Phonological Non-integration of Lexical Borrowings in Wisconsin West Frisian

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Working with heritage speakers of West Frisian living in Wisconsin, the following chapter examines the frequency of use of English lexical items in spoken Wisconsin West Frisian and the phonological (non-)integration of these lexemes. The data show a comparatively low frequency of borrowing compared to other heritage communities, with a corresponding lack of phonological integration. We categorize the consultants as 'coordinate bilinguals,' who have simultaneous on-line access to lexical items from both language-specific lexicons. Consultants' balanced bilingualism minimizes the cross-linguistic transfer of both lexical items and phonology while accessing lexical items from either lexicon. This coordinate bilingualism account is supported by the sociolinguistic evidence of a context-dependent diglossia – parallel to the Dutch-Frisian diglossia in the Netherlands – in which both English and West Frisian were restricted to specific domains. It is argued here that social context, as well as the multiple-lexicon coordinate bilingualism model, can best account for these data.

Keywords: bilingualism, heritage language, West Frisian, code switching, phonological integration, lexicon

1.   Introduction[1]

Building on previous research on incorporation of loanwords[2] in North American heritage[3] communities, this chapter examines a West Frisian community of first and second generation speakers for evidence of phonological incorporation of English (L2) lexemes into speakers' West Frisian (L1). Dealing with a hitherto unstudied heritage language community with regard to loan incorporation, this study of Wisconsin West Frisian introduces the time-depth of settlement (measured in generations removed from Europe) as a variable, while remaining a historical and social parallel to other heritage communities in the Upper Midwest that experienced similar periods of bilingualism and subsequent, near-complete language shift to English monolingualism, including German (Lucht 2007, Wilkerson and Salmons 2008, 2012, Frey 2013), Norwegian (Haugen 1950, 1953, Hjelde 1996, Johannessen and Laake forthcoming, Annear and Speth this volume), and Swedish (Cederström 2014, Larsson et al. this volume).

Data drawn from fieldwork conducted in 2008 and 2009 with first and second generation speakers suggest that inter-sentential code switches incorporating English lexemes into spoken West Frisian is minimal, with a relatively low number of English tokens, and virtually no examples of structural integration. These results are consistent with Matras' (2009) model of code switching among bilinguals, as opposed to loan incorporation, in which lexemes are structurally integrated into the matrix language.

We argue that the low frequency of code switching and phonological incorporation of loans exhibited by bilingual consultants in this data set results from the balanced bilingualism of the consultants, and the context-specific patterns of language acquisition and use in the community. Balanced bilingualism among first and second generation speakers allows speakers to control language mode, and to minimize the influence of English while speaking West Frisian, resulting in a low frequency of code switching. Balanced bilingualism among individuals parallels context- and situation-specific use of language in the community, with sociolinguistic evidence detailing a language diglossia inherited from European Frisian communities in the Netherlands and perpetuated in the Upper Midwest. West Frisian immigrants replaced Dutch with English as the language of communication for commerce, education and inter-community interactions, but retained West Frisian in familial and social contexts

2.   We use 'loan' or 'loanword' in a neutral sense with respect to phonological integration, as compared to integrated 'borrowing' and non-integrated 'code switching.'

3.   We define a heritage language as one that is acquired as an L1 in a natural setting, typically in the home or in the community (cf. Rothman 2009).

post-immigration, particularly in instances where multiple factors intersected, e.g., in agrarian labor (Bousquette 2010). The context-specific language acquisition and use among balanced bilinguals is here argued to result in a state of 'coordinate' bilingualism, in which lexical items are drawn from language-specific lexical inventories, which reflect language-specific phonology (Weinreich 1953, Ervin and Osgood 1954, Hamers and Blanc 2000). Instances of code switching, though rare, therefore reflect language-specific phonological patterns; source-language phonology is maintained in 32 of 33 total instances of inter-sentential code switches, resulting in a clear lack of phonological integration of code switches. We conclude that coordinate bilingualism resulted from the shallow time-depth of settlement and recent immigration and context-specific use of language, and that this coordinate bilingualism accounts for the lack of phonological integration of English lexical items into Wisconsin West Frisian.

This chapter begins with a profile of the consultants and method of data collection in §2, followed by a historical profile of language use in the community in §3. Previous literature on bilingualism is discussed in §4, focusing on the interaction between multiple language-specific grammars and lexicons. Data are presented in §5, followed by an analysis and discussion of the findings in §6, and concluding remarks in §7.

2.   Consultants, methods

2.1   Data set and speaker profile

Interviews were conducted in 2008 and 2009 with 9 consultants, of which data from four consultants are considered in greater detail here.[4] As of 1910, the community of Randolph Township consisted of 680 individuals, with 387 (57%) of them being proficient speakers of West Frisian. The highest concentration of proficient speakers (and ethnic Frisians) was concentrated in Randolph Center, which was incorporated as Friesland, WI, in 1946 (Bousquette and Ehresmann 2010:260–262). The population of Friesland at time of interview was 303, of which only a handful (ca. less than two dozen by the consultants' estimation) were proficient speakers.

The data set consists of two first generation and two second generation speakers. Parents of second generation speakers emigrated to Wisconsin during the early 20th century, while first generation immigrants came to the United States (and eventually Wisconsin) after the end of WWII (see Table 1). All speakers are proficient English-Frisian bilinguals with some degree of Dutch proficiency from pre-immigration education, or from the influence of the Dutch Reform church and bible; and were in their late 70's or early 80's at time of interview.

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4.   Recordings are now housed at the Max Kade Institute Sound Archive at the University of Wisconsin–Madison.

Table 1. Wisconsin Frisian speaker profiles.

