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1. Introduction

The sound æ (as in English *rat*) is found in Pennsylvania German (hereafter PG), a minority language of North America; this phoneme is also found in English, but not in German.¹ This paper presents a preliminary report on the adoption of æ by the PG community using sources of PG data collected from the mid- and late nineteenth and twentieth centuries in order to bring up items that need to be looked at more closely in future fieldwork as well as to shed light on theoretical questions about borrowing in language contact situations.

2. The Language Contact Situation

PG is spoken in several areas of North America, principally but not exclusively in a roughly diamond-shaped area with corners in southern Ontario, southeastern Pennsylvania, southern Maryland, and the Indiana-Illinois border. Historically, the language is descended primarily from the Palatinate German dialects of roughly the Rhine River valley in modern-day western Germany as they were spoken by German-speakers who immigrated to North America from the seventeenth to the nineteenth centuries and who chose to maintain their native language;² today the language is spoken

* Many thanks to the several people who have helped in some way with this paper, foremost among them Hikyoung Lee, Anita Henderson, and Gillian Sankoff. Also, the first bit of the title is Pennsylvania German for “my father’s German.”

¹ Actually, æ is found in some dialects of German, but with very rare exceptions noted elsewhere in this paper not in any of the Palatinate dialects from which Pennsylvania German is descended.

² Note that this paper does not deal with Mennonite Low German, Amish High German, Texas German, or Wisconsin German, which, along with PG, Reed (1971) called the “American colonial German” languages.

primarily among members of the “plain” Anabaptist groups,³ and reports from the field show that PG is currently dying out among other groups (among others Huffines 1989; Meister Ferré 1991).⁴ In any event, it is generally accepted that nearly all if not all PG speakers are bilingual in English and PG.

3. Twentieth-century Distribution of æ in PG

A look at PG sources since the mid-nineteenth century shows that there is great disagreement over exactly how widespread æ is in PG. The text of *Es nei teshtament* (1993) (hereafter ENT), a translation of the New Testament into Pennsylvania German, contains a few words which have an æ, a complete list of which is shown in (1) (the digraph *ae* stands for æ; only one attested form for each root is shown).⁵

(1)	PG Word	English	European German
	braekka	brag, boast	prahlen
	daett	dad, father	Vater
	graebt	grabs, catches	greift, fängt
	haendla	to handle, to touch	behandeln, berühren
	kshkaeddaht	scattered	zerstreut
	licht-shtaend	light-stand, candlestick	Lichtstand, Kerzenleuchter
	maemm	mom, mother	Mutter
	maetsha	to match	zusammenpassen
	naett	not	nicht
	taena	to tan	gerben

³ That is, the conservative Amish, Mennonite, and Hutterite groups.

⁴ For example, I have been informed that the youngest non-“plain” native speaker of PG in southeastern Pennsylvania is about fifty-five years old (Jennifer L. Griffith, p.c. 1997).

⁵ Note that ENT is, according to its introduction, translated into a PG that is closest to that spoken in Ohio, while all of the other sources used in this paper are from eastern Pennsylvania. This difference becomes important later in the paper.

Other twentieth-century sources looked at for this paper contain glossaries or are themselves dictionaries, and so contain a much larger list of PG words with æ. These include works by Stine (1990), Haag (1982), and Buffington and Barba (1965), representative samples of whose lists are given in (2), (3), and (4) respectively. It should be noted that all of these sources use the digraph *ae* for the sound æ, but Stine also uses *ae* for the diphthong *ei*, giving rules for determining which use is which pronunciation;⁶ therefore, only words using the pronunciation æ for *ae* by Stine's rules are included in the list in (2).

(2)	PG Word	English	European German
	Aaschlaek	prank	Streich
	ab/schnaebbe	to snap off	abschnappen
	Aendi, Aent, Aenti	aunt	Tante
	Blaeckbier	blackberry	Bronbeere
	gaebbe	to yawn	gähnen
	Kaerbs	squash	Kürbis
	Maerr	mare	Stute
	maessich	moderate	mäßig
	raessle	to wrestle	ringen
	waerklich	really	wirklich

(3)	PG Word	English	European German
	aensere	to answer	antworten
	Aermel	sleeve	Ärmel
	Blaeckboard	blackboard	Tafel
	gaern	gladly, like	gern
	Kaerrich, Karrich	church	Kirche
	Maetsch	match	Streichholz
	Paep	papa, father	Vater
	Schtaern	forehead	Stirn
	waer	who	wer
	waere	to wear	tragen

⁶ Namely, that *ae* followed by an *h* or by a single consonant is pronounced *ei*, otherwise as æ. There are still some unclear cases, however, and those are not included in the list here.

