

Towards Determining the Influence of Internal and External Factors on Recent Developments in Texas German Phonology

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1 Introduction

This paper reports on recent developments in the phonology of Texas German, a rapidly eroding dialect spoken in central Texas. We focus on three phenomena in the phonology of Texas German that have undergone changes over the past forty years. Our analysis is based on data taken from interviews conducted in 2002 with seven speakers from New Braunfels, Texas and Freyburg, Texas, that are compared with phonetic transcriptions taken from Eikel (1966) and Gilbert (1972). To determine the possible causes of these changes, we offer a comparison with other German-American dialects to give a preliminary assessment of the influence of internal and external factors.

The first development in the change of Texas German (henceforth TxG) phonology concerns the realization of /r/. Whereas data from Gilbert (1972) do not show /r/ to be realized as a retroflex continuant [ɻ] in the New Braunfels and Freyburg areas (see (1a) and (2a)), data from current fieldwork show that /r/ is now predominantly realized as an American-English retroflex continuant [ɻ] as in (1b) and (2b):

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|-----|---------------|--------------|----------------|-----------------------------|
| (1) | a. /pfe:rt/ | <i>Pferd</i> | 'horse' | (Gilbert 1972, map 103) |
| | b. [ˈpfe.ɻdə] | <i>Pferd</i> | 'horse' | (Speaker 20, New Braunfels) |
| (2) | a. /i:r/ | <i>ihr</i> | 'their', 'her' | (Gilbert 1972, map 33) |
| | b. [ˈi:ɻ] | <i>ihre</i> | 'their', 'her' | (Speaker 7, Freyburg) |

The second development in the phonology of TxG concerns the unrounding of rounded front vowels as illustrated in (3). Eikel (1966) and Gilbert (1972) note competing forms of rounded and unrounded versions of rounded front vowels. A preliminary analysis of the 2002 recordings indicates a clear progression towards unrounding with few examples of rounded front vowels:

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|-----|----------------------|--------------|----------|------------------|
| (3) | a. /tsvølf/-/tsvelf/ | <i>zwölf</i> | 'twelve' | (Eikel 1966:256) |
|-----|----------------------|--------------|----------|------------------|

b. [ʔsvelf] *zwölf* 'twelve' (Speaker 2, New Braunfels)

The third development in the phonology of TxG concerns the nature of diphthongization of the long vowels. Eikel (1966:256) describes no diphthongs other than Standard German diphthongs /ai/, /au/, and /ɔi/. Gilbert (1972) also notes these Standard German diphthongs in all cases except for in one occurrence of the [ou] diphthong among four speakers pronouncing the word *Kohl* ('cabbage') as [koul]. Besides this isolated instance, however, neither Eikel nor Gilbert mentions any diphthongization of the long vowels [e:] and [o:]. In contrast to Eikel's and Gilbert's data, the 2002 recordings show a greater number of examples of the diphthong [ou] (see (4b)) and also of the diphthong [ej] (see (5b)), which was previously unrecorded in earlier notations:

- (4) a. /bro:t/ *Brot* 'bread' (Eikel 1966:255)
 b. [ʔbro:ʔt] *Brot* 'bread' (Speaker 20, New Braunfels)
- (5) a. /ge:t/ *geht* 'goes' (Eikel 1966:254)
 b. [ʔtsejʔə] *zähle* 'count' (Speaker 2, New Braunfels)

Aside from focusing primarily on the description of the three phonological features of TxG, this paper will briefly discuss a number of possible explanations for the recent developments. In particular, we will address the question of whether the distribution of present-day TxG features may be attributed to the influence of external factors (language contact with English) or internal factors (developments parallel to those found in other European German dialects).

The remainder of the paper is structured as follows. Section 2 reports on the distribution of the three phonological features under discussion in other German dialects that have been in contact with English. Section 3 gives a more in-depth description of the distribution of the three phonological features in TxG. Section 4 compares these phonological features to those found in the dialects surveyed in section 2. The comparison shows that while the development of /t/ can be explained straightforwardly in terms of external factors, an explanation of the distribution of unrounding and diphthongization will have to rely on a combination of external and internal factors. Finally, we summarize the main points of the paper and give directions for further research.