Speaker	Gender	Generation	Year of emigration[5]	Age at emigration
1	M	1st	1947	16
2	F	1st	1948	~15
3	M	2nd	~1908	n/a
4	F	2nd	1920	n/a

All speakers were previously acquainted with one another, being classmates, coworkers or neighbors in a small, rural community. Speakers 2 and 4 are cousins, but did not meet each other until speaker 2 emigrated to Wisconsin at age 15. Topics of conversation included discussions about Wisconsin and the home country in Friesland Province, The Netherlands, in addition to present-day topics. Researcher-directed conversation touched on the differences between Friesland Province and Friesland, WI, as well as aspects of daily life, especially pertaining to language use. Consultants either grew up on farms or worked as farmers themselves, so farm terminology (and technological terminology in general) comprised a good amount of their conversation, and provided a good deal of tokens. Consultants report that while West Frisian was widely spoken in the community when they were younger, present-day use of the language is now limited to social gatherings among the remaining speakers in the community; West Frisian is maintained in the community by personal relationships between individuals, rather than through institutional support.

All data was recorded and analyzed using the open source acoustic software Praat (Boersma and Weenink 2012). Recordings were combed for the use of single English tokens during interactions in West Frisian, taken from running speech in both individual interviews and group conversation. These tokens were then analyzed to discern whether they maintained English phonological patterns, or were incorporated into the West Frisian phonological system. In previous work on this community, Ehresmann and Bousquette (2011) found that speakers exhibited both Frisian-like 'glottal tension' and English-like 'glottal width' systems of marking voicing distinction in consonants (cf. Avery and Idsardi 2001, Iverson and Salmons 1995, 2003, 2007). Consistent with the findings of Simon and Leuschner (2010) and Simon (2011), the use of this 'mixed' phonological system rules out stops as viable indicators of phonological incorporation. This study therefore focuses on other typological differences in the phonological systems of the languages, including the realization of /r/ and /g/, particularly in rare instances of recasting, where semantic equivalents (or cognates) are presented as near minimal pairs.

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5.   For second generation Wisconsin-Frisians, the year of emigration of the parents is given.

2.2   Method

In order to categorize the English tokens found in the Frisian data, we follow Annear and Speth (this volume), which in turn builds on the work of Clyne (2003) and Matras (2009). We categorize English tokens among Wisconsin West Frisian speakers based on three primary diagnostics: the speaker's (bilingual) proficiency, the regularity of use of the token; and whether or not the token is structurally integrated (here measured as phonological incorporation). Ranging from non-incorporated borrowings – or code switches – to complete syntactic and phonological incorporation of the lexical item, Matras' continuum (Figure 1; cf. Matras 2009: 111) measures the degree of integration of a given token based on three separate criteria: Matras argues that non-integrated code switching is infrequently employed by bilingual speakers, while integrated borrowing is expected to occur regularly among monolinguals. Given the degree of bilingualism in the present data set, regularly occurring, phonologically integrated tokens reflect borrowing, while isolated and non-integrated tokens reflect code switching behavior.
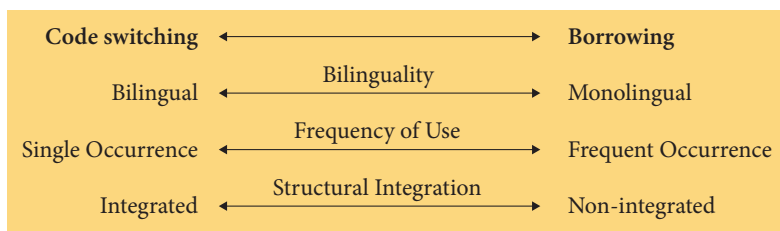

Code switching	⟷	Borrowing
Bilingual	Bilinguality ⟷	Monolingual
Single Occurrence	Frequency of Use ⟷	Frequent Occurrence
Integrated	Structural Integration ⟷	Non-integrated

Figure 1. Continuum of code switching and borrowing.

Annear and Speth (this volume) follow Myers-Scotton (1993: 163) and Matras (2009: 110–113) in categorizing code switches in terms of 'core' versus 'cultural.' Lexemes termed 'core' are those for which an equivalent exists in both the donor (embedded) and recipient (matrix) language. Bilingual speakers who have access to core lexemes in both languages may access either language-specific lexicon, but will do so infrequently, and without integrating the core lexeme into the matrix language (in this case, West Frisian). In contrast, 'cultural' lexemes are those for which there is no equivalent between the two languages, and therefore cultural lexemes are often borrowed, meaning they are structurally integrated into the matrix language, and may even (eventually) be integrated into the lexicon of the matrix language. Cultural lexemes are typically borrowed to fill semantic gaps such as technology (e.g., German *das iPhone*, *der Wii*), cultural notions with specific or untranslatable meanings (e.g., *Zeitgeist*, *Schadenfreude, der Shitstorm*), or new lexical items not present in the recipient language, such as lexemes for flora, fauna, food and drink (e.g., *coffee* in English and other languages, originally from Arabic, borrowed with the introduction of the plant and beverage).

In a similarly categorical analysis, Annear and Speth (this volume) follow Haugen (1956) in analyzing different types of 'transfer,' in which the phonemic structure, semantic structure, or both are incorporated into American Norwegian. They find that speakers employed cultural borrowings to fill semantic gaps, such as the incorporation of English *barn* for the sort of region-specific storage facility (which causes ambiguity with the inherited term for 'child'). However, they also found that English borrowings replaced existing, more specific, core European Norwegian terms. One such example is borrowing of English *road* as American Norwegian *råd*, exhibiting both semantic and phonemic transfer – or in our terminology, a phonologically incorporated, core borrowing.