(4)	PG Word	English	European German
	Aeryer	vexation	Ärger
	gaern	gladly, like	gern
	maerricke, marricke	to mark, to notice	merken
	Maetsch	match, contest	Match, Treffen
	naeryeds	nowhere	nirgends
	Paep	papa, father	Vater
	traewwele	to travel	reisen
	verdaerwe	to spoil, to destroy	verderben
	vorhaer	before, previously	vorher
	waer	who	wer

A first glance at this data makes it seem that PG æ occurs in all sorts of places—places where it is related to (among others) the European German E as in *gaern* or *verdaerwe* in (4), to the English æ as in *Blaeckboard* or *Maetsch* in (3), or where it appears to be part of a completely new word as in *Aaschlaek* in (2). It should be noted, however, that at least one of these lists—(4), the one taken from Buffington and Barba (1965)—should be looked at with the realization that the authors were writing with the somewhat political express purpose of demonstrating that PG is a language closely related to European German, and therefore their glossary contains comparatively few overt borrowings from English. Even taking that into consideration, the observation about the multiple sources for PG æ appears to stand.

4. Nineteenth-century Distribution of æ in PG

There are not many sources describing PG phonemes from the nineteenth century; Learned (1889), however, put together his own list of PG borrowings from English along with a partial compilation of some earlier (still mid- to late nineteenth-century) PG authors that contain clearly German-origin words as well as English borrowings into PG that relate to the topic at hand. (5) contains a selection from Learned's list of borrowings from English

(Learned also uses *ae* for *æ*),⁷ and (6a-e) contain words with the digraph *ae* from the PG authors Learned quotes.⁸

(5)	PG Word	English	European German
	aedzchërnə	adjourn	vertagen
	aettaétschə	attach	in beschlag ⁹ nehmen
	baenk	bank	Ufer
	baétschələr	bachelor	junggeselle
	daedi, dodi ¹⁰	daddy	vater
	gaémle	gamble	um geld spielen
	kaérpét	carpet	teppich
	maénedzhə	manage	handhaben
	schmaert	smart	geschickt, klug
	waélli	valley	thal
(6a)	PG Word	English	European German
	aer	he, it	er
	faekt	fact	Tatsache
	gəhaeppənt	happened	geschehen
	staendə	stand, bear	leiden, tragen
	waer	had	war
(6b)	aeppirə	appear	erscheinen
	maeschin	machine	Maschine
	schtærtə	start	anlassen, anfangen
	traevəlt	travel	reisen

⁷ Learned (1889) also lists as a possible PG phoneme something written as *āe*; this is a completely different phoneme.

⁸ The authors as given by Learned (1889) are as follows: (6a) contains words used by Bahn, (6b) by Fisher, (6c) by Harbaugh, (6d) by Horne, and (6e) by Rauch. Learned was unfortunately ambiguous as to which books his examples were taken from; the authors quoted all wrote shortly before Learned, however.

⁹ Learned (1889) used German spelling conventions of his time, thus the lower-cased nouns.

¹⁰ Learned (1889) used a symbol other than *o* (but with the same meaning) here; I am unfortunately unable to reproduce the exact symbol used in the original.

	waert	will be	wird
(6c)	aeffekt	affect	einwirken
	gəbaerrt	barred	sperrn
	haenkərə	hanker	sich sehnen
	kaerridzh	carriage	Kutsche
	nəusgəschpaerrt	shut out	eingesperrt
(6d)	aersch	first	erst
	kaerzlich	recently	kürzlich
	laerning	learning	Lehre
	schmaerter	smarter	klüger, intelligenter
	widərwuertichkeitə	misfortunes	widerwärtig ‘disgusting’
(6e)	aedminischtrə	administer	verwalten
	aegriə	agree	zustimmen
	pripaert	prepared	zubereitet
	raeskəl	rascal	Schuft
	waert	will	wird

The items in (5), as noted previously, show only English borrowings, and therefore do not give any clue as to the comparative distribution of æ in PG words of German and English origin; as for the items in (6a-e), though they seem to show a tendency toward using the *ae* digraph in English-origin words as opposed to German-origin ones, there is no clue given as to how that digraph was in fact pronounced. A similar problem appears in the other source for nineteenth-century PG forms used in this paper, namely a series of letters written by PG speakers between (approximately) 1848 and 1864 collected by Parsons and Heimburger (1980). Although these letters show rather little borrowing from English—a fact that prompted Costello (1986), in remarking upon these letters, to venture that at least some of the writers of the letters were making it a point to approximate “standard” German—there is some, with possibly topical forms shown in (7).