2 What can We Learn from Other German Dialects?

This section provides a brief overview of previous work conducted on other varieties of German in the United States. Of these, one of the most-researched varieties is Pennsylvania German (PaG). There is an obvious parallel between PaG and TxG: German in an English-dominant environment. However, immigration to Pennsylvania began in 1683, unlike immigration to Texas, which started a full 150 years later, in the 1840s (Raith 1992:153).

2.1 The Distribution of /r/

Kelz (1971) provides a detailed phonological analysis of the speech of twenty-three PaG speakers in southeastern Pennsylvania (mainly Lehigh and Berks counties). The informants were bilingual, some being German-dominant bilinguals and "[k]einer der Sprecher weist Sprachfehler auf" ('none of the speakers shows linguistic mistakes')—although this refers only to their German, as 5 speakers are described as having imperfect English (1971: 21). He does not report any instances of retroflex /r/ among his informants. He finds an intervocalic tap as in (6), otherwise /r/ is realized as a trill as in (7) and (8):

- (6) a. /r/ → [r] / V_
 b. /herə / *hören* 'to hear'
- (7) a. /r/ → [r] / C_
 b. /ʃdraid/ *Streit* 'argument'
- (8) a. /r/ → [r] / #_
 b. /raus/ *raus* 'out' (Kelz 1971:21)

Based on data such as (6)-(8), Kelz concludes that the PaG phonemic inventory has not been subject to external influences, and that any English phonemes have either found equivalents in PaG or have been substituted by a native phoneme.

Meister-Ferré's (1994) study of an Old Order Amish community in Lancaster County, Pennsylvania (a neighboring county to Berks County) reports data similar to those of Kelz. Although Meister-Ferré sees her informants as forming a more homogeneous community than the informants in Kelz' study, she agrees with Kelz that all American English borrowings (exceptions are /æ/ and /æ:/ as in 'candy' and 'dad') have been integrated into PaG phonology.

The liquid /r/ was found in all positions, although it was vocalized as unstressed /ʌ/ and weakly articulated before consonants, or even lost after /a/ and before a dental stop: /rail/ 'into', /brauxe/ 'to need' [. . .]. (Meister-Ferré 1994:21)

In contrast to Kelz and Meister-Ferré, Raith (1992) finds that the speech of Amish PaG speakers in southeastern Pennsylvania exhibits a retroflex, that he transcribes using the symbol [ɽ], besides taps [ɾ] and trills [r]. Raith suggests that the retroflex approximant is "a realization probably borrowed from the English-speaking co-territorials" (1992:161). Similarly, Van Ness (1990) provides evidence of contact-induced phonological change in the variety of PaG spoken by non-sectarian communities in West Virginia. She finds her informants' PaG phonology moving much more towards that of English, including the use of retroflex /r/: "Franklin displayed the existence of a post-velar (uvular) [ɽ] in initial position, while Sugar Grove had an English retroflexed [r]" (1990:42). The following examples indicate Van Ness' use of [ɽ] to indicate uvular /r/ as in (9a) and (10a). She uses [r] to indicate retroflexed /r/ as in (9b) and (10b):

- (9) a. /brʊ:der/ *Bruder* 'brother'
 b. /brʊ:da/ *Bruder* 'brother' (cf. Van Ness 1990:43)
- (10) a. /fri:joa/ *Frühjahr* 'spring'
 b. /fri:joa/ *Frühjahr* 'spring' (cf. Van Ness 1990:43)

Data similar to those of Van Ness are reported by Born (1994). In her study of Michigan German she describes both a trilled alveolar [r] as in (11) and a retroflex [ɽ] as in (12):

- (11) /re:ŋ/ *Regen* 'rain'
 (12) /guɽgn/ *Gurken* 'cucumber' (Born 1994:47)

Having surveyed the distribution of /r/ in a number of PaG speech communities, we now turn to the distribution of our second phonological feature under investigation, namely the unrounding of front rounded vowels.

