Around 1850, a new Norwegian standard was developed (today’s Nynorsk), eventually entering into competition with a norwegianized version of Danish spelling (today’s Bokmål); a competition which still remains (cf. Haugen 1966). During the first decades of the 1900s, both standards Nynorsk and Bokmål went through a series of reforms, triggering wide-spread skepticism from the Norwegian American community, who responded by blatantly ignoring most of the “unnecessary” homeland reforms, a protest evident in the secular press. The writing traditions in the immigrant community and homeland Norway thus parted ways, and written Norwegian in the US became distinct from the spoken language, much more so than in Norway.

The Bible and *The Small Catechism* in Norwegian were printed in Gothic letters (fraktur fonts) and children of the Norwegian immigrants attending parochial schools had to read these religious texts to get through their confirmation rites. However, these two books featured Gothic letters in Norway too, long after 1900 (Danbolt 2021). For other types of written publications though, the Norwegian-Americans kept the gothic print for many decades after Latin print (antigua) had become predominant in Norway.

One illustrative example is the prominent NorNAHL newspaper, *Decorah-Posten*, where Gothic print remained until 1952, half a century after most homeland Norwegian newspapers. Capitalized nouns appeared in *Decorah-Posten* even in 1961, 60 years after Norway, and more generally, this newspaper adopted the standard of the Norwegian 1907 spelling reform only in the late 1930s. Erling Innvik, the later editor for *Decorah-Posten*, explained that immigrants are traditionally very conservative in their culture preferences, and this nostalgic conservatism, in his view, was the reason why *Decorah-Posten* survived its NorNAHL competitors. One side-effect to this conservatism of course is that the newspaper ends up being “a newspaper written by old people for old people” (Lovoll 1977, p. 98). This being said, the readers of *Decorah-Posten* would be regularly exposed to texts deviating from this conservative and obsolete standard. We find examples of short texts in written dialects and Nynorsk, and the most popular content in *Decorah-Posten* was the comic strip *Han Ola og han Per*, where the Midwestern characters speak several different dialects and display bilingual varieties characteristic of NorNAHL. Some NorNAHL publications, especially those associated with the Norwegian-American church, followed homeland linguistic reforms. Nynorsk was also used, but to a much more limited degree than Bokmål.⁹

3.4. Sources of Input for Written Norwegian: Language Learning and Maintenance

During our visits in contemporary Norwegian-American homes, the host would often show us the household’s collection of old Norwegian books, suggesting that Lovoll’s (1983) observation of Norwegian immigrants as “a people of readers” has merit. The collections range from *The Bible* and the occasional hymn book to comprehensive book collections, religious pamphlets and manuals or novels usually from around 1900.

As detailed above, an eager reader of American-Norwegian publications during the first decades of the 1900s would be exposed to a number of different standards of writing, though the dominant one would be a very conservative Dano-Norwegian standard in Gothic print. *The Bible*, *The Small Catechism* and other religious texts and pamphlets would be important sources for input of written Norwegian, and the church as a religious and social arena would be a constant motivation to learn how to read Norwegian, acting as an important source of many different varieties of spoken Norwegian (cf. Section 3.2 above).

Equally important to NorNAHL maintenance is the church’s role in providing formal education for the children in written Norwegian. The organization of this education was continuously under harsh debate in the Norwegian-American communities. Due to the lack of proper Lutheran teachings in American common schools, several congregations wanted—and some tried—to establish full-fledged Norwegian-American schools to replace or at least compete with the local American common schools. Running a full-time Norwegian-American Lutheran school proved too costly for most congregations, and a compromise was found where the children were enrolled in and attended the secular common school (often referred to as the “Yankee school” or “English school”), whereas a Norwegian parochial school was established and offered as a supplement (often called “Summer school”, “Norwegian school” or “Religion school”). Besides being educated in the Lutheran faith, the children were also trained in reading and comprehending standardized Norwegian (i.e., Dano-Norwegian). Even in these schools, NorNAHL came under pressure in the aftermath of WWI, and we see a rapid shift from Norwegian to English. In 1918, more than 80% of the parochial school instruction was given in Norwegian. Only ten years later, attesting to a rapid and rather dramatic language shift, English ruled the ground (cf. Figure 4).

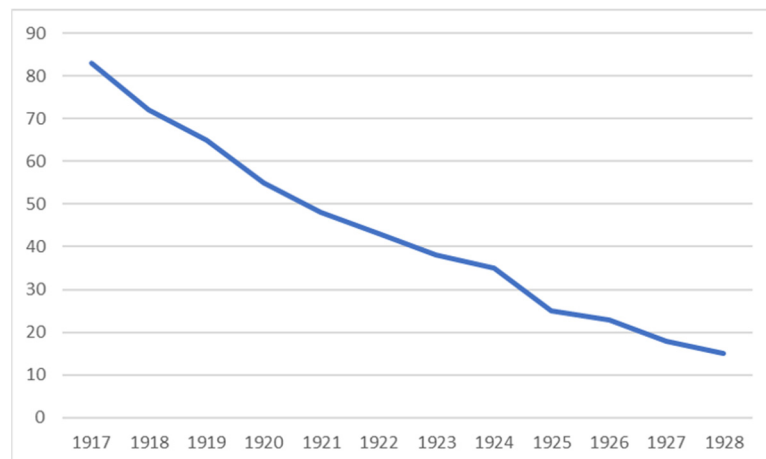


Figure 4. Percentage of the Norwegian Lutheran church's parochial schools given in Norwegian 1917–1928 (after Haugen 1953, p. 262).

There is ample evidence that the ability of young Norwegian-Americans to read Norwegian underwent a rapid decline during the first decades of the 1900s. Hjelde and Bjørke (2022) compare two dictionaries compiled for Nordahl Rolfsen's reader, published in 1909 and 1930, respectively.¹⁰ The 1909 edition comments on special, uncommon words—words beyond the everyday vernacular, or with a spelling pattern unfamiliar to a reader with a predominant English literacy, and the words are explained in both Norwegian and English. The 1930 edition glosses and explains all words in the reader and only offers a translation into English, no explanations in Norwegian. The conclusion drawn is that the 1909 edition addresses an audience who is proficient and partly literate in Norwegian, and the 1930 edition addresses an audience who is neither.

Parochial schools were never mandatory, and only a fraction of Norwegian-Americans born one hundred years ago had a formal education with the skill to read Norwegian. Importantly, however, almost none of their successors born around 1940 were given any such education.

The impact of this change on the reading ability of the entire Norwegian-American community and the position of the Norwegian written language in the immigrant community at large is evidenced by the graph in Figure 5, displaying the number of Norwegian newspapers issued throughout the 20th century.

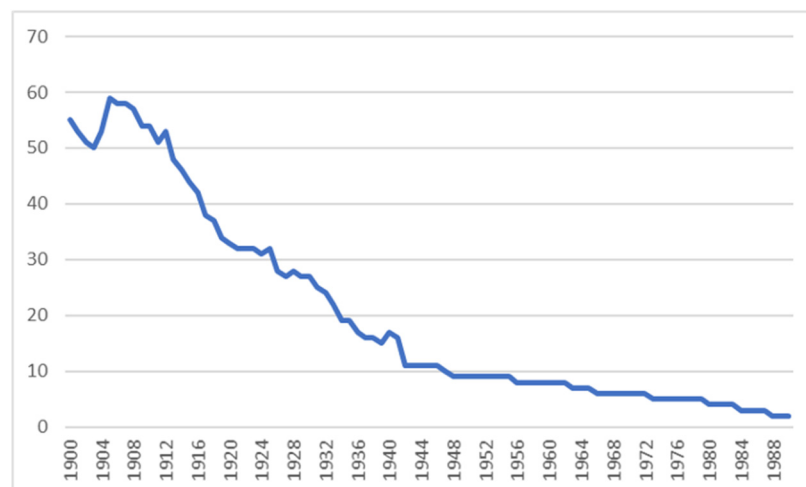


Figure 5. Number of secular Norwegian-American newspapers issued every year, in the period of 1900–1990 (based on numbers from Lovoll 2010).

After the modest first attempts, the last decades of the 1800s witnessed the arrival of groups of well-educated immigrants, gradually turning these papers into important tools to form a Norwegian-American identity. Norwegian newspapers likewise provided helpful aid for newcomers struggling to cope with a new way of living, gaining many immigrant readers. An estimated 400 different Norwegian-American newspapers were established, many rather short-lived—about one third existed less than a year. Others gained an impressive impact, especially the so-called big three, *Skandinaven* (Chicago, 1866–1941), *Minneapolis Tidende* (Minneapolis, 1888–1935) and *Decorah-Posten* (Decorah, 1874–1972). In the early 1900s, *Skandinaven* had a larger circulation than any newspaper in the homeland Norway.¹¹ However, soon the number of Norwegian ethnic publications plunged, from close to sixty in 1900, down to about ten in the early 1940s. From then on, the number of newspapers decreased, but at a slower rate.

The “English only” ideology gained dominance once the US entered WWI, urging immigrants to become loyal, monolingual Americans. Additionally, the number of US-born Norwegian-Americans was steadily growing, surpassing the number of first-generation immigrants. This process accelerated during the 1920s as immigration restrictions were imposed, reducing the number of “newcomers”. The American public school made English the dominant written language for US-born Norwegian-Americans.