We arrange our analysis here in much the same way, designating tokens as being shared, 'core' elements of each language-specific lexicon, versus 'cultural' elements that were not present in European Frisian at the time of emigration of the consultants (or their parents). The difference between core and cultural is therefore a measure of whether these West Frisian speakers have access to a semantic equivalent in their heritage variety (core), or whether they draw on – or incorporate – an English lexeme to express the same semantic role. Technological innovations not present at time of immigration are therefore considered cultural terminology because they were not present in the variety brought over with immigrants, despite how central such things as tractors and combines might have been to Midwestern farmers.[67]

Secondly, we determine to what degree the borrowed English token has been incorporated phonologically into Frisian. Considered here are the differences between West Frisian and English in the realization of /r/ and /g/, which are clearly defined and distinct in both languages, as well as in this heritage variety (Sipma 1913, Tiersma 1985). Analysis of the varied realizations of both phonemes in borrowed tokens is considered in the analysis of recasts.

3.   Community profile of language use

As touched on briefly in §2.1, a primarily diglossic situation existed in Randolph and Friesland, WI, in the early 20th century. West Frisian and English were the primary languages used in the community, and each language was used exclusively in a given social domain. West Frisian was used in the immediate community between family members and on the farm; English was used when communicating outside of the immediate community, or with non-proficient Frisian speakers.

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6.   This is a departure from Clyne (2003), who argues that language-specific (cultural) terms may be 'core' in the sense of being centrally important to the daily life or identity of the individual.

7.   Galema reports that mechanized farming like threshing was known to immigrant Frisian farmers living in Iowa in 1889, while the technology remained unknown in Friesland Province at the time (1996: 201).

Due in large part to recent immigration, the predominant ethnic group and spoken language of Randolph Township in the early 20th century was West Frisian; 37% of the Township was first or second generation Frisian, with local concentrations exceeding 75% in the town center (Bousquette and Ehresmann 2010: 260).

Regarding language proficiency, 57% of the community was 'likely proficient' in the language in 1910, meaning that they were either an attested native speaker of Frisian, or lived in a household with at least one non-English-proficient family member. Perhaps more telling is the fact that 105 individuals in a community of 680 – more than 15% of the population – reported an inability to speak English on the 1910 census, reporting instead proficiency in Frisian.[8] These Frisian speakers were able to function socially and economically in the community due to the presence of proficient – and even monolingual – speakers of West Frisian in high profile positions central to the community. Even as late as 1930, the town postmaster, two pastors, a livestock dealer, a produce dealer, a cattle dealer, a farm equipment dealer, a retail/merchant business owner and a number of salesmen and skilled craftsmen reported proficiency in Frisian[9] (Bousquette 2010). It is therefore reasonable to assume that a monolingual Frisian farmer could conduct most or all of his business in the community using only Frisian. Interviews conducted in 2008 and 2009 confirm that West Frisian was spoken regularly on the farm, and in fact, many consultants describe their own language as being "rough," "slang," or "barn-Frisian" because they learned it and spoke it while working on the farm. Frisian was additionally spoken not only on the farms, but also in the community, and even had such inertia that there is anecdotal evidence of other immigrants learning Frisian rather than English (Bousquette and Ehresmann 2010: 263–264):

> *De meestn die tot skoale gingen dan…'r wienen meer Friezen dan*
> *Dutsers. Dat he sei … dat he de eerste dei dat he na de skoale gyng. Da*
> *kaam he thuus en sei it z'n mam…ik moat it Fries lere oos ben ik net*
> *meer ien bij de oaren wan' de oaren prate altyd Fries.*

> 'The most that went to school then…there were more Frisians than Germans. He saw that … on the first day that he went to school. Then he came home and said it to his mom…I have to learn Frisian or else I won't fit in with the others because the others always speak Frisian.'

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8. Similarly high concentrations of monolingual speakers are also attested in 1910 for WI-German communities of Hustisford (24% monolingual, Wilkerson and Salmons 2012) and New Holstein, WI (28%, Frey 2013).

9. The 1930 US Census reports these speakers as uniformly "Dutch" from "Holland," though the same individuals were reported as separately "Frisian" or "Dutch" in 1910. Assuming a continuation of the relative concentrations of each group from 1910, those reported as "Dutch" in 1930 can be reasonably assumed to be roughly 90% Frisian and 10% Dutch.

Other consultants attested to the use of Frisian on the playground at school, even though English was legislated as the official language of instruction in Wisconsin, and older students frequently translated English instructions for younger students, and children of recent immigrants.

4.   Modeling bilingual processing in a heritage community

Adopting a basic generative model, we assume that syntactic and phonological features are cohesively bundled in (or as) lexical items (Chomsky 1965). We expand this framework to account for multiple, language-specific grammars (and lexicons). Recent work on code switching (Grosjean 2008, Koostra et al. 2010) has argued for just such an interaction between different language-specific lexicons, with inter-sentential code switching being the result. In fact, a growing body of research has argued that these language-specific grammars (and lexicons) are not at all privative, but rather may involve not just online lexical transfer (i.e., code switching), but also the borrowing of productive morphological forms (Kolmer 2012) or syntactic structures (Bousquette et al. 2013) under heavy and prolonged contact situations. A working definition of how this sort of bilingual transfer occurs at the lexical level is provided by Grosjean (2008: 63–64):

> Bilinguals who are highly dominant in one language may simply not be able to control language mode in the same way as less dominant or balanced bilinguals. Although they may deactivate their stronger language in a monolingual environment that requires only the weaker language, it will simply not be developed enough or active enough to allow them to stay in a monolingual mode. Future research will have to investigate the underlying mechanisms that make a stronger language "seep through" despite the fact that it has been deactivated.

While this notion of 'dominance' and cross-linguistic 'seeping' certainly invokes notions of incomplete acquisition and attrition in heritage communities (Anderssen and Westergaard this volume, cf. Menn (1989), Sasse (1992: 61) and Lipski (2009) for a nuanced view of 'forgetters' and 'rusty' speakers, respectively), the present study builds on Bousquette et al. (forthcoming) in defining the dominant language in terms of "frequency of activation of the language-specific grammar" (2); a shift in dominance so defined may shift the directionality of code switching or borrowing, or affect the frequency of the same. To that definition, we may add a socio-linguistic component, that the dominant language is context-specific, dependent on the social situation, location, conversational topic, or the individuals present (as noted in §2.1).[10] In addition to Grosjean's assertion that balanced bilinguals can better control language mode and limit 'seeping' of lexical items, a context-determined dominance of West Frisian could further reduce the frequency of English code switches.