2.2 Unrounding of Front Rounded Vowels

All of the aforementioned studies of PaG found predominant unrounding of front rounded vowels. Here the examples in (13) are given for illustrative purposes:

- (13)a. /di:r/ *Tür* 'door' (Van Ness 1990:31)
 b. /ne:di/ *nötig* 'necessary' (Born 1994:28)
 c. /ʃe:n/ *schön* 'nice' (Raith 1992:159)

Unrounding is consistent with all sources, except that Meister-Ferré finds that rare instances of rounded front vowels exist, as the following example illustrates:

- (14) /hy:d/ *Hut* 'hat' (Meister-Ferré 1994:23)

The prevalence of unrounding in PaG is typically attributed to the European donor dialects. That is, it is typically assumed that unrounding in PaG has its origin in the Mannheim-type Palatinate dialect which also lacks "the short and long rounded vowels (...) of Standard German" (Raith 1992:159). Having touched on this vowel feature, in the next section we look at another feature in the vowel system of German dialects, namely long vowels and their diphthongized counterparts not found in Standard German.

2.3 Diphthongization

In the aforementioned studies, diphthongization of the long vowels /o:/ and /e:/ is generally not represented. The only mention of diphthongization of these long vowels is by Born (1994). She notes that of her informants, some "consistently employ only one of the variants (...), others alternate between competing forms often in immediately adjoining sentences" (Born 1994:37). The variants of /o:/ (see (15a)) and /e:/ (see 15b)) reported by Born are the following:

- (15)a. /gro:s/ - /grou:s/ *groß* 'big' (Born 1994:37)
 b. /dse:/ - /dsei/ *Zähne* 'teeth' (Born 1994:37)

With this short overview of the distribution of /r/, unrounded front vowels, and diphthongization in other German dialects we now turn to a more in-depth description of the distribution of these features in present-day Texas German. The goal of the following section is to compare and contrast current TxG data with the data on PaG.

3 Texas German Data

Earlier in-depth descriptions of Texas German phonology (Eikel, 1966; Gilbert, 1972) were based on data collected from a relatively large and stable

speech community with about 70,000 speakers across central Texas (Gilbert, 1965:102).¹ Due to historical and socio-economic developments (see Salmons (1983) and Guion (1996)), the number of fluent Texas German speakers has drastically declined to an estimated 6-8000 speakers who are mostly 60 years of age and older (see Boas, 2002). If the current developments continue—and all indications are that they will—the dialect will become extinct within the next 25-30 years.

Since September 2001, members of the Texas German Dialect Project (TGDP) at the University of Texas at Austin have been conducting fieldwork in Fredericksburg, New Braunfels, and Freyburg, Texas, in order to collect data on the present state of Texas German.² The recordings of sociolinguistic interviews with some of the remaining speakers of the dialect are first digitized, transcribed, and translated, and then stored in the Texas German Dialect Archive (TGDA) for preservation and web-based accessibility for linguistic analyses (see Boas 2003).³ A preliminary analysis of interviews, approximately forty-five minutes to an hour in length, was conducted of seven informants, five of whom originate from the New Braunfels, Texas area and two of whom originate from the Freyburg, Texas area. All informants are over sixty years of age.

The 2002 data were analyzed in comparison with examples from the two sources available which provide phonetic transcriptions of TxG from thirty to forty years ago. Eikel (1966) provides detailed descriptions of TxG as spoken in the New Braunfels area, and in the *Linguistic Atlas of Texas German*, (Gilbert 1972) provides information on both the New Braunfels and the Freyburg areas, as well as many other locations.

The differences between these older descriptions of TxG phonology and recent findings reflect a general progression of change towards replacement of [r] and [R] with [ɹ], a stabilization effect of unrounding of rounded front vowels and diphthongization of long vowels not previously found to be wide spread in TxG. The following sections give a more detailed overview of these developments.

3.1 The Distribution of /r/

¹Salmons (1983) and Guion (1996) are notable exceptions to the lack of studies on the development of Texas German. They present some phonological data of a few Texas German speakers from the Fredericksburg area.

²The Texas German Dialect Project gratefully acknowledges the financial support of the Dean of Liberal Arts, the Vice President for Research, the Liberal Arts Instructional Technology Services, and the Center for Instructional Technologies, all of the University of Texas at Austin.