For the early emigrants, leaving Norway mostly meant never seeing their homeland again, and the only way of keeping in contact with the family back home was through letters. Thus, writing skills in Norwegian were key and presumably served as a motive for educating subsequent generations in writing Norwegian, long after the decline of Norwegian as a language for church and public press. The existing letter collections reveal that many American-Norwegians were rather able in writing their heritage language. These letters have been subject to few systematic studies, but we know, also from our interviews with informants over four decades, that such letters continued to be sent for several generations, down to our times. Additionally, visiting Norway was a wide-spread life-long dream for many. As flights became affordable, many fulfilled this goal, though family ties faded over the years and the goal of meeting relatives was gradually replaced by revisiting the roots, and seeing the country of their ancestors. While Norwegian may be useful when communicating with older Norwegians, Norwegians today are rather fluent in English, so this exposure to contemporary homeland Norwegian is very much reduced.

One may have expected the Norwegian-Americans to take advantage of the opportunities provided by modern technology, but this has hardly been the case. It is reported that the theatre in Westby at rare occasions offered Norwegian movies with English subtitles up to the early 1960s. Internet potentially represents an opportunity to keep in contact with Norway and its language, but hardly any of the contemporary speakers access Norwegian media, written or spoken, via the Internet, presumably due to their age group which typically possesses a limited digital literacy.

The immigrants also had their own literature, though no Norwegian-American authors could make a living from writing. After 1920, the NorNAHL audience was too small to guarantee a profit for any publisher of Norwegian literature, which made it difficult to publish in Norwegian in the US. Still, this “immigrant literature” played an important role in the community, helping individuals to interpret their role as an immigrant. Few authors, with the exception of Ole E. Rølvaag, are remembered and read today, and Rølvaag’s tetralogy *I de dage* (*Giants in the Earth*) from the 1920s figures among the last literature published in Norwegian in America. The more recent Norwegian-American authors were published for Norwegian readers in Norway, not in the US.

4. The Data

4.1. Recordings and Idealized Cohorts

Featuring a high density of Heritage Norwegian speakers (cf. Section 2.2), the communities in this study have been subject to numerous studies, providing us with a wide range of data over an eighty-year time span, from the early 1940s and up to recent years. We

have Einar Haugen’s recordings and field notes from Westby and Coon Valley (1942/1948); Arnstein Hjelde’s recordings from Wanamingo, Zumbrota, Coon Valley and Westby (1987 and 1992); and CANS recordings from all these areas made during the 2010s.

Our data are not confined to the transcribed recordings available in CANS; we have also included recordings and field notes that are not yet a part of the searchable online corpus (cf. Table 1 for an overview of the data in our study). Based on these sets of recordings, we idealized five different age groups or cohorts: those born around 1870, those born in the 1900s, 1920s, 1940s and those born after 1950. We will mainly focus on the last four cohorts, i.e., speakers born after 1900, since this is where we expect to find the most interesting changes. The presumed and attested absence of linguistic changes is also the reason why the first cohort covers a time span of 30 years, whereas the four latter cohorts are a bit more fine-grained; cf. Table 2 for details.

In addition to these cohorts, which are “abstracted generations” of varying time spans, we have identified and included in this study actual pairs of parent and child. Such pairs provide more direct insight into the language transmission between actual generations. Table 3 gives an overview over the parent–child pairs in this study. Informants are placed in the various cohorts based on their birth year, and in what follows, we use the information on available sources of Norwegian input discussed in Section 3 and discuss the relation between this and the observed language production of these different cohorts.

Our many interviews with American-Norwegian informants during the last four decades (with an overweight of interviews conducted during the 1980s and 1990s) allow us to contextualize these cohorts further with respect to the available input. The typical informant belonging to cohort II (and the older segment of cohort III) would remember a childhood with Norwegian newspapers, although they usually did not read these themselves. The exception was *Han Ola og han Per*, the comic appearing in *Decorah-Posten* for decades. Many of these older speakers had attended Norwegian parochial summer school and were confirmed in Norwegian, thus they also had some familiarity with the written language. This amount and range of input would be much narrower for most of the younger speakers, those belonging to cohorts IV and later.

Table 1. The data sets used in this study.

| Location/Source | Blair | Coon Valley/Westby | Wanamingo/Zumbrota | Hours Recorded |
|---------------------------------|-------|--------------------|--------------------|------------------|
| 1942: Haugen | X | X | | 8 |
| 1930–40s: Haugen: CANS | X | | | 3 |
| 1987: Hjelde | | | X | 6 |
| 1992: Hjelde | | X | | 75 |
| 2010: Eide/Hjelde (NorAmDiaSyn) | X | X | | 10 |
| 2010–2014: CANS | | X | X | 12 |
| 2015–2018: Hjelde (NorAmDiaSyn) | | X | | 15 ¹² |
| Field notes: Haugen, Hjelde | X | X | X | |

Table 2. Generational cohorts and data.

| Cohort | I | II | III | IV | V |
|-----------|--------------|--------------|------------------------|-----------------------|-----------------------|
| Born | Around 1870 | 1900–1920 | 1920–1930 | 1940–1950 | after 1950 |
| Data sets | Haugen 1940s | Haugen 1940s | Hjelde 1980s and 1990s | CANS Eide/Hjelde 2010 | CANS Hjelde 2010–2018 |

Table 3. Parent and child pairs placed according to cohort (Data: CANS/Hjelde). (Wa = Wanamingo; Z = Zumbrota; CV = Coon Valley; W = Westby).

| Cohort | I | II | III | IV | V |
|------------------|-------------|-------------------------|-----------------------|-----------------------|----------------------|
| Born | Around 1870 | 1900–1920 | 1920–1930 | 1940–1950 | after 1950 |
| Parent and child | | Thor (Wa) Mason (CV) | Ted (CV) Laura (W) | Iris (Z) Liam (CV) | Beth (W) Lars (W) |

The information gained through these interviews, as well as the graphs and the discussions in Section 3 on available sources for different varieties of Norwegian, leads us to assume that there will be a noticeable change between cohorts II and IV as regards acquired productive linguistic distinctions in Heritage Norwegian. If the quantity and quality of input is visible in the production of heritage speakers, this is where we ought to see the biggest changes. Our expectations are based on the fact that the bulk of natural language acquisition usually happens when the learner is between 0 and 12 years, and many of the input sources start to recede around 1920. This is when cohort III children are born.

4.2. Selecting Linguistic Features for the Study

As is well-attested, “[i]f two or more languages are in contact, with speakers of one language having some knowledge of the other, they come to borrow, or copy [. . .] linguistic features and forms of all kinds” (Aikhenvald 2006, p. 2). This phenomenon, more recently referred to as crosslinguistic influence, trivially applies to NorNAHL, a minority language in a continuous contact situation. However, the impact from English, omnipresent in the greater community and society, constitutes only one of the two important sources of crosslinguistic influence (CLI) relevant in the context of NorNAHL in the American Midwest. The second source is the influence from other Norwegian dialects and standards present in the immigrant’s daily input.

Language contact research has sought to identify linguistic domains (universally) more and less susceptible to contact-induced linguistic change across various types of language contact and particular languages, and although there is little consensus also in this field, the disintegration and simplification of morphological systems triggered by language contact is widely attested. Correspondingly, Benmamoun et al. (2013, p. 141) identify inflectional morphology as “particularly vulnerable in heritage languages”. On the other hand, word order phenomena are usually seen as rather robust in language contact (e.g., Winford 2003, p. 97); this has been attested for heritage languages in general and for NorNAHL specifically. Johannessen and Laake (2015) find that many syntactic features remain rather unchanged from the earliest Heritage Norwegian up to the present day. However, although the morphosyntactic features and operations may well still exist in the heritage language, the frequency with which certain constructions and features occur gradually shifts. In this study, we scrutinize such ratios within one morphological domain, tense affixes, and in two syntactic domains, complex noun phrases and topicalized verb second declaratives.

The selected morphosyntactic features exhibit productive distinctions subject to variation and change in NorNAHL throughout the 80-year time span, and these changes in the distributional pattern reflect the reduction in types of input available over time. Firstly, the morphological paradigms we address in Section 4.3 are different from one variant to the next of spoken and written NorNAHL available in the community. The internal word order of complex noun phrases, specifically, in prenominal and postnominal possessives, distribute differently across spoken variants and across spoken and written input, and it is intriguing to track the potential impact of the written input in the spoken production especially (Section 4.4). Finally, the topicalization of non-subjects and the corresponding

subject–verb inversion (i.e., verb second) addressed in Section 4.5 are features where Norwegian and English are very different. Firstly, English is not a V2 language, and secondly, topicalization is rather frequent in Norwegian and rather rare in English. Roughly 35% of Norwegian main clauses feature topicalization, compared to about 7–10% of corresponding English structures.

4.3. Morphological Paradigms: Productive Tense Suffixes of Loan Verbs

Eide and Hjelde (2015a, 2018) report on the tense paradigms in NorNAHL and focus on loan verbs, as these verbs, being newly introduced to the Norwegian varieties, necessarily inflect according to the (most) productive morphological paradigm.¹³ When Haugen (1953) discusses verb paradigms of borrowed verbs (exemplified here by the borrowed verb *claim*, adapted as *kleima* in NorNAHL), the paradigm from standard Nynorsk is the baseline. In line with the analysis of Norwegian (and other Germanic) tense suffixes in Eide (2002, 2005, 2009a, 2009b, 2016, 2019 and subsequent work) and Eide and Hjelde (2015a, 2018), we enter these verb forms into a table featuring matrices of \pm past and \pm finite. According to Haugen’s discussion of verb forms, the distinction \pm finite is retained in the non-past forms (infinitive *kleima* versus present *kleimar*), but absent from the +past forms: the preterit *kleima* shares the form with the past participle (cf. Table 4a). Haugen’s paradigm for Nynorsk shows syncretism between all forms except the present. We also show the contemporary bokmål paradigm (1907–standard), with distinct forms for infinitive and present, but non-distinct forms for the +past cells; cf. Table 4b. This latter standard was prevalent in the written input of NorNAHL learners at the time, and the same system is documented in Haugen’s transcriptions of the Westby minister’s “educated speech”.¹⁴

Haugen’s paradigm in (Table 4a) is clearly an idealization; thus; we revisited Haugen’s recordings to attest for the paradigms for the spoken varieties. Haugen’s informants were born between 1849 and 1927, thus spread across cohorts I, II and III. The productive class of verbs for the dialects in Coon Valley/Westby displayed two competing systems in these three cohorts, mirroring the Norwegian dialectal origin of the immigrants.