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10. We thank an anonymous reviewer for the reminder that code switching varies based on setting.

Turning our attention towards a synchronic analysis, coordinate bilingualism (Weinreich 1953, Ervin and Osgood 1954, Lambert and Crosby 1958) provides a model of language acquisition and use consistent with the notion of multiple language- and context-specific grammars. This definition differentiates coordinate bilinguals drawing lexemes from two different languages – from 'compound' bilinguals having "one conceptual representation common to both languages" (Hamers and Blanc 2000: 163). The distinction between a compound and coordinate bilingual is outlined as being a matter of acquisition (Hamers and Blanc 2000: 27, emphasis added):

> [A compound bilingual] individual who learned both languages as a child in the same context is more likely to have a single cognitive representation for two translation equivalents, whereas **one who learned an L2 in a context different from that of his L1** will probably have a coordinate organization, that is, he will have separate representations for two translation equivalents.

The prediction is therefore that simultaneous bilinguals – that is, children who acquire two different languages as children and become equally proficient in both – are more likely to be compound bilinguals. However, simultaneous bilinguals who acquire two languages in different contexts – as well as sequential bilinguals who acquire native-like proficiency in a second language only after first language acquisition – will have two separate, language-specific lexical representations of equivalent semantic tokens from both the L1 and L2. This is illustrated graphically in Figure 2 below using West Frisian and English cognates *bruorren* and *brothers*.
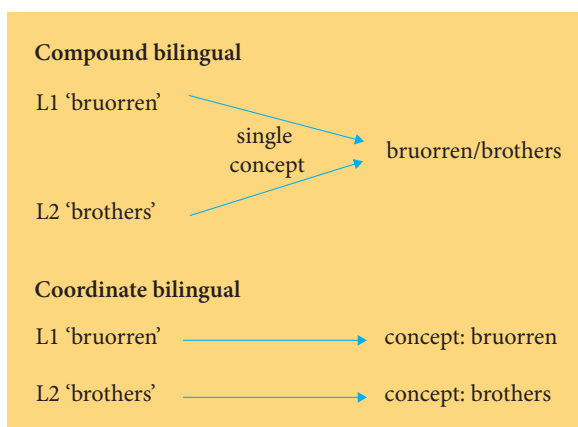

Compound bilingual

L1 'bruorren'

single
concept   →   bruorren/brothers

L2 'brothers'

Coordinate bilingual

L1 'bruorren' ———————→ concept: bruorren

L2 'brothers' ———————→ concept: brothers

Figure 2. Compound and coordinated bilingualism.[11]

Working within the framework outlined here, the baseline hypothesis is that our first and second generation consultants are balanced bilinguals, and are therefore able to

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11. This has been modified from Hamers and Blanc (2000).

control language mode; inter-sentential code switching should also be infrequent. Based on the pattern of context-specific acquisition and language use of West Frisian vis-à-vis English in Randolph and Friesland, WI, consultants should pattern as coordinate bilinguals. Therefore, cultural borrowings for which there is no equivalent in the L1 should be code switched or accessed independently, from the L2 Lexicon, without being phonologically incorporated into the L1. Core terminology should be less frequently code switched than cultural terminology among balanced bilinguals, since balanced bilinguals would be expected to control language mode and access the equivalent L1 lexeme. As with cultural code switches, core code switches are not expected to be phonologically integrated, since they are similarly drawn from the L2 lexicon among coordinate bilinguals.

5. Data

5.1 Number, type and frequency of English tokens

The data retrieved from the four speakers over three hours of recordings reveals a surprisingly small number of English tokens given the amount of material, as compared to interviews of similar length with speakers of other heritage varieties spoken in the Upper Midwest (Annear and Speth this volume). Consultants occasionally switched entirely to English, especially when pragmatically appropriate or necessary, e.g., when the phone rang or when a non-proficient speaker entered the room, but specifically inter-sentential switching was rare. In all, 33 English tokens were found, 16 of which were cultural tokens and 17 of which consisted of core vocabulary. Tokens appearing as part of a compound or phrase are given in parentheses (see Table 2 below).

Table 2. Examples of core and cultural[12] tokens in WI-Frisian.

Cultural	Core
automobile (automobile trouble)[13]	anything
bombs	barn (barn-Frisian)
combines	bicycle
dollar	brothers
gay parade	canal

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12. A reviewer points out that some technological tokens treated here as 'cultural' may be 'core' vocabulary for post-WWII immigrants, including specifically bombs and planes. There may be individual variation, but categorical organization e.g., '20th century technological innovations' may be more accurate.

13. The phrase *automobile trouble* includes both a cultural borrowing in *automobile* as well as a core borrowing of *trouble*. Other compounds include only single borrowed elements.

Table 2. (*continued*)

Cultural	Core
hearing aid	decorate
Iowa	enough (enough tiid)
Korea	exciting
millionaire	granddaughter
Mount Vernon	quite (ik lees quite vaak)
planes	midnight
siding	potatoes
thrift store	religion
tractors	slang
Turkey	summer
Washington	trouble (automobile trouble)
	ya know

Many of the cultural tokens were from expected semantic categories, including technology (*tractor, combine, automobile*), place names (*Iowa, Washington*), and lexemes specific to American life (*thrift store, dollar*). Counted among the core tokens were familial relations (*brother, granddaughter*), time expressions (*midnight, summer*), discourse or modal particles (*quite, ya know*), as well as some more common lexemes (*potatoes, religion*).