(7)	PG Word	English	European German
	Atsetant	adjutant	beistehender Offizier
	ar	he	er
	Cepten	captain	Hauptmann

It would seem from this that the one thing that can be taken as most likely is that the phoneme æ was *not* used in the word *Cepten* ‘captain,’ while whether it was used in pronouncing *Atsetant* ‘adjutant’ remains unknown. The spelling of the European German *er* ‘he’ as *ar* is included in the list as possibly topical because of the cases in other lists in which æ—or at least the digraph *ae*—occurs before *r* in German-origin words (and also in a few English borrowings); once again, though, it is impossible to come to a firm conclusion as to the intended pronunciation of the word in this case, although it is worth noting that the same writer spells the word *er* in nearly all other cases. A closer look at other data from the same time period might show patterns that could prove useful in coming to a conclusion on the subject.

5. General Observations of the Data

As noted before, all this makes it seem that there is no pattern to the occurrence of æ in PG in regard to whether the words that it appears in are of English or German origin. However, a closer look at the data in (1-6) shows that there is in fact a pattern. After eliminating the words which have cognates in both English and European German, one can group the words into three groups—the words with European German cognates, the words with English cognates, and the words with no clear cognates in either language; (8) shows the words with European German cognates. (In this and following lists, the number in parentheses after each PG word shows which list it previously appeared in.)

(8)	PG Word	English	European German
	aer (6a)	he, it	er
	Aermel (3)	sleeve	Ärmel
	aerscht (6d)	first	erst
	Aeryer (4)	vexation	Ärger
	gaern (3,4)	gladly, like	gern
	Kaerbs (2)	squash	Kürbis
	kaerzlich (6d)	recently	kürzlich
	laerning (6d)	learning	Lehre
	maessich (2)	moderate	mäßig

naeryeds (4)	nowhere	nirgends
nøusgøschpaert (6c)	shut out	eingesperrt
Schtaern (3)	forehead	Stirn
verdaerwe (4)	to spoil, destroy	verderben
vorhaer (4)	before, previously	vorher
waer (3,4)	who	wer
waer (6a)	had	war
waerklich (2)	really	wirklich
waert (6b,6c)	will (be)	wird
widørwaertichkeitø (6d)	misfortunes	widerwärtig 'disgusting'

The pattern is at once apparent—with the single exception of the word *maessich* 'moderate,' the æ in all of these words is followed by an *r* (as the result of a front vowel being lowered to æ), whereas æ occurs in the words with English cognates in nearly all environments.

Lowering of *ε/e* to æ before *r* in German dialects is not unheard of, and in fact Karch (1988) claims that the lowering of *ε* to æ is found in Mannheim in the Palatinate dialect region. However, in looking through Karch's transcriptions of speakers from the Palatinate one sees one and only one example of this, a speaker saying æ⁶sdŋs 'first' rather than *erstens*, and that speaker consistently uses *e* or *E* before *r* in all other cases. Also, other, earlier sources describing the Palatinate dialect (Christmann 1931; Christmann, Krämer, Post, and Schwing 1965ff.) say absolutely nothing about this tendency, making it fairly safe to conclude, at least for the moment, that this lowering before *r* is a recent innovation in Palatinate German and that the phenomenon has evolved independently on each side of the Atlantic (although further investigation is, of course, warranted).