Table 4. Nynorsk (a) and Bokmål (b) in the 1940s.

| a. | +finite | -finite | b. | +finite | -finite |
|-------|----------------------------|------------------------------|-------|-----------------------------|-------------------------------|
| +past | Preterit: <i>kleima</i> | Participle: <i>kleima</i> | +past | Preterit: <i>kleimet</i> | Participle: <i>kleimet</i> |
| -past | Present: <i>kleimar</i> | Infinitive: <i>kleima</i> | -past | Present: <i>kleimer</i> | Infinitive: <i>kleime</i> |

Most of Haugen’s informants in the 1940s traced their roots from around Lake Mjøsa and the lower part of Gudbrandsdalen Valley. The paradigm of the dialect in this area maintains the finiteness distinction for the non-past forms (expressed by the suffix *-r* in the present). The distinction \pm past is neutralized in this dialect, but only for non-finite forms (infinitive versus past participle), cf. Table 5a. We dub this *the Southern system*, noting that this expresses the same distinctions as the written Norwegian standard *Nynorsk* in Table 4a above, although the exponents are different. The second system in the data we dub *the Northern system*, consistent with the dialects of most of the (northern) Gudbrandsdalen area (cf. Venås 1974). Here, the finite distinction is neutralized in the +past and the non-past forms (Table 5b). What remains is simply the distinction past/non-past.

Table 5. Southern system (a) and Northern system (b) in Coon Valley/Westby in the 1940s.

| a. | +finite | -finite | b. | +finite | -finite |
|-------|----------------------------|------------------------------|-------|----------------------------|------------------------------|
| +past | Preterit: <i>kleime</i> | Participle: <i>kleime</i> | +past | Preterit: <i>kleima</i> | Participle: <i>kleima</i> |
| -past | Present: <i>kleimer</i> | Infinitive: <i>kleime</i> | -past | Present: <i>kleime</i> | Infinitive: <i>kleime</i> |

The paradigm for this most productive class of verbs varies greatly in the relevant spoken varieties; still, the overall picture is clear: there are two competing, rather stable paradigms in use, depending on the origin of the immigrant community. In the *Trønder* dialect of Wanamingo and Zumbrota (cf. Table 6b below), the present tense lacks the present tense *-r* feature, just like the Northern system of Coon Valley and Westby.¹⁵ This dialectal micro-variation is maintained for certain speakers until well into the 2010 recordings (Hjelde 2015). However, we see a propensity among younger speakers already in the 1940s recordings toward a third co-existing system, described by Eide and Hjelde (2015a) as a *hybrid system*. The paradigm features a compromise between the two paradigms in (Table 5a,b), cf. the paradigm in (Table 6a).

Table 6. Hybrid paradigm in Coon Valley/Westby later cohorts (a) *trønder* system (b).

| a. | +finite | -finite | b. | +finite | -finite |
|-------|-----------------------------------|-------------------------------------|-------|-----------------------------------|-------------------------------------|
| +past | Preterit: <i>kleima</i> | Participle: <i>kleima</i> | +past | Preterit: <i>kleima</i> | Participle: <i>kleima</i> |
| -past | Present: <i>kleimer</i> | Infinitive: <i>kleime</i> | -past | Present: <i>kleime</i> | Infinitive: <i>kleim</i> |

We strongly suspect that the reason this “hybrid paradigm” emerges is that it converges on the written standard *Bokmål*, the standard of written input, in the distinctions made. Compare the hybrid system in (Table 6a) to the *Bokmål* system in (Table 4b). If the prevalence of this paradigm is a result of the steady written input, this entails a contact-induced change where the written standard is the donor language, and we may predict a steady rise and prevalence of the *Bokmål* paradigm. However, this is not what we find. The prevalence of the hybrid paradigm is clearly temporary, when we study later recordings of younger cohorts.¹⁶ Hjelde’s recordings from the 1980s and 1990s feature informants born between 1905 and 1932, thus belonging to cohorts II and III. The previous prevalent “hybrid system” in (Table 6a) is now clearly receding, and perhaps somewhat unexpectedly, the Northern system in (Table 5b) is the system now on the rise. This is a paradigm with no finiteness distinction, mirroring exactly the distinctions made in the productive English system; again, not in the actual exponents of tense forms, but in the distinctions made; cf. Table 7.

Table 7. Final *Northern system* in Coon Valley/Westby (a); English system (b).¹⁷

| a. | +finite | -finite | b. | +finite | -finite |
|-------|-----------------------------------|-------------------------------------|-------|------------------------------------|--------------------------------------|
| +past | Preterit: <i>kleima</i> | Participle: <i>kleima</i> | +past | Preterit: <i>claimed</i> | Participle: <i>claimed</i> |
| -past | Present: <i>kleime</i> | Infinitive: <i>kleime</i> | -past | Present: <i>claim</i> | Infinitive: <i>claim</i> |

Our 2010 recordings feature informants born between 1940 and 1961, i.e., cohorts IV and V. The tendencies from previous recordings are now almost categorical: The *Northern system*, converging on the English system, is the one preferred by younger speakers, although several parallel systems co-exist. Children of the Norwegian immigrants had to cope with a great deal of dialectal micro-variation in their acquisition of Heritage Norwegian. In a confusing linguistic landscape, the written input, mostly in *Bokmål*, would provide a haven of regularity and authority and a compromise paradigm for the dialectal micro-variation in the spoken input. Hence, cohorts II and III, with their access to ample written Norwegian input, parochial schools, confirmation lessons and church services in Norwegian, clearly show this tendency to favor the paradigm that converges on the *Bokmål* paradigm, although refurbished with exponents from the spoken input.¹⁸

For cohorts IV and V, the access to written input, and Norwegian input in general, is dramatically reduced. There is no longer enough input to maintain this paradigm, and the prevailing productive paradigm for these younger cohorts is the one converging

on English—which incidentally makes the same distinctions as the previously receding *Northern system* of Coon Valley/Westby. When there is no longer competition from the written standard, this system belonging to one of the spoken dialects prevails, as it happens to converge on the English productive paradigm for regular weak verbs.

Assuming this to be a reasonable explanation for the trends in our data and relating this to “quantity or quality of input” discussed in Section 1, it seems that both play a role—as the quantity of input is incrementally reduced for each cohort. However, the type of input is also mirrored in the production of the different cohorts: Written input supports a morphological paradigm of tense suffixes absent from the dominating spoken variants for cohorts II and III. When the supply of written input stops, as for cohorts IV and V, the system of one of the spoken variants wins out. The prevailing paradigm converges on the paradigm of English, the dominating language for a NorNAHL bilingual.

4.4. Intra-Phrasal Syntax: Prenominal and Postnominal Possessives

Norwegian allows two orderings of the possessive and the noun phrase; the pronominal (1) and the postnominal (2), differing pragmatically, distributionally and morphologically. The postnominal possessive is morphologically more complex with two instances of definiteness, the possessive and the definite suffix (her: *-en*). The pronominal possessive in contrast has one definite marker, notably the possessive itself.

- (1) *min* *hest*
me.poss.def horse
'My horse'
- (2) *hest-en* *min*
horse.def me.poss.def
'My horse'

In spoken homeland Norwegian the postnominal possessive in (2) is considered the unmarked and the one with the widest distribution. The pronominal in (1) has a contrastive implication and is unlikely to appear in non-contrastive contexts without a stressed possessive, cf. (3a) vs. (3b). In a contrastive context the pronominal possessive is felicitous, but only with a stressed possessive; cf. (4a) and (4b).

- Q1 *Hvordan* *skal* *vi* *dra* *til* *byen?*
How shall we go to town
'How will we go to town?'
- (3) a. **Vi* *kan* *ta* *vår/VÅR* *hest.*
we can take our horse
'We can take our horse.'
- b. *Vi* *kan* *ta* *hesten* *vår.*
We can take horse.def our.poss.def.
'We can take our horse.'
- Q2 *Skal* *vi* *ta* *hesten* *vår* *til* *byen?*
Shall we take horse.def our.poss.def to town
'Should we take our horse to town?'
- (4) a. *Nei* *vi* *tar* *VÅR/*vår* *hest*
no we take our horse
'No, let's take OUR horse.'
- b. *Nei* *vi* *tar* *hesten* *VÅR/*vår*
no we take horse.def our.poss.def
'No, let's take OUR horse.'

The two constructions have different distributions across spoken and written registers; this is not surprising, given the dependence of stress for felicitous use in spoken registers. According to Lødrup (2012), in written texts 78% of possessive noun phrases are pronominal, and only 22% are postnominal. In spoken corpora, the numbers are reversed, with 25% pronominal possessives and 75% postnominal possessives.

Our initial investigation of possessives in NorNAHL of the informants from cohorts I–II in the 1940 material reveals proportions of pre- and postnominal possessives similar to spoken homeland Norwegian (i.e., Lødrup’s findings); cf. Table 8. Over the next cohorts,

the percentage of prenominal possessives drops substantially, down to 7 percent in the 1990s recordings and then with an unexpected rise again in the recordings from 2010. However, it turns out that one informant is responsible for this rise—an informant we call outlier Per. Excluding Per from the count sends the percentage of prenominal possessives down to 5 percent.