The tokens showed little evidence of morphological or phonological integration. In fact, in only one example, *automobile trouble*, do we find any apparent evidence of phonological incorporation of the English token. In the spectrogram below, we observe the Frisian [ɾ] in *trouble* rather than the expected English [ɹ]. The flapping of the /r/ is visible in the slight bump in F2, F3 and F4, across the third to fifth formant markers in the highlighted section.
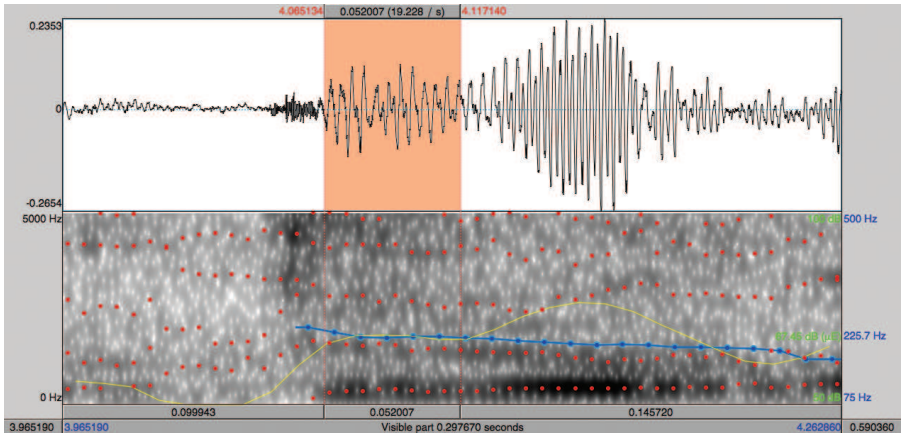

Figure 3. *automobile trouble* with [ɾ] (Speaker 4).

An alternate analysis interprets the phoneme as a trilled /r/.[14] Based on what appears to be multiple high and low points in especially the F2 and F3 values, this may be plausible. However, the quality of the recording does not permit identification of single versus multiple closures, which would differentiate the flapped /r/ from the trilled /r/. Both the flap and the trill may be variants of the same West Frisian phonological representation (cf. Harbert 2007: 54), which maintains the typological distinction with English retroflex or approximant /r/.

By contrast, in the token *hearing aid*, and in all other tokens containing the /r/ phoneme, we can clearly see the retroflex [ɹ] typical of English rather than the Frisian flap, marked by the rising F3 and F4 formant values at the end of the articulation of the approximant in the transition into the following vowel (see Figure 4, highlighted section).
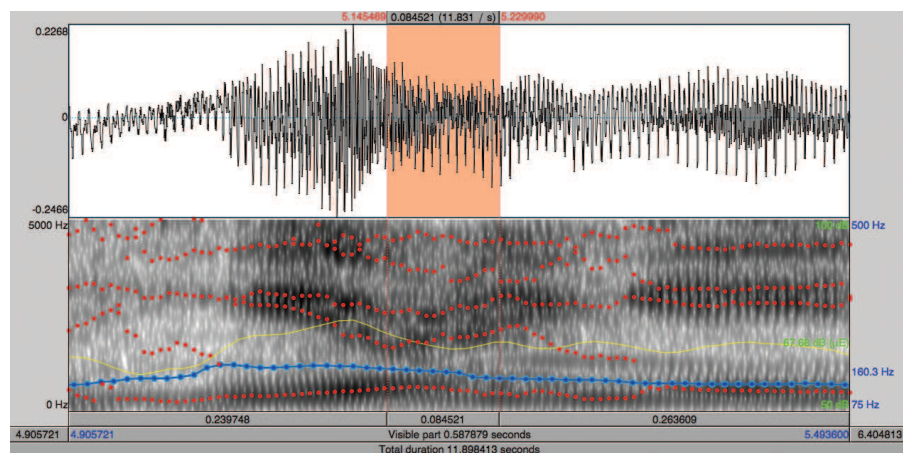

Figure 4. *hearing aid* with /ɹ/ (Speaker 2).

The articulation of /r/ is not related to phonological or phonetic environment, because while *trouble* is phonologically incorporated, *tractors* is not. There is also no emerging pattern of integration based on semantic category: if considered a cultural, technological token by association with *automobile*, then *(automobile) trouble* shows phonological incorporation, but the same does not hold true for other cultural terms, including *tractor*, and *hearing aid*. Similarly, if *trouble* is taken as a core lexeme with a West Frisian equivalent, then there is no explanation as to why another abstract concept like *religion* is not incorporated. The phonological incorporation of this single token is not related to semantic category, and phonological incorporation occurs neither robustly nor systematically.

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14. We thank an anonymous reviewer for this point.

In comparing first and second generation WI-Frisians, no clear pattern emerges regarding either frequency of loan use, or regarding lexical category: unincorporated place names were used by speaker 1 (*Washington, Mount Vernon*) as well as by speaker 4 (*Korea, Iowa, Turkey*); cultural borrowings were used by speaker 2 (*siding, thrift store*) as well as by speaker 4 (*dollar*); and all four speakers employed core loans from English – speaker 1 (*brothers*), speaker 2 (*granddaughter*), speaker 3 (*enough, quite*) and speaker 4 (*potatoes, religion*). Only speaker 4, who is Wisconsin-born, produced a phonologically-incorporated token (*automobile trouble*).

Perhaps the most interesting phenomena present in the data were 'recast' tokens, words first uttered in English, but with the Frisian equivalent immediately following. Of the thirty-two English tokens identified, four were recasts. Though they cannot be considered borrowings,[15] they are notable for two reasons: first, the nature of the recast tokens are interesting in that they represent particularly basic vocabulary; second, recasts do not fill a semantic gap, as both tokens are clearly available to speakers. A brief look at examples of recast tokens reveals this fact:

Table 3. Recast tokens in WI-West Frisian.