³See <http://www.tgdp.org>

Documenting the distribution of /r/ in TxG, Gilbert (1972) does not mention any use of [ʀ] among his informants in the New Braunfels and Freyburg areas, noting only [r]. In contrast, Eikel (1966) cites [ʀ] as commonly as [r] in his examples and notes:

“[New Braunfels German (NBG)] /r/ has two allophones: 1. [r], as in SG, a tongue-tip trilled dental fricative, occurring prevocally, 2. [ʀ], as in SG, a lenis post-velar fricative, occurring pre-consonantly and finally.”
(Eikel, 1966:260)

The following examples illustrate the distribution of /r/ as recorded by Eikel (1966) and Gilbert (1972):

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|------------------|------------------|--------|-------------------------|
| (16) [gəʃtorbən] | <i>gestorben</i> | ‘died’ | (Gilbert 1972, map 10) |
| (17) [ˈtrəkən] | <i>trocken</i> | ‘dry’ | (Gilbert 1972, map 112) |
| (18) [ˈeʀ] | <i>er</i> | ‘he’ | (Eikel 1966:260) |
| (19) [ˈraʊs] | <i>raus</i> | ‘out’ | (Eikel 1966:256) |
| (20) [ˈfre:çt] | <i>frägt</i> | ‘asks’ | (Eikel 1966:259) |

Although these data are somewhat inconsistent in respect to whether the apical trill was alone, or accompanied by the post-velar trill, neither Gilbert (1972) nor Eikel (1966:260) mention any use of [ɹ] in the areas where the TGDP interviews were conducted. Comparing Eikel and Gilbert’s data with the TGDP recordings of 2002, we find that the German apical trilled [r] and uvular trilled [ʀ] are now predominantly realized as the English retroflex continuant [ɹ] as the following examples show:

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|------------------|-----------------|----------------|-----------------------------|
| (21) [gəˈʉɹbait] | <i>gearbeit</i> | ‘worked’ | (Speaker 1, New Braunfels) |
| (22) [ˈfɔɹ] | <i>vor</i> | ‘before’ | (Speaker 2, New Braunfels) |
| (23) [ˈdɹaɪzɪç] | <i>dreissig</i> | ‘thirty’ | (Speaker 20, New Braunfels) |
| (24) [ˈhi:ɹ] | <i>hier</i> | ‘here’ | (Speaker 3, New Braunfels) |
| (25) [ˈi:ɹə] | <i>ihre</i> | ‘their’, ‘her’ | (Speaker 7, Freyburg) |

The apical trill [r] is produced by some speakers, but inconsistently. Of the speakers producing these trills, all of them produce [ɹ] more regularly:

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|----------------|---------------|------------|-----------------------------|
| (26) [daˈdɹan] | <i>dadran</i> | ‘there-on’ | (Speaker 2, New Braunfels) |
| (27) [ˈdɹai] | <i>drei</i> | ‘three’ | (Speaker 20, New Braunfels) |

(28) ['grosvatə] *Grossvater* 'grandfather' (Speaker 7, Freyburg)

Our preliminary analysis of the 2002 data shows that every speaker exhibited a predominant use of retroflex [ɹ], though some use of the German apical trilled [r] was found occasionally in the speech of some speakers. In comparing the data, a clear shift has occurred in this area of TxG phonology over the last thirty years. We now turn to the question of how TxG rounded front vowels have developed over the past thirty years.

3.2 Unrounding of Rounded Front Vowels

In the speech of his New Braunfels informants, Eikel (1966) notes competing forms of rounded front vowels and their unrounded counterparts:

Of my informants (...), of the oldest generation, two rounded this vowel distinctly and consistently, two showed occasional unrounding, and two did not round the vowel at all. Of the twelve informants of the second generation, one rounded consistently, while all the others fluctuated, showing more instances of unrounding than of rounding. All six informants of the third generation showed no signs of rounding: in their speech /y:/ is completely replaced by /i:/. (...) The phonemes /ø: ø/ have been unrounded in NBG to /e: e/ (precisely parallel to the unrounding of /y: y/ to /i: i/).

(Eikel 1966:255)

In addition, Eikel (1966:255) notes that "[t]he individual informants were consistent: if one unrounded /y/, he invariably also unrounded /ø/." Similarly, Gilbert (1972) mentions competing forms of rounded and unrounded front vowels in the areas of New Braunfels and Freyburg. For each example of rounding, both Eikel and Gilbert provide an unrounded example:

- (29) [y:bəR]/[i:bəR] *über* 'over' (Eikel 1966:255)
 (30) [fynfciç] / [finfciç] *fünfzig* 'fifteen' (Eikel 1966:256)
 (31) [ʃø:n] / [ʃe:n] *schön* 'nice' (Eikel 1966:255)
 (32) [ky:ə] / [ki:ə] *Kühe* 'cows' (Gilbert, 1972, map 68)
 (33) [tøçtər] / [teçtər] *Töchter* 'daughters' (Gilbert, 1972, map 18)