Table 8. Possessives in production of the different generational cohorts (cf. Table 3 above).

| Recordings | | Generational Cohort | Prenominal Possessive | Postnominal Possessive |
|------------|-----------------------|---------------------|-----------------------|------------------------|
| 1940s | | I–II | 23% | 77% |
| 1990s | | III | 7% | 93% |
| 2010s | Including outlier Per | III–V | 13% | 87% |
| 2010s | Excluding outlier Per | III–V | 5% | 95% |
| 2010s | outlier Per | III–V | 89% | 11% |

Westergaard and Anderssen (2015) find that the proportion of postnominal possessives in the CANS corpus is slightly higher in NorNAHL than in homeland Norwegian, at 80% vs. 75% (op. cit. 25–26). Here, outliers too make a big impact. Most prenominal possessives are produced by three speakers. To increase the reliability of our numbers, we hence included more informants, revisiting Haugen’s 1942 recordings from Coon Valley and Westby and Hjelde’s 1980s–1990s transcribed recordings from Coon Valley and Westby, Zumbrota and Wanamingo. We studied all CANS material from 2010–2016 from Blair, Westby and Coon Valley, Zumbrota and Wanamingo, and lastly, we examined all Haugen’s speakers in the CANS material, regardless of where they came from. For this larger study, we used a search function [Pos + Noun] and [Noun + Pos], before manually verifying all hits to remove irrelevant constructions like, e.g., “boka hennes Jane” (book the her Jane, ‘the book of Jane’s’).¹⁹

Haugen’s NorNAHL recordings taken together show the expected proportion of prenominal possessives, mirroring that of homeland Norwegian (Lødrup 2012); cf. Table 9. When we separate Haugen’s recordings in Coon Valley and Westby from the rest, however, we find that at this stage the data are already different from the rest of the NorNAHL material in CANS. The Coon Valley/Westby material features a proportion of 13 percent for prenominal possessives. This is similar to what we find in the data from this area still in the 1980s, 1990s and 2010s, suggesting that this may be a dialectal feature from early on. Preliminary investigations of older Norwegian dialect recordings from Gudbrandsdalen in the database LIA reveal data to support this assumption: the Gudbrandsdalen dialect features a proportion of prenominal possessives closer to 10 percent instead of the 25 percent typical of other Norwegian dialects and standards.²⁰

Table 9. Prenominal possessives in the CANS material.

| Recordings | Prenominal Possessive Percentage | Prenominal Possessive Numbers |
|----------------------------------|----------------------------------|-------------------------------|
| 1930s and 1940s (Haugen) | 23% | 91/404 |
| 1942 Coon Valley/Westby (Haugen) | 13% | 16/115 |
| 1980s and 1990s (Hjelde) | 12% | 15/126 |
| 2010s (CANS-project) | 5% | 40/739 * |

*: These are the numbers excluding outlier “Per”, cp. Table 8.

This levels out in the overall CANS material from the 1930s and 1940s because the proportion is evidently higher in other spoken variants of NorNAHL. Again, we believe that this is the impact of written Norwegian, which would draw the proportion of prenominal possessives higher. Let us recall that in written Norwegian (Lødrup 2012), the proportion of prenominal possessives is 78% instead of 25%, the latter being the average proportion for spoken Norwegian. This conjecture would still not explain the numbers for Coon Valley/Westby, unless we assume these speakers to be exempt from the “people of readers”, which is implausible. The proportion of prenominal possessives may definitely be affected by written input in certain cases, and we have convincing evidence of this effect in the case of “outlier Per”. This informant produces prenominal possessives in 89 percent of the instances, in sharp contrast to his peers whose production features 5% prenominal possessives on average. Per volunteers the information that he obtains almost all his Norwegian input from written texts, which is mirrored in his oral production. Clearly, the behavior of one single informant does not prove the effect of written input for other NorNAHL speakers, but the numbers for this particular informant are certainly very striking, and the trends in the material are clearly compatible with this explanation.

CLI seemingly plays a lesser role here, as the postnominal structure spreads in NorNAHL in spite of the prenominal structure being the only option in English. In spoken Norwegian, the postnominal possessive is the unmarked option. Three-quarters of possessive construction contexts feature a postnominal possessive, while the use of prenominal possessives is limited to contrastive contexts. The fact that the prenominal possessive is dependent on stress and intonational features for its felicitous use only adds to the complexity of restrictions for this construction. Acquiring the contextual restrictions for each construction requires rich input to observe and internalize the specific triggering cues, and in this NorNAHL contact situation such rich input is not available. When input from written Norwegian decreases, the default construction hence extends its functional domain into the domain of both variants, as compared to the homeland varieties.²¹

4.5. Inter-Phrasal Syntax: Topicalization and Verb Movement

In an average corpus of spoken and written texts, about two-thirds of all Norwegian main clause declaratives are subject-initial, although the type of subject differs somewhat from spoken to written register. Spoken declaratives more often start with a pronoun or an expletive (Eide and Sollid 2011; Eide 2011), written declarative main clauses show a stronger propensity toward lexical, more complex subjects. When a main clause declarative starts with a non-subject, this is referred to as topicalization; depending on your theoretical stance, the topicalization position can also host subjects (cf. van Craenenbroeck and Haegeman (2007) for a very useful overview of this debate). Topicalization, fundamentally constrained by a set of rather complex contextual and pragmatic cues, belongs to the syntax–pragmatic interface, attested as an area rather vulnerable to attrition in heritage languages, and challenging for bilinguals generally (Sorace 2011; Benmamoun et al. 2013; Kroch and Taylor 1996). Typically, the pragmatic factors governing and licensing topicalization constructions in a monolingual context are known to be changed and sometimes relaxed in a bilingual population, resulting in what is perceived as “overuse” of the construction (cf. Prince 1981 on “Yiddish movement”). Pulling in the opposite direction is the robust observation that bilinguals are prone to avoid constructions calling for a fine-tuned set of complex pragmatic rules due to the amount of input required to acquire these rules, which may not be available in a bilingual context. Hence, we may also expect *avoidance* in otherwise typical topicalization contexts (e.g., Kleinmann 1977).

In Norwegian, whatever type of element fills the first position, the finite verb occurs in second position, so when a non-subject is topicalized, the verb moves, ending up to the left of the subject in Norwegian declarative main clauses. English is different; firstly, English’s main clause declaratives are subject-initial in 85–90% of the cases; secondly, even when the declarative starts with a non-subject, the verb does not move and remains to the right of the subject no matter what fills the first position.

Topicalization and verb second (V2) in NorNAHL occurs at a proportion mirroring homeland Norwegian (cf. Eide and Hjelde 2015a; Eide 2019). For the youngest speakers, however, the proportion of topicalizations in production drops to a level converging on the English ratio, correlating with a rise in placements of the verb differing from that of homeland Norwegian.²² There is presumably an underlying relation between topicalization and V2: as heritage speakers gradually decrease their number of topicalizations, the V2 rule starts to recede. A speaker of younger cohorts typically topicalizes less than previous cohorts and puts the verb either in the V2 position (as in 5) or in the V3 position (as in 6), in a seemingly random fashion.²³

- (5) *Nå går vi ferbi hår je vaks opp*
 now walk we past where I grew up
 ‘Now let’s walk past the place where I grew up.’
- (6) *Der dem lager vin*
 Now walk we past
 ‘There they make wine’

Examining our own data from parent-and-child pairs, we find a development similar to that attested in previous work. The older generation clearly exhibits a stronger tendency to topicalize a non-subject than the younger generation; cf. Table 10.

The older generation topicalizes in 23 percent of the declaratives, similar to spoken homeland Norwegian. The child generation topicalizes non-subjects at about half this rate (10–15 percent).²⁴

The dent in Figure 6 is due to Liam, born 1943, who uses topicalization almost as often as his father, born 1915, and in a limited data set, this distorts an otherwise clear picture.²⁵ The proportion of topicalizations in the informant’s production decreases and the number of non-V2 placements of the finite verb rises for the younger generation as compared to parents and earlier cohorts.

Table 10. V2 and topicalizations in parent–child pairs.

| Speaker | Thor | Iris | Mason | Liam | Ted | Beth | Laura | Lars |
|------------------|------|------|-------|------|------|------|-------|------|
| Cohort | II | IV | II | IV | III | V | III | V |
| Birth year | 1908 | 1939 | 1915 | 1943 | 1932 | 1957 | 1922 | 1961 |
| Declaratives (N) | 235 | 274 | 87 | 164 | 779 | 68 | 254 | 318 |
| Topicalizations | 23% | 13% | 28% | 25% | 29% | 10% | 27% | 10% |
| Non-V2 | 5% | 11% | 6% | 0% | 1% | 14% | 0% | 20% |

Topicalization and non-V2 in heritage Norwegian

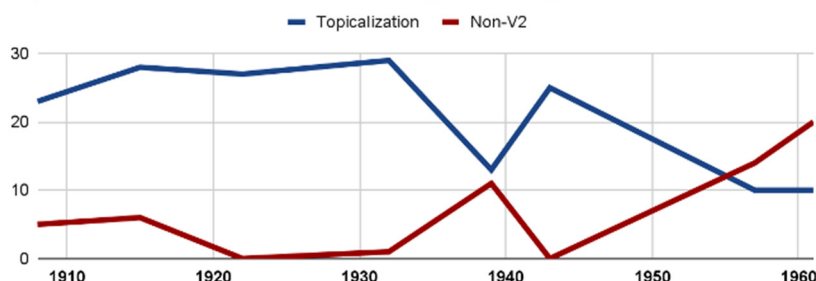


Figure 6. Topicalization and non-V2 according to informant’s year of birth.