West Frisian	English
kanaal	canal
bruorren	brothers
religie	religion
ierappel	potato

These examples provide insight as to how bilinguals draw on their respective language-specific phonologies. In all of the above examples, speakers access the language-specific L1 and L2 phonologies for each token. For example, in the spectrograms below, we see the *religion* uttered by speaker 2 – a female first generation speaker – first in English, then in Frisian. The highlighted section depicts the affricate /dʒ/ in the first graphic, while the second shows the voiceless velar fricative typical of the Frisian cognate *religie*.

The first portion of the affricate, similar to a /d/, is visible in the drop in the F2 and F3 values, and the interruption of voicing (shown by the blue bar and aperiodic frequencies) during the closure. The onset of the second half of the affricate – similar to a /z/ – is visible in the presence of voicing, marked again by the blue bar and the return to a periodic frequency in the highlighted section.

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15. Recast tokens do not reflect borrowing in that by nature they are not filling a semantic gap in the lexicon, or replacing a native item in the lexicon.
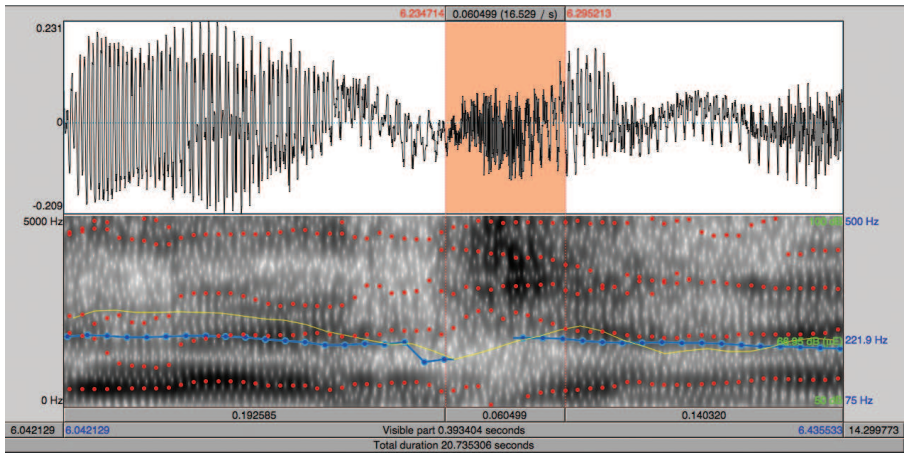
Figure 5. *religion* with /dz/ (Speaker 2).

Contrasting the exhibited English phonology in the previous example is the West Frisian token below (Figure 6). Rather than the two-part affricate visible in Figure 5, this example shows a uniform, voiceless fricative. There is no discernible dip in the formant values to denote any stop or change in quality, and there is no discernible periodicity to denote voicing.
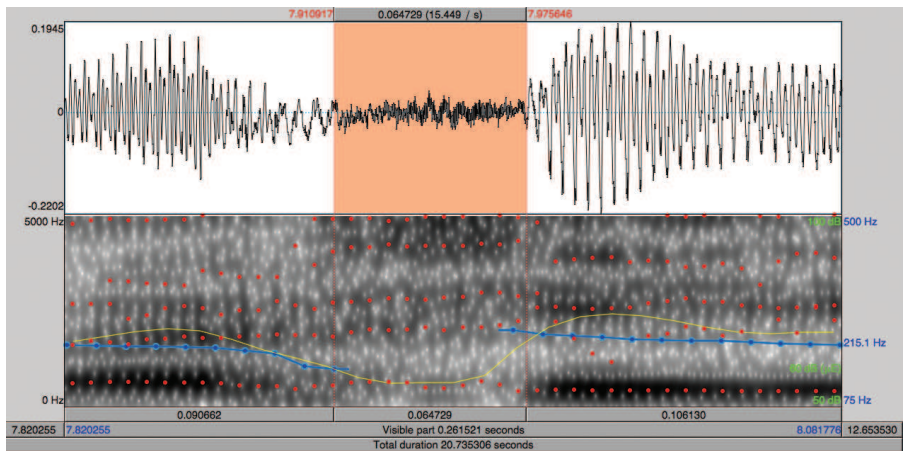

Figure 6. *religie* with /x/ (Speaker 2).

This particular recast shows that the speaker is not only providing two competing language-specific lexical items for the same referent, but also shows that the speaker employs language-specific phonemes in the realization of those lexemes. Furthermore, the phonemes differentiating the two tokens are also language-specific: in the English

token, speaker 2 uses an English affricate, as is in 'barge,' which is not an available pho-
neme in West Frisian. In contrast, the West Frisian token realizes the /g/ as a voiceless
fricative, consistent with Dutch pronunciation of *religie*, or as in *goed* 'good.' This pho-
neme is not available in the English phonemic inventory, and therefore clearly delin-
eates the phonetic realization of the English token from that of the (Dutch-influenced)
West Frisian token.[16]

Recasts were also attested for second generation speakers. In this second example,
speaker 3 first utters *brothers* with a distinctly English voiced retroflex approximant
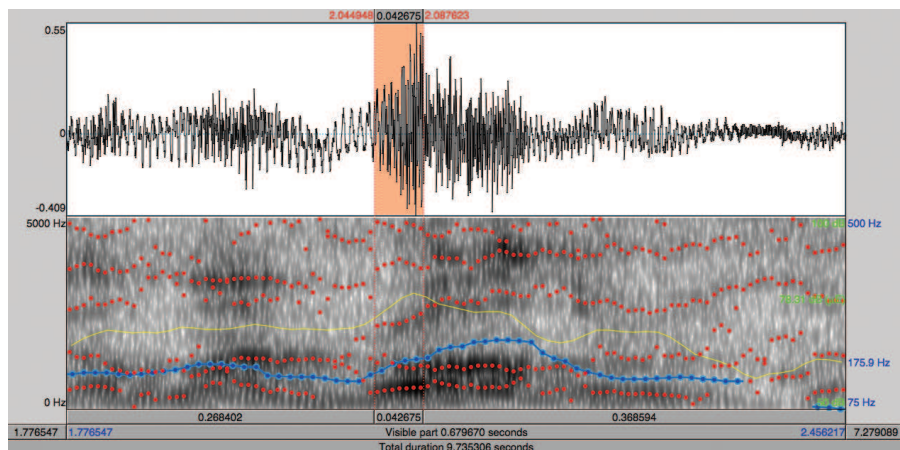/r/ (Figure 7).