The 2002 TGDP data show that the unrounding of rounded front vowels is now further progressed to provide a dominant number of examples in the speech of the informants:

- (34) ['k^hi:ə] *Kühe* 'cows' (Speaker 8, Freyburg)
 (35) ['fɪnf] *fünf* 'five' (Speaker 1, New Braunfels)
 (36) ['tsu:ɪk] *zurück* 'back' (Speaker 20, New Braunfels)
 (37) ['ʃe:nə] *schöne* 'nice' (Speaker 24, New Braunfels)
 (38) ['b:ɪ:də] *Brüder* 'brothers' (Speaker 2, New Braunfels)

There are instances in the 2002 TGDP data where rounding occurs, but only very sparsely:

- (39) ['tsuryk] *zurück* 'back' (Speaker 20, New Braunfels)
 (40) ['naty:liç] *natürlich* 'naturally' (Speaker 24, New Braunfels)
 (41) ['fɪftse:n] *fünfzehn* 'fifteen' (Speaker 7, Freyburg)

A comparison of the Eikel and Gilbert data with the TGDP data shows that the unrounding of rounded front vowels is now further progressed, with instances of rounded front vowels now extremely rare. When rounding is found in some speakers, it appears to be random and inconsistent, instead of being distributed systematically as noted by Eikel.

3.3 Diphthongization of Long Vowels

Eikel (1966) notes no diphthongs other than Standard German diphthongs: "NBG has three falling diphthongs: /ai/, au/, /ɔi/ ..." (1966:256). Other than an isolated notation of four speakers' pronunciation of the word *Kohl* [koul] made by Gilbert (1972), both Eikel and Gilbert describe the long vowels [e:] and [o:] with no other mention of diphthongization:

- (42) ['si:p,ce:n] *siebzehn* 'seventeen' (Eikel 1966:258)
 (43) [vo:] *wo* 'where' (Eikel 1966:259)
 (44) [me:tçən] *Mädchen* 'girl' (Gilbert, 1972, map 68)
 (45) [bo:dən] *Boden* 'floor' (Gilbert, 1972, map 122)

Examples of the long vowels /o:/ and /e:/ which are not diphthongized still appear abundantly in the speech of the 2002 informants:

- (46) [gə've:sən] *gewesen* 'knew' (Speaker 24, New Braunfels)
 (47) ['g:ɔ:seldəɪn] *Grosseltern* 'grandparents' (Speaker 1, New Braunfels)

In addition to the long vowels /o:/ and /e:/, the data from TGDP interviews in 2002 also show many instances of the diphthongs /ou/ and /ej/:

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|------|--------------|-------------------|---------------|-----------------------------|
| (48) | ['tsɛjn] | <i>zehn</i> | 'ten' | (Speaker 3, New Braunfels) |
| (49) | ['brɔut] | <i>Brot</i> | 'bread' | (Speaker 20, New Braunfels) |
| (50) | ['g.ɔʊsvatə] | <i>Grossvater</i> | 'grandfather' | (Speaker 7, Freyburg) |
| (51) | ['tsejlə] | <i>zähle</i> | 'count' | (Speaker 2, New Braunfels) |

From the data recorded by Eikel and Gilbert, we note that the diphthong /ou/ was extremely scarce, and that the diphthong /ej/ did not exist. From comparing our data from the 2002 field recordings with these earlier records of TxG, we observe that these diphthongs, which both occur in American English, appear now to more prevalent in TxG.

4 Conclusions and Outlook

From the two earlier sources of data of Texas German phonology available for comparison with our recent data, it appears that the distribution of /r/ has evolved over the past forty years to include the retroflex continuant [ɹ]. We also find an increased frequency of unrounding of rounded front vowels and diphthongization of previously un-diphthongized long vowels.

In light of our observations made about the developments in TxG phonology, the question arises over which of these developments are due to internal and/or external factors. To find an answer to this question we integrate the findings of the analyses of other German-American dialects reviewed in section 2, several of which have cited specific internal and external influences.