This development is likely tied to the *quantity* of input. The ratio of topicalizations remains similar across written and spoken Norwegian (ca. 35%) and nothing suggests that topicalization ratios vary across Norwegian traditional dialects.²⁶ “Exceptional non-V2”, found with certain adverbs (cf. note 18) occurs in a small percentage of homeland main clause declaratives only; thus, the non-V2 emerging in youngest cohorts is not likely to be

an effect of positive evidence in specific types of input. A plausible explanation of either of the trends seen in Figure 6 should therefore not rest on different input sources (i.e., input *quality*), but rather on the absence of relevant input (i.e., input *quantity*).

5. Modeling Multilingualism and Linguistic Change

Until recently, (idealized) monolingualism was held as the type of language use to be explained, a widespread view across different frameworks (e.g., Chomsky 1965; Schilling-Estes 2004, pp. 163–64). Contemporary linguistics embraces bilingualism and multilingualism as the norm in a global view on language use (Vaid 2002, p. 1), and multiple languages in one mind requires a different approach to language description and explanation. The ability for multilingualism “should in effect form the basis of the description from the beginning”; according to Cook and Newson (2007, pp. 223–24).

Roeper (1999); Roeper (2016) advocates that every language is in effect a superset of many parallel, often conflicting grammars, entailing that any language user is in fact multilingual, however “monolingual”: any speaker knows a range of registers, dialects, child talk, etc., from exposure to different speakers of the “same” language. Some arrived at this insight earlier than the mainstream; cf. Martinet’s preface to Weinreich ([1951] 2011):

It remains to be emphasized that linguistic diversity begins next door, nay, at home and within one and the same man [. . .]. What we heedlessly and somewhat rashly call ‘a language’ is the aggregate of millions of such microcosms many of which evince such aberrant linguistic comportment that the question arises whether they should not be grouped into other ‘languages’.

Chomsky (2000, p. 187) suggests how different styles link to different contexts:

[E]very human being speaks a variety of languages. We sometimes call them different styles or dialects, but they are really different languages, and somehow we know when to use them, one in one place and another in another place. Now each of these different languages involves a different [“grammar”].²⁷

What is referred to here as styles, dialects or “grammars”, is referred to in other works as varieties, lects or registers, typically depending on the specific linguistic feature variants one wants to address. While *grammar* usually refers to morphosyntactic features and *register* refers to the choice of vocabulary,²⁸ the term *styles* often refers to phonological variants and pronunciation, but also to the choice of rhetorical devices. *Standard* often regards distance to some official norm, and while *lects* are “languages” confined, e.g., by geography (dialects) or social class (sociolect), a “language is a dialect with a navy and an army” (proverb attributed to Max Weinreich).

However, the features targeted through these specific terms, although they clearly belong to different linguistic levels and systems, strongly tend to covary within certain lects or languages. For instance, the occurrence of a particular morphological variant is usually accompanied by a particular phonological variant (Blom and Gumperz 2000, pp. 118–19). The choice of a specific grammatical morpheme variant often affects the accompanying syntax, e.g., Reite (2011) shows how the choice of a particular *wh*-word allows for “exceptional V3” if it belongs to the set of older dialectal *wh*-words, as opposed to the set of “new” dialectal *wh*-words that happen to converge on the standard *Bokmål*.

To a bilingual speaker of Norwegian and English, a string consisting of all English words is usually accompanied by English pronunciation and grammar, and Norwegian features on all levels are selected for a string consisting of only Norwegian words (but cf. below for exceptions to this typical situation; cf. also Sunde 2019). This covariation or clustering of feature variants on different levels is what constitutes varieties, sociolects, dialects, languages, and styles, according to Ulbricht and Werth (2021). In the remainder of this paper, we use the term *repertoire* for all these different types of *lects*. Although these specialized terms involve specific variants at different linguistic levels occurring in particular linguistic context types, they do in effect all imply a speaker’s linguistic choices

determined by contextual adaptation, where the synthetizations of selected features are what constitutes the specific *lect*, or in our terms, *repertoire*.

Language learners from early on come to associate specific registers (including national languages) with specific contexts. A specific input with specific traits is always given in a specific context, and learners evidently associate the features synthesized from a given linguistic input source with its contextual features.²⁹ Thus, we may assume that a vocabulary element such as a word comes with a feature matrix indicating not only the meaning (including connotations), morphology, distribution (syntax) and pronunciation, but also with features encoding appropriate context, depending on the input source(s) for this word. The same will be true for the separate linguistic features.

A Heritage Norwegian speaker in the 1930s' American Midwest would have access to many sources of continuous input (cf. discussion above), and this input would contribute to the pool of linguistic resources of the language user. Figure 7 depicts the input landscape of such a NorNAHL speaker. Note that since every language user has their own unique linguistic biography, there would be a lot of individual variation, e.g., some NorNAHL speakers had access to Irish or German input as well.

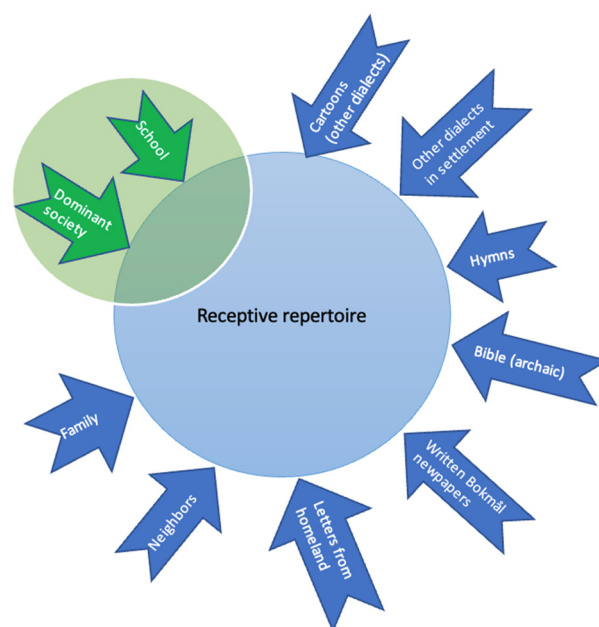


Figure 7. Norwegian receptive repertoire for a NorNAHL speaker in the 1930s, adapted from Eide (2022). Norwegian input: blue arrows; English input: green arrows.

5.1. Receptive and Productive Repertoire

The necessity to distinguish between receptive and productive competence was noted already by Troike (1970), who noted that whereas productive competence “can be inferred from free performance”, receptive competence “is not so directly attested”. Troike proposed elicitation experiments as a means to access and assess receptive competences of language users, and many such techniques have later been developed. Whereas receptive and productive language competences, governing perception and production could in principle adhere to completely different principles, it seems instead that the “laws” applying across linguistic reception and production systems are strikingly similar (Pater 2004, p. 1), although production usually lags behind in language acquisition. In language attrition (e.g., for heritage speakers), the opposite relation holds: receptive competence lingers on well after the productive competence is long gone in the individual language user (Montrul 2008, p. 81).

Eide and Sollid (2011, p. 335) discuss the relation between receptive and productive repertoires and note that the line between these two is sometimes fuzzy. Many features

of the receptive repertoire may become productive and any feature from the productive repertoire is potentially relegated to the receptive repertoire (cf. passive and active vocabularies). Trivially true is that there is no acquisition without input, cf. Meisel (2020, p. 33); thus, nothing can become part of the receptive competence which is not first in the input.³⁰ In turn, for a feature to be acquired, it must first be a part of the receptive repertoire before it can be transferred to the productive repertoire. This is too trivially true. Likewise, for almost all individual language users, the productive repertoire must be a subset of the usually substantially larger receptive repertoire (although exceptions exist, cf. below). Language users are sometimes reluctant to produce languages and variants where they have substantial receptive competence, and *acculturation* may be one factor. Schumann (1978) observed that an affinity to identify with the cultural group speaking a given language translates into a propensity to speak that language, and this is evident even for the children of Norwegian immigrants in the Midwest. The Norwegian-American immigrant and teacher Carl Raugland, MI, wrote a letter to his brother in Norway in 1900 (Soleng 2007, p. 44):

The language of our children is almost exclusively English, but they understand every word spoken to them in Norwegian; it is hard to teach the children Norwegian in this country, as English comes more naturally to them.³¹

NorNAHL speakers could be anywhere on the native speaker continuum from monolingual Norwegian to unbalanced bilinguals with English as their almost exclusive language. Whatever their productive proficiency, not all variants present in the input (cf. Figure 7) would be part of their respective productive repertoires. In fact, several of these sources of input provide linguistic features that would never make it past the border between receptive and productive repertoire. For instance, the church services, the parochial schools and specifically language-learning settings would include Bible studies and Norwegian hymns with linguistic traits never used in ordinary spoken production (cf. Figure 8). *The Lord’s Prayer* has several instances of the archaic Norwegian subjunctive, cf. examples (7) and (8). Likewise, Norwegian Lutheran hymns were often translated from German and therefore often feature verb-final clausal structures that simply never appear in the spoken production of NorNAHL speakers, cf. examples (9)–(11) from *Indgangssalme* in *Landstad’s book of hymns for Lutheran Christians in America*, 1909.

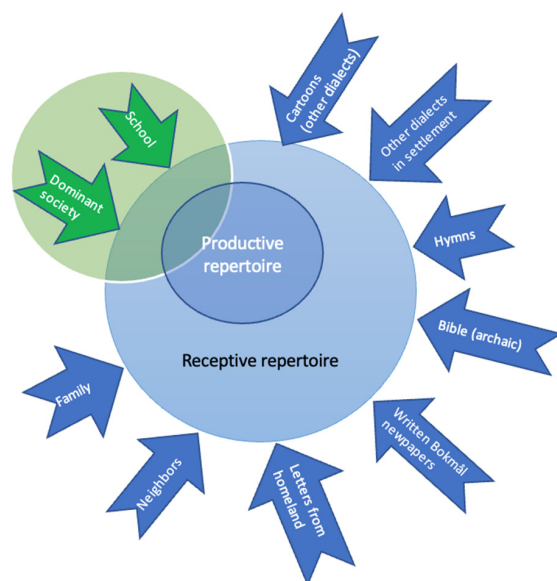


Figure 8. Receptive and productive repertoire for a NorNAHL speaker in the 1930s, adapted from Eide (2022). Norwegian input: blue arrows; English input: green arrows.