Figure 7. *brothers* with [ɹ] (Speaker 3).

Similar to the *hearing aid* example in Figure 4, the English-like realization of /r/ is
visible in the rising F3 value in the highlighted section.

By contrast, in the spectrogram of the Frisian recast token immediately following,
bruorren, one can clearly see the different wave form of the highlighted /r/ showing a
voiced alveolar trill/flap expected in Frisian.

Much like the *automobile trouble* example in Figure 3, the flap is visible in the dip
in formant values – especially the F3 value – denoting a change in quality before the
anticipation and eventual onset of the diphthong. As in the previous *religion* example
from speaker 2, this example from speaker 3 shows a recast of two cognates, with each
lexeme reflecting a language-specific phonological system.

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16. A reviewer noted that this phoneme and lexical item could be a borrowing from Dutch.
Given that Dutch was the language of religion in the community (cf. §2.1) this is a plausible
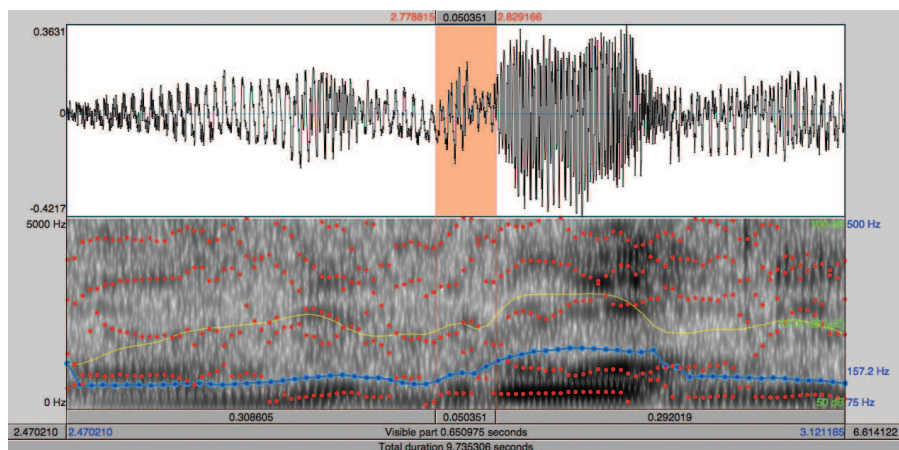explanation.

Figure 8. *bruorren* with /ɾ/ (Speaker 3).

6.   Analysis and discussion

These data provide a number of interesting points for discussion. First, the presence of a comparably low raw number of L2 tokens over the course of more than three hours of group conversation (33) is noteworthy. This stands in stark contrast to studies on Norwegian-Americans, including Annear and Speth (this volume), who find a total of 74 individual lexical items in just one hour of conversation. In calculating average frequency of English tokens in running speech, Annear and Speth's 12 consultants each employ roughly 6 English lexemes per hour. The rate of occurrence doubles if repetitions of the same lexemes are included (134 occurrences). The four West Frisian consultants considered here, however, average between 2 and 3 English lexemes per hour, with only a handful being used more than once (*barn, siding, ya know*). With a low rate of occurrence of English tokens even in comparison with other heritage communities, these West Frisian speakers pattern after Matras's (2009) expected bilingual speaker, who infrequently uses non-incorporated L2 lexemes in the L1. Our second generation consultants – being raised in Frisian-speaking households – were indeed bilingual. As evidenced by interviews conducted in 2008 and 2009 (and verified by 1910 and 1930 census data), immediately local social, administrative and commercial institutions were Frisian, though extra-community ties such as public education were English. Bilingualism was common, necessary, and context-specific.

For speakers who were raised in the Netherlands and emigrated as teenagers or young adults, the same pattern of context-specific language use holds true: West Frisian was the language of the home and on the farm, whereas Dutch was the language of instruction in school, in church, and in populated urban areas, such as the market in the nearby town of Dokkum. This bilingual characteristic was a parallel diglossic situation to that in Wisconsin; Frisian immigrants were able to supplant Dutch with

English for limited extra-communal interactions, while maintaining Frisian as their L1 in their most local interactions (Bousquette and Ehresmann 2010).

Regarding phonological incorporation, code switching data in this study are consistent with Matras' (2009) predictions for bilingual speakers, with English lexemes in spoken Frisian being infrequent and phonologically non-incorporated. This pattern holds for all four consultants in the data set, regardless of gender or whether the consultant was first or second generation. The same consistency in the data set holds when comparing core versus cultural classes: both first and second generation speakers code switch with both cultural and core classes, and 32 of 33 tokens maintain source language (English) phonology. However, while non-integrated core code switches do provide support for a coordinate bilingualism analysis, the remaining question is why non-integrated code switches occur at all. One explanation may relate to the issue of language dominance, where increased frequency of activation of especially a socially-dominant L2 (like English) seeps into the L1. This need not happen wholesale, however, and controlling language mode may be more difficult for certain elements. Koostra et al. (2010), in a study on Dutch-English bilinguals, did find that code switching increased in frequency when both languages aligned syntactically. Such an argument is consistent with Muysken (2000:11), who assumes that a necessary degree of similarity between the grammars of two languages is required to facilitate intra-sentential code switching. This is likely the case with *ya know* and *quite*, which as discourse elements occur in largely the same syntactic environment in both West Frisian and English. Such syntactic alignment of both languages minimalizes the processing cost associated with activating both language-specific grammars simultaneously.