The distribution of /r/ in TxG is similar to that observed in other studies of German-American dialects, where English is the superstrate language in a bilingual context. In the studies discussed in section 2, the presence of retroflex [ɹ] in PaG was attributed to the influence of external factors, namely the influence of English. The retroflex [ɹ] was found among German speakers by Kelz (1971) and by Raith (1992) in Pennsylvania and by Born (1994) in Michigan. Based on the observations in these studies that the presence of the retroflex [ɹ] is due to the influence of English, it appears to be extremely likely that the retroflex [ɹ] has entered TxG under similar circumstances of language contact with English. Additional evidence supporting our claim is that retroflex [ɹ] is not known to be used in any of the possible European donor dialects (see Russ 1989) and thus is not likely to be attributed to internal factors.

Determining the influence of internal and/or external factors on the progressed unrounding of TxG rounded front vowels is considerably more difficult than explaining the presence of retroflex [ɹ] in present-day TxG. Here

we cannot rely on parallel developments found in other German-American dialects to explain the TxG situation regarding unrounded versus rounded front vowels, because the individual donor dialect situations differ from each other. It is typically assumed that PaG has its origin in the Mannheim-type Palatinate dialect, which already exhibited unrounding at the beginning of German immigration to Pennsylvania in the late 1600s (see Raith 1992:153, 159). In Michigan German three donor dialects exhibiting different dialectal features are specifically noted as contributing to the Michigan German as described by Born: East Franconian, Bavarian and Swabian (Born 1994:37).

The greater complexity of donor dialectal features found in TxG differentiates it from that of the other German-American dialects. The known donor dialects of TxG are much more varied, having multiple dialectal sources: North Saxon, Palatinate, Eastphalian, East Low German, South or Central Bavarian, Hessian and West Franconian, among others (Gilbert 1972:9–13). In TxG, unrounding previously existed in some of the donor dialects from Europe as did also rounded versions, as evident in the competing forms of the unrounded and rounded versions of front rounded vowels recorded forty years ago. This difference as well as the lack of development of a unified TxG speech community makes it more difficult to determine the influence of internal and/or external factors on the progression towards increased unrounding of front rounded vowels in TxG. In summary, the unparalleled dialectal mix of TxG donor dialects also precludes an adaptation of explanations given for parallel developments found in other German-American dialects (see section 2.2). The unique TxG donor dialect situation and the lack of consistency of rounded/unrounded variants of rounded front vowels requires a unique analysis that is likely to include an explanation drawing on a combination of internal and external influences.

The distribution of diphthongized versus non-diphthongized versions of the long vowels /o:/ and /e:/ shows an unsystematic usage in present-day TxG (see section 3.3) similar to the inconsistent usage of rounded/unrounded variants of rounded front vowels. This phenomenon is also likely to be explained in terms of internal and external factors.

The descriptions of recent developments in the phonology of Texas German reported in this paper are based on a relatively small sample (7) of total interviews (35) conducted in 2002 with some of the remaining fluent speakers of the dialect. Due to this relatively small set of data, the analysis presented here can only be preliminary. However, the following trends clearly emerge from the data: (1) introduction of the retroflex continuant [ɺ] into TxG, (2) an increased frequency of unrounding of rounded front vowels and (3) diphthongization of previously undiphthongized long vowels.

As such, the data and preliminary analysis presented here are only the beginning of a much-needed body of research on the development of the phonology of Texas German. In this paper we have noted inconsistencies between the previously existing reports on Texas German phonology. To overcome these shortcomings, further research should be concerned with examining original recordings of Texas German speech made by Gilbert. This, along with the analysis of recordings made in the 1930s of the possible donor dialects in Germany, might help determine whether the phenomena are caused by factors of internal language variation from the German donor dialects alone or if they are caused by external factors, namely the prolonged and heavy contact Texas Germans have had with English. The possibility exists also that these phonological changes might coincide with the moribund state of Texas German. A related question to be answered here is whether the inconsistent variation in the speech of individual informants is caused by overlapping multiple donor dialects, lack of a unified speech community, TxG's moribund state or some combination of the three factors. Finally, due to the speed at which the dialect is disappearing, we need to act quickly to collect as much data as possible. Only when we have a large enough data set, can we arrive at a conclusive analysis of the recent developments in the phonology of Texas German reported on in this paper.

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