Examples of subjunctive (*The Lord's Prayer*)

- (7) *Helliget* *vorde* *Dit* *Navn*
 holy.made be.SUBJ Your name
 'Hallowed be Thy name.'
- (8) *Komme* *Dit* *Rike*
 come.SUBJ Your kingdom
 'Thy kingdom come.'

Examples of verb final clause structures (*Indgangssalme*)

- (9) *i Evighet* *Vær* *hos* *oss* *og* *vår* *Sjæl* *bered*
 In eternity be with us and our soul prepare
 'Be with us in eternity and prepare our soul'
- (10) *At* *Gud* *vi* *søke* *Nåde* *få*
 That God we seek mercy receive
 'that we seek God, receive mercy'
- (11) *I* *våre* *Synder* *la* *oss* *ei* *forgå!*
 In our sins let us not perish
 'Do not let us perish in our sins'

Likewise, the cartoons in *Decorah-Posten* portrayed characters speaking different dialects, who would also contribute to the receptive competence of the readers. The instances of the non-local dialect would usually not however make it into the speakers' daily productive repertoire. When prompted, many speakers would nevertheless be able to recite, reproduce and hence produce various words and phrases from this contextually much more confined input, normally relegated to their receptive repertoire.

The flexible, fuzzy border between receptive and productive repertoires allows the productive repertoire of a language user to vary and change based on all kinds of conscious or subconscious choices. Likewise, changes in the productive repertoire may be short-term (*accommodation*) or long-term (e.g., *age-grading* or *language attrition*). Although this can easily be depicted in this model, we will not go into the details of age-grading here, although we will discuss accommodation and briefly also attrition.

5.2. *Selecting the Productive Repertoire: "Somehow We Know When to Use Them . . . "*

Acculturation, as mentioned above, is one factor influencing a speaker's propensity to activate features from her receptive repertoire and include these in her production. However, there are a plethora of possible ways and potential reasons why a speaker selects the specific set of features constituting her daily productive repertoire. Here, [Matsuda \(1991, p. 1329\)](#), discussing a person's *accent* (although in effect this pertains equally well to what we refer to as *productive repertoire*):

Your accent carries the story of who you are—who first held you and talked to you when you were a child, where you have lived, your age, the schools you attended, the languages you know, your ethnicity, whom you admire, your loyalties, your profession, your class position: traces of your life and identity are woven into your pronunciation, your phrasing, your choice of words. Your self is inseparable from your accent.

The "default settings" of a person's productive repertoire is likely to be overridden almost on a daily basis, since all speakers, consciously or unconsciously, adjust their language to their interlocutors to enhance the potential for successful communication. This fundamental observation gave rise to seminal approaches such as *accommodation theory* ([Giles 1973](#)) and theories of *audience design* ([Bell 1984](#)). Speakers select, usually from a wide spectrum of possible resources, the sub-repertoire presenting itself as most appropriate to a given linguistic context, varying their set of covariant features synthesized into specific varieties. Additionally, whereas the specific linguistic features are usually subject to co-occurrence restrictions, the selection of varieties (i.e., a synchronized set of features) is clearly subject to extra-linguistic factors. Any knowledge the speaker has about the interlocutor, including his level of comprehension, is likely to affect the productive choices. This has previously been attested in *foreigner-directed speech*, *infant-* and *child-*

directed speech, and *computer-directed speech*, to mention but a few, where this knowledge is likely to affect lexical selection, selection of phonological, morphological, syntactical features, as well as the specific rhetorical devices.³²

The productive repertoire of a NorNAHL speaker would be influenced by the same general mechanisms; the specific context, interlocutor or audience and the speaker's sympathy or antipathy toward the different dialects, homeland Norwegian and the language of the dominating society, English, would drive conscious and unconscious decisions in the direction of convergence or divergence, respectively. The propensity for language mixing, either between Norwegian and English, or between the different dialects available in the input, would also depend to a certain degree on the given speaker's level of metalinguistic awareness, and their inclination for *purism* or *alignment*.

Any language contact situation can be described as a push and pull between these two conflicting forces, where purism applies to the conservative, protectionist language forces, where the ideal is the "pure language" (cf., e.g., Thomas 1991, p. 33). Alignment refers to the opposite forces pushing linguistic variants toward convergence; thus, previous distinctions between two language systems are reduced. This implies the tendency to borrow linguistic elements, to code-switch and to relax restrictions on the use of linguistic elements, allowing previously restricted elements to appear in new contexts. Alignment can hence be explained as a relaxation on the contextual restrictions on specific forms. Matras (2009, pp. 151, 237) explains how any bilingual mind is always struggling to keep the different languages apart and to make sure that contextual restrictions on different languages are respected. The language user constantly scans the linguistic environments to discover an overlap between his two grammars, allowing him or her to exploit his linguistic repertoire to the maximum.

[T]here is pressure on the bilingual to simplify the selection procedure by reducing the degree of separation between the two subsets of the repertoire [. . .] We might view the replication of patterns as a kind of compromise strategy that [. . .] reduce[s] the load on the selection [. . .] mechanism by allowing patterns to converge, thus maximizing the efficiency of speech production in a bilingual situation.

This process shows itself in NorNAHL i.a. through a tendency toward a certain degree of *koinéization* and dialect leveling among the youngest cohorts (cf. Hjelde 2012 for a detailed discussion). When previous micro-distinctions are discarded and instead aligned in a common paradigm (see the "hybrid" tense affix paradigm illustrated in Table 6) this can be seen as instances of the same process (cf. also Eide and Hjelde 2015a; Eide 2019).³³ The same type of alignment is attested at later stages as the most recent productive paradigms converge on the exact same distinctions made in the corresponding English paradigms. The incrementally decreasing ratios of topicalizations in declaratives in NorNAHL and the gradual increase in non-V2 structures can also be seen as alignment with and convergence toward English information structure.

Morphosyntactic features are hard to keep track of and consciousness about these require a metalinguistic level of awareness which is rather rare among the general public. However, in bilingual and biletal contact situations, tendencies toward a kind of *hyper-dialectism* are sometimes found with speakers of the purist inclination. Jamieson (2020) describes this tendency among younger speakers of Shetland Scots, and Cornips and Polletto (2005) discuss several studies where speakers who take an unusually strong pride in their language (teachers, local poets or other people with a special interest in the local dialect) are rather unreliable as informants due to their inclination toward normativity and hypercorrection.

In a previous study (Eide and Hjelde 2015a), we found that one informant "Lena" obviously associated topicalization with "norwegianness", since in her planned speech, almost half of the declaratives featured topicalization (against an average of 35% in homeland Norwegian). In her online production, however, this ratio could not be upheld, and

her proportion of topicalizations in a dialogue with another NorNAHL speaker plunged to about 15%.

Words and phrases are easier to relate to metalinguistically. Hence, the purists mostly make their mark in the lexical domain, actively trying to avoid all words they suspect to be of English origin. Eide and Hjelde (2015a) report on an informant who evidently had consciously banned the heritage Norwegian loan word *leik* (from English *lake*) from his production. As he also did not produce the corresponding homeland Norwegian entry, *innsjø*, and he ended up using the word *ei mjøs* ‘a mjøs’. It seems probable that the informant has analyzed the proper name *Mjøsa* as a feminine common noun, cf. *ei bok–bok-a* (‘a book-book.DEF’); thus, *Mjøsa* would be the definite singular of *ei mjøs*: *mjøs+a*. Even in the 2010 fieldwork, we were repeatedly confronted with the request from many informants to help them rid themselves of their production of English “contamination”, i.e., English loan words, since we as Norwegian scholars surely would be able to pinpoint what was “real Norwegian” and what was not. Additionally, even if there was a general acceptance for the inclusion of English words into Norwegian in the speech community, this was only to a certain limit; those who used many such English words were derogatorily referred to as *Yankee-sprengt* (Yankee-bursting) or *engelsk-sprengt* (English-bursting).

Although NorNAHL speakers would repeatedly reject the idea that they may use a word such as *spost* (‘supposed’) in their own production, the recordings revealed a different story (Eide and Hjelde 2015b). As is well known (e.g., Trudgill 1972), linguistic self-reporting is notoriously misleading, and even the most faithful purist will come to use constructions and phrases which are banned from his productive repertoire—in principle. In online production, however, these purist intentions often cannot be upheld.

5.3. How Individual Choices Accumulate and Affect the Input for the Next Generation

Purism may seem to be a more viable route than alignment toward long-lasting maintenance of a heritage language. However, this may be something of a misconception. Natural languages develop to fit the society where the language is used and include or invent new words and elements to cover ever shifting circumstances of the modern society. Purists tend to expel any attempts at modernizing the language, cf. the development described in Section 3.3 for the newspaper *Decorah-Posten*, where this type of purism was an advantage in the competition against other newspapers for some time, but eventually yielded “a newspaper written by old people for old people” (cf. above). Likewise, Norwegian continued as a NorNAHL *lingua sacra*, the language of faith, well after English had taken over all other domains. However, without a normal renewal and adjustment of the language toward new domains, the number of contexts for NorNAHL as a useful communication tool recedes. For young NorNAHL learners, English will present itself as more convenient even if all your peers also know Norwegian, simply because your NorNAHL does not include the registers necessary to talk to your friends about modern matters. This effect is likely to be propelled as the number of potential interlocutors decreases, since this too contributes to the rapidly shrinking number of NorNAHL input sources. Additionally, this development probably affects the overall robustness of your NorNAHL representations; cf. Gollan et al. (2015, p. 154):

Contextual diversity leads to greater ease of retrieval in single-word recognition (and reading aloud) to a greater extent than does frequency of use [. . .], and similarly, use of an HL in different places, with different people at different times of day, and in different locations may be more important to achieving proficient HL word production than the number of exposures to HL words.