Context may also play a role in facilitating code switches. For instance, interactions with a *granddaughter* likely occur in English, since West Frisian in Wisconsin is a moribund variety not spoken by the successive generations. Such associations may trigger an English language mode, rather than the code switch reflecting a difficulty in controlling language mode. In effect, topic or context may prime individuals for specific language modes, activating one context- and language-specific lexicon over the other. Similar processes may also account for the additional half-dozen non-integrated core lexemes; however, the total number of occurrences (not including the recasts) is so small for 4 speakers over two separate fieldwork sessions that further analysis would border on conjecture.

Turning to the issue of integration, the lack of phonological integration of the vast majority of English tokens can also be attributed to speakers' coordinate bilingualism. Consistent with the English-Frisian diglossia evident from both interview and census data, consultants' access to separate, language-specific lexicons results also in language-specific phonology for English lexemes while speaking West Frisian, under the assumption that phonological features are encoded on lexical items (Chomsky 1965, 1995). Cultural borrowings fit this pattern cleanly in that speakers may access English lexemes directly in order to fill a semantic gap, without having to incorporate the lexeme into their West Frisian lexicon. In fact, none of the cultural borrowings

exhibit phonological incorporation, supporting the argument that these lexical items are coming directly from the English lexicon.

Analyzing the data in a coordinate bilingualism framework, core lexical items pattern differently than cultural lexical items in two meaningful ways. First, the four recast tokens – all of which were core lexical items – all maintained language-specific phonology. *Canal, brothers, religion* and *potato* maintained English phonological patterns, while the realization of equivalent *kanaal, bruorren, religie* and *ierappel* was consistent with West Frisian (or possibly Dutch) phonology, providing evidence that these lexical items were accessed from separate, language-specific lexicons during even rapid, conversational speech. Interaction between two simultaneously active language-specific lexicons is evident in the accessing of semantically equivalent lexical items that maintain language-specific phonology.

The second point in which core lexical items pattern differently than cultural items derives from the fact that core items – unlike cultural items – do not fill a semantic gap in the matrix language lexicon. Incorporating an English lexical item into the Frisian lexicon is redundant – and unmotivated – when there is already a Frisian equivalent. This is most clearly illustrated by the minimal pair *ierapple / potato* in the recast tokens, because it shows two semantically equivalent lexemes that are not historical cognates. Therefore, while non-integrated cultural code switches attest to simultaneous accessibility of two language-specific lexicons, non-integrated core code switches attest to the presence of two simultaneously accessible lexemes in different language-specific lexicons. This is particularly clear in recast tokens.

In light of the above analysis, we modify the generative model of a single lexicon to allow for multiple language-specific lexicons, consistent with recent work on the interaction between language-specific grammars (Koonstra et al. 2010, Bousquette et al. 2013, forthcoming). The Minimalist Program explanation of code switching assumes a single lexicon, and assumes the incorporation of the borrowed token into the single lexicon of an individual speaker, complete with all of the phonological, syntactic and morphological characteristics encoded. However, such approaches cannot account for the data presented here, treating phonologically unincorporated code switches or borrowings as incompletely or incorrectly acquired, and characteristic of less proficient or monolingual speakers (cf. Calabrese and Wetzels 2009). An alternative approach, the Matrix Language Frame Model (MLFM), would treat West Frisian as the 'matrix language' that provides the frame, and English as the 'embedded language' that "will contribute only content morphemes which are set into a basically ML structure" (Bentahila 1995: 135–136). However, this framework does not appropriately account for the almost exception-less (32/33 tokens) maintenance of EL phonology across code switches, nor can it account for the complete lack of morphological transfer between ML and EL in code switches. The MLFM cannot account for why *brothers* shows the English plural marking *-s* while the recast token *bruorren* exhibits West Frisian plural morphology; MLFM would predict both to have a basic ML morphology, similar to the productivity of the English *-s* plural marker in American Norwegian

noted by Haugen (1953: 398). Most importantly, neither the Minimalist nor MLFM model has a viable rubric for diagnosing incorporated versus non-incorporated lexemes. Coordinate bilingualism provides a model that is applicable to these data, and that portrays phonological non-incorporation of code switches as a predictable and viable – though rare – occurrence in the speech of proficient heritage speakers.

7.   Conclusion

These Wisconsin West Frisian data are particularly valuable as a study of a community with a relatively shallow time depth of bilingualism, which contrasts with related studies on heritage communities in the Upper Midwest with 3rd, 4th or even 5th generation speakers. As a contemporary community to those American Norwegian communities studied in this volume, this West Frisian enclave patterns very differently with respect to code switching, reflecting a balanced English-Frisian bilingualism. Following our coordinate bilingualism analysis of the data, the linguistic diglossia in the community accounts for the lack of phonological integration of even infrequent code switches, such that the sociolinguistic situation derives the psycholinguistic. This community in its relatively late settlement (early 20th century) and shallow time depth shows a rapid transition from a functioning bilingual community to a uniformly monolingual English community – in most cases within one generation – thus shortening the period of active bilingualism among speakers in the community. This, combined with the lack of dedicated, incorporated Frisian-language institutions (cf. Bousquette and Ehresmann 2010, Frey 2013) meant that there were no domains where Frisian language use could continue (e.g., church, school, or media). This ended the short period of active bilingualism in the community, with the shift from bilingualism to English monolingualism nearly complete, save for the remaining speakers of this moribund variety. Current data from this last generation of proficient speakers, however, sheds light on both the influence of a linguistic diglossia on language processing, as well as on the interaction of two language-specific grammars in a bilingual community of first and second generation speakers.

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