Alignment may be more fruitful in the long run, but in its extreme consequence it will likely relegate the heritage language to some characteristic words, phrases and constructions, where the overall frame of the language (cf. Myers-Scottton (1993)), is now the dominating language, English—a state that Haugen claimed to exist already in 1938 (Haugen 1939, p. 46). If either purism or alignment is the chosen path for the individual NorNAHL speaker, it is crucial to note that the choices made by the individual language

user may accumulate into linguistic change for the next generation, since particular features or constructions not selected, and hence not produced by the parent generation, will be absent from the input for the next generation of speakers. This vulnerability will be counterbalanced in a situation where the language acquirers have access to many different sources of input, because the construction or feature missing from the production of the parent may be present in the other sources, and hence still available for acquisition. Gollan et al. (2015, p. 154):

Different speakers talk in different ways, and interaction with a variety of speakers will likely result in exposure to a broader variety of accents, speech rates, and syntactic structures and a larger number of HL words. Alternatively, using the HL with a greater number of speakers may lead to a greater diversity of contexts with which the HL words are associated.

For NorNAHL speakers in the 2000s, the previous steady supply of sources for Norwegian input has now dried up; cf. Figure 9, where the blue arrows depicting sources for Norwegian input are now replaced by green arrows (Figure 9), depicting the English input replacing the Norwegian sources (cp. Figures 7 and 8). The receptive repertoire in Norwegian has shrunk to a size where selection between different styles and synonyms are no longer possible, the domains and contexts for which appropriate words and phrases exist are likewise reduced to almost none and the number of possible speakers for interaction in Norwegian are not only few but also far apart.

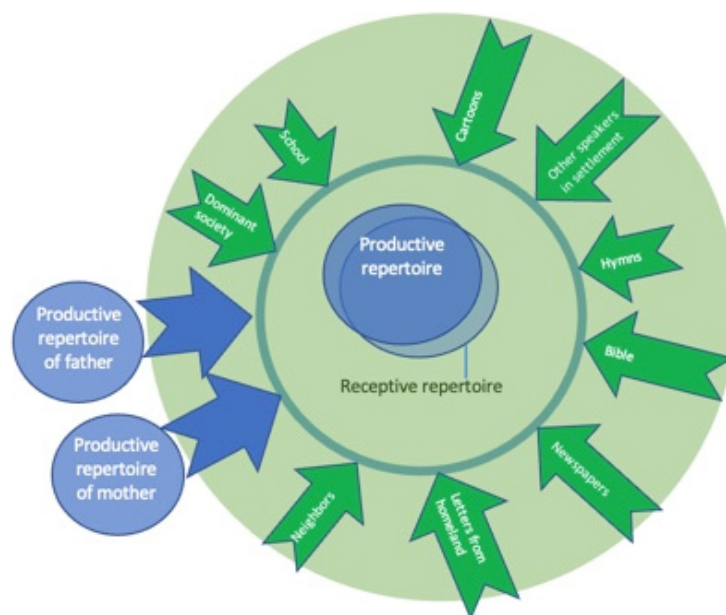


Figure 9. Receptive and productive repertoire for a NorNAHL speaker in the 2000s, adapted from Eide (2022). Norwegian input: blue arrows; English input: green arrows.

Furthermore, since the receptive repertoire is now too small to accept different accents, dialects and variants of NorNAHL, understanding new speakers will be hard. In our 2010 field work, the diversity of Norwegian dialects and standards posed a real problem in the interviews, since the go-to-mechanism of most Norwegians when talking to foreigners is accommodating toward standard spoken *Bokmål*, which was of no use whatsoever. Instead, all field workers had to improvise their best imitation of a Gudbrandsdalen dialect, and this strategy only worked in some of the conversations.

As language users are exposed to different variants of the variety they acquire, their receptive channel grows more robust, and their receptive competence increases. Continuous investigations of mutual intelligibility between the Scandinavian countries clearly reveal that the more exposure to different variants, different dialects and neighboring languages,

the more robust and tolerant are your receptive abilities. [Delsing and Lundin-Åkesson \(2005\)](#) (cf. also [Frøshaug and Stende 2021](#)) found that Norwegian adolescents are far better at understanding the other Scandinavian languages than their Swedish and Danish peers, and even Norwegian adolescents with foreign-born parents are better at decoding the neighboring languages than non-immigrant youngsters in Sweden and Denmark. One widely accepted explanation offered for these facts is that Norwegians are used to language variation, with the rather high status of dialects, their two written standards and their no-dubbing policy of Scandinavian movies and TV shows.

6. Summary

In our study, we investigated Heritage Norwegian in the American Midwest through a corpus of recordings collected and compiled over a time span of 80 years, from Einar Haugen's recordings in the 1940s via the CANS corpus and up to the present day in the authors' own recordings. Historical accounts of the institutions and societal texture of these communities allow us to trace the various sources of input available to the heritage speakers in these communities in different relevant time slots. Utilizing a model of relations between input and output, receptive and productive competence, to show how input–output effects will accumulate throughout the cohorts, we discuss and explain the observed linguistic change in individuals and society.

Specifically, we investigated how the quality and quantity of input at different times are reflected in the linguistic production of heritage speakers of the corresponding generational cohorts, focusing on relative ratios of specific word orders (topicalization and verb second, prenominal and postnominal possessive noun phrases) and productive morphosyntactic paradigms (tense suffixes of loan verbs). The latter are susceptible to cross-linguistic influence both from neighboring dialects (*koinéization*), from written standards of Norwegian and from the dominating language of the major society (English). This is in line with earlier studies according to which morphology is vulnerable to change in heritage languages (cf. [Polinsky and Scontras 2020](#)). For word order in possessives, we also find rather clear effects of written input—in this case, the impact from written input seems rather unequivocal, since the word order ratios for written and spoken Norwegian are very different. Nevertheless, hypercorrection and the connotation of norwegianness of the postnominal possessive may also play a part in the explanation of the trends we observe. For the topicalization/verb second construction, there is little or no difference between the ratios in spoken and written Norwegian; hence, the decline in this construction is better attributed to the receding quantity of input, not the diversity of input sources.

This study reveals effects on the heritage language production of different types of input, evidenced most clearly in the impact of differing availability of written sources, but also of other dialects in the heritage community. As such, this study corroborates the hypothesis according to which *quality of input* is rather important, since the access to different types of Norwegian, including several different written standards, clearly supports and maintains the Heritage Norwegian in these communities.

However, this does not mean that quantity is less important than diversity (cf. the quote from [Meisel 2020](#) in the introduction). Recent investigations of NorNAHL speakers, e.g., [Lykke and Hjelde \(2022\)](#), in a sense support Meisel's stance according to which certain heritage speakers may have access to only one or two Norwegian speakers (typically their parents) and still achieve a very high level of proficiency in the heritage language. As discussed above, diversity is probably even more important when input sources are few—when registers and domains recede, so inevitably does the potential receptive competence of the speaker. If the input sources reduce to, e.g., two speakers, the potential for these two speakers alone to exemplify to the learner all types of potential repertoires in a language seems rather unrealistic and, even if it could be maintained, would also seem rather forced. We tend to use a specific repertoire with specific people, and unless the context changes substantially, randomly altering the communication would seem rather confusing to the

learner. This can potentially be counterbalanced with a steady supply of written sources in the heritage language.

As the present study demonstrates, written input may potentially have a substantial impact on the acquisition and maintenance of a heritage language, and the access to written input sources may play a much greater role than hitherto assumed. Thus, the various sources of written input available to a given heritage language learner probably deserves to be investigated to a much greater extent than is currently the case, even beyond the mapping of writing skills and high-level literacy.

Besides written input, the number of available sources is codependent on the number of speakers and the contexts where the Norwegian heritage language is used. A high number of available sources will lead to more diversity; hence, this will affect quality, but is also likely to provide more input in sheer quantity. Not unexpectedly, then, the question of whether quality or quantity of sources in heritage language acquisition is more important to maintain a heritage language is theoretically important, but methodologically and empirically rather hard to tease out.

The historical and linguistic information on a heritage language and its speakers on the level attested in the case of Heritage Norwegian in the Midwest is probably rather unprecedented, and the documentable relation between input types and speaker production very rarely exists at this level of accuracy. Exactly for this reason, the present study seemed imperative to us.

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Notes

- ¹ We use the term *repertoires* instead of *register* to avoid the latter's association with vocabulary.
- ² The model has previously been described in Norwegian, see Eide (2022).
- ³ In most normal acquisition situations, the preferred linguistic role model for a child will be its playmates and slightly older peers; hence, a child usually acquires the dialect or language of the local children. In the case of heritage language, this type of input is often lacking; hence, the input from parents becomes much more important.
- ⁴ We are specifying *North American* here since there are currently ongoing projects and fieldworks of Norwegian South-American Heritage language (NorSAHL), and Norwegian Heritage Language in Spain (NorSpaHL). Cf. the home pages of the *NorAmDiaSyn–Norwegian in America* project that was led by Janne Bondi Johannessen at the University of Oslo <http://www.tekstlab.uio.no/nota/NorAmDiaSyn/english/index.html> (accessed on 3 August 2022) and the new project *Norwegian across the Americas* led by Kari Kinn, University of Bergen. <https://www.uib.no/en/ile/134611/norwegian-across-americas> (accessed on 03 August 2022).
- ⁵ Janne Bondi Johannessen died of cancer in June 2020, only 59 years old. She will be remembered as one of the great figures in Scandinavian linguistics, and as we are writing this, we are still in mourning and coping with this loss. For an overview of Janne's contribution to our field, cf. the English preface of Hagen et al. (2020). <https://journals.uio.no/osla/article/view/8486/7896> (accessed on 2 August 2022).

- 6 The same speaker has been referred to under the pseudonym “Johan” in previous studies, but here we call him “Lars”.
- 7 Cf. Putnam and Salmons (2015) “In the village of Hustisford, in eastern Wisconsin, twenty-four percent of residents reported being monolingual in German in 1910, well over a half century after the main immigration to the community. Over a third of the reported monolinguals were born in the U.S. This included numerous third generation monolinguals—grandchildren of European immigrants who had not learned English—in 1910. Farther to the north, one scholar found that in a census district in New Holstein, twenty-eight percent reported being monolingual, with forty-nine of those born in the U.S.”
- 8 A *koiné* is a stabilized contact variety resulting from the mixing and leveling of features of varieties which are similar enough to be mutually intelligible, such as regional or social dialects; (cf. Siegel 2001, p. 175).
- 9 The terms *Nynorsk* and *Bokmål* were introduced in 1929. Before that, *Bokmål*, a standard originating from Danish, was called *Rigsmaal/Riksmål*. *Nynorsk*, based on Norwegian dialects, was called *Landsmaal/Landsmål*. We use the terms *Nynorsk* and *Bokmål* consistently to simplify; but note that the terms are slightly anachronistic.
- 10 Nordahl Rolfsen played a very central role in Norway’s school history as he published a very ground-breaking reader for the public school (Rolfsen 1892), which dominated the Norwegian school from the 1890s and well into the 1950s. This reader was also used in the US, and Rolfsen even compiled a reader intended for Norwegian American readers, *Boken om Norge*.
- 11 *Decorah-Posten* reached a circulation of 37,000 and *Skandinaven* approached 50,000 issues at a time when the largest newspaper in Norway, *Aftenposten*, had a circulation of 14,000 issues. It has to be mentioned though that while *Decorah-Posten* and *Skandinaven* came twice a week, *Aftenposten* had two daily issues.
- 12 12 and 15 are the number of hours transcribed and selected for this study, out of many more hours of recordings that exist, also among our own recordings. We also use selected examples and informants from our earlier studies from Blair.
- 13 Haugen (1953) points out that 93% of all borrowed verbs are assigned to this class.
- 14 Cf. http://tekstlab.uio.no/media/lydogbilde/amerikanorsk/einar_haugen/Transkripsjoner/ (accessed on 9 June 2022). A couple of comments are in order. Firstly, papers such as *Decorah-Posten* held on to the 1907 standard up until 1938, and it is more than likely that both written and spoken input would contain a lot of variation in the paradigms, depending on how conservative the writer would be. In our earlier investigations we also found that speakers would produce different inflections on different verbs, depending on whether they were of Norwegian or English origin, or even different inflections on the same verb, seemingly in a random fashion (e.g., our informant “Lena” who would produce /like/ or /liker/ as a present tense of the Norwegian verb ‘to like’). As the realizations of the inflections are more reliable in writing, we consulted a corpus of 500 “America-letters” and found that the same type of variation, e.g., between the more modern preterit *kastet* and the more archaic variant *kastede*, exists in variation for speakers of the same cohort. https://www.nb.no/emigrasjon/brev_oversikt_forfatter.php (accessed on 5 August 2022).
- 15 The infinitive in the old trønder dialect featured *circumflex intonation*, where monosyllable words are distinguished by tonality, like /kast/ ‘throw’ (noun) without circumflex and /kâst/ ‘throw’ (infinitive) with circumflex. This intonation is clearly in place for many of the older Trønder speakers, but no longer exists in recordings from the 2010s.
- 16 Other explanations are possible, but not as plausible. For instance, there was a substantial presence of speakers of the Telemark dialect (cf. Section 3.1 above) who would employ a paradigm featuring the same distinctions as *Bokmål* (but with other exponents). However, we cannot think of one single reason why the Telemark dialect would suddenly gain a much stronger impact in the community; furthermore, there is no reason why this impact, hypothetically, once established, would suddenly drop to a level explaining the developments we see in our data. The only causal feature of any substance that fits the time frame is written input.
- 17 We abstract away from the present tense third person singular marker *-s*, assuming that this is an agreement marker outside the tense system proper. Cf. Eide (2009a, 2009b, 2016) for a detailed discussion.
- 18 According to adult second-language learners of Norwegian, this is also how they approach the verbal paradigms of modern Norwegian in the homeland today. The written standard provides the regularity and authority of a norm, whereas the exponents, the actual forms realizing the slots in the paradigms, are recruited from the dialect they hear spoken around them. Thanks to Adrew Weir and Yvonne van Baal for volunteering their intuitions on this question.
- 19 Possessive constructions such as “boka hennes Janne” do not have a prenominal alternative and are as such ignored in this study.
- 20 The search yielded 25 POSS-N tokens versus 69 N-POSS ones. However, only about six of these twenty-five POSS-N structures have an actual N-POSS alternative, indicating that the proportion of prenominal possessives in the Gudbrandsdalen dialect is about 10%. These are small numbers and are only used to corroborate what we find from other sources.
- 21 One anonymous reviewer would like to see a lengthier discussion on why CLI is not at stake here. A proper answer to this question would require its own paper, but we mention some main points. Whenever a homeland variety contains two or more variants, i.e., exponents of the same morphosyntactic feature, rather sophisticated contextual restrictions regulate the selection between the two. This is the case for, e.g., null vs. overt pronouns (Sorace 2011), the presence or absence of resumptive pronouns in topicalizations (Bousquette et al. 2021) and the presence or absence of topicalizations themselves. In many language contact situations, simplification will occur such that one of the variants resides. Even if both variants are present in the input to some extent, there is too little input to provide the language learner with sufficient cues to observe the specific contextual restrictions relevant to the two variants. Thus, the language learner resorts to acquiring one of the variants, extending the functional domain

of this variant to cover the domain of both variants. Now there is only one variant, performing the tasks split between two variants in the homeland variety. This is what constitutes “simplification” in language contact situations; an aspect of the debate on whether registers are possible in the “simplified grammars” we find in various contact situations. The acquisition of both variants hence depends on whether input is rich enough to provide the contextual cues. Moreover, which variant is chosen also depends on the input. In our data, we observe that “outlier Per”, whose input is almost exclusively written input, selects the prenominal possessive as his productive “fits-all” exponent, whereas his peers, whose inputs are exclusively spoken input, select the postnominal one as their single productive variant. The fact that the prenominal possessive is also present in the dominant language of the language learner (English) may be very significant to some learners and trigger a “close enough” response (those prone to *alignment*, cf. Section 5 below). For other learners, who tend to keep their two languages as separate as possible, the reaction may be exactly the opposite (those with an affinity to *purism*). To the latter learners, “norwegianness” will always trump the possibility for convergence between their two languages.

22 Cf. Bousquette et al. (2021) for a recent investigation into various topicalization variants in Norwegian and German heritage languages in the American Midwest.

23 Data from informant “Lena” born in 1929.

24 The rate of topicalizations varies for the same speaker across contexts; cf. Eide and Hjelde (2015a), e.g., in online production vs. planned speech. Additionally, more complex topics typically trigger less V2. Note that certain adverbs, such as *bare* and *kanskje* trigger non-V2 even in homeland Norwegian, triggering a small percentage of non-V2 declaratives in production.

25 Liam is atypical compared to most of his cohort peers, as he speaks Norwegian frequently and seeks any opportunity to talk Norwegian. Hence, Liam’s continuous Norwegian input allows him to maintain his heritage language at a level different from most of his contemporary heritage speakers.

26 However, cf. Nistov and Opsahl (2014) for a study on new urban ethnolects in Norway where topicalization recedes, cf. also Freywald et al. (2014) for a comparative study of the phenomenon in new European urban vernaculars.

27 Chomsky uses the term “switch setting”, which we have substituted with “grammar” as it is more general.

28 Cf. Bakhtin (1981, p. 293): “Each word tastes of the context and contexts in which it has lived its socially charged life; all words and forms are populated by intentions. Contextual overtones (generic, tendentious, individualistic) are inevitable in the word.”

29 The term *register* in its classical sense has been confined to vocabulary, e.g., Trudgill (1983, p. 101) “Registers are usually characterized solely by vocabulary differences; either by the use of particular words, or by the use of words in a particular sense.” In more recent works, register is however extended to other linguistic features, as discussed, e.g., by Eide and Weir (2020, p. 229).

30 Or rather *intake*. Input refers to all the target language that the learner reads and hears; intake refers to the part of input which the learner comprehends and uses to develop his or her internal grammar of the target language. Van Patten (1996) attributes this term to Corder (1967). We are glossing over the input–intake debate here.

31 “Vore Børns Sprog er nesten udelukket Engelsk mend de forstaar hvert Ord, der tales til dem i norsk, det er haardt at faa lære Børnene norsk her i landet, da Engelsk falder dem lettere.”

32 Foreigner-directed, child-directed and computer-directed speech feature traits facilitating disambiguation, e.g., “less vowel reduction, a larger vowel space, a higher pitch, fewer idiomatic expressions, more high frequency words, simple syntactic constructions, and [. . .] more repetitions as well as clarifications when compared to casual speech”; cf. Rothermich et al. (2019, p. 22).

33 Note that when we talk about the youngest speakers, these are the speakers born around 1940 and later; hence, some of these “youngsters” are in fact in their 80s, and the youngest of these “youngest” were around 50 when recorded (in their early 60s today).

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