In addition, it is worth noting that the text of ENT (1993)—which, as was noted earlier, is the one text used in this paper which reflects an Ohioan rather than a Pennsylvanian dialect of PG—does not show this tendency to lower short front vowels before *r*; where one finds such words with high and mid vowels

lowered to æ in other sources, in ENT one finds the same words with non-low vowels, as shown by a few examples in (9).^{11,12}

(9)	ENT	Other Sources	Meaning
	eahsht	aerscht(6d)	first
	geahn	gaern(3,4)	gladly, like
	veah	waer(3,4)	who

Judging from these facts, it appears that what all this data reflects is two different processes—one of borrowing which is bringing English words into PG, and another which is a merger (or at least something acting like a merger)¹³ which is lowering short front vowels before *r* in Pennsylvanian dialects of PG. The second of these items will be dealt with first.

¹¹ It should be noted that this is not universally the case, as seen in some words which are shown in ENT as having lost the off-glide from the *r*, as *shtann* ‘forehead’ and *katzlich* ‘shortly.’ As it is unclear whether the *a* in this class of words is from the nucleus of the vowel losing the off-glide or the nucleus being lost leaving nothing but the off-glide, these cases are left for future investigation.

¹² In general, ENT (1993) appears to reflect a tendency in the Ohio PG dialect to have generally fewer words with an æ. As can be seen by looking at (1), of the ten words with an æ used in ENT, two have cognates in both European German and English, two do not have a clear cognate in either language, and the remaining six are clearly borrowings from English. However, for the words shown in other lists as being PG cognates of English terms, ENT shows a tendency to use a term closer to the European German, as shown by a few examples in (A).

(A)	ENT	Other Sources	Meaning
	gebt andvat	aensere(3)	lit. gives answer
	deich	waëlli(5)	valley
	sich...veist	aepirə(6b)	lit. show oneself

¹³ Whether it is or is not in fact a merger will have to be verified by future research; for the moment, I will assume that it is or at least can be treated as one.

6. Analysis of the Dialect Split

The lowering of short front vowels before *r* in Pennsylvanian PG is widespread, but it does have some exceptions, a few of which, taken from Stine (1990), are shown in (10).

(10)	PG Word	English	European German
	Herbscht	autumn	Herbst
	Kirz	shortness	Kürze
	Schirm	protection	Schirm

However, upon looking through the lists of Pennsylvanian PG words provided by Stine (1990), Haag (1982), and Buffington and Barba (1965), one sees a relative lack of short front non-low vowels before *r*; it may or may not be that this is a sign of a merger in progress, but it does appear to indicate some present or past pressure on the language to eliminate the distinction between short front vowels in that environment.

In Ohioan PG as reflected in ENT (1993), however, one sees the reflexes of the front short vowels *i* and *e* before *r* as an *i* or an *e* followed by an inglide, written *iah* and *eah*; interestingly, there is no word in the entirety of ENT in which *æ* is followed by such an inglide or by an *r*. It should be noted also that in cases where other vowels were followed by an *r*, the post-vocalic *r* is in those cases also turned into an inglide.

A tentative explanation for the difference in treatment of short front vowels in these two dialects of PG is based on the different ways in which these dialects treat post-vocalic *r*. Whereas Pennsylvanian PG has maintained post-vocalic *r*, albeit in a fairly muted form (Stine 1990), Ohioan PG has gotten rid of it by changing it into an inglide (ENT 1993). This has allowed the Pennsylvanian PG *r* to have a lowering effect on preceding vowels as Karch (1988) claims happens in today's Palatinate German, whereas this could not occur in Ohioan PG because there was no *r* there to have such a lowering effect.

The question then arises as to where exactly the *æ* in PG comes from—does it come through the lowering process proposed for Pennsylvanian PG, or does it come from borrowing the sound

from English? This can be definitively answered for Ohioan PG—in that dialect, it has come from borrowing English words containing æ. This is necessarily the case, because there is no mechanism for æ to arise through the lowering of the front vowels before *r*, as has happened in Pennsylvanian PG. This would mean that æ was first borrowed into PG (or at least Ohioan PG), after which æ became part of the PG phonemic system, allowing *maemm* ‘mother’ and *naett* ‘not’ to come into existence from whatever their earlier forms were; however, finding the exact means by which these two words achieved their current realizations in Ohioan PG remains an important question for future research.¹⁴

The picture is not so clear in Pennsylvanian PG, but it appears reasonable to conclude that æ was introduced into Pennsylvanian PG through borrowing from English, or at least that the possible environments for æ were expanded from pre-*r* environments to all environments through borrowing. The position that Ohioan PG non-lowered vowels are earlier forms than the lowered Pennsylvanian PG forms is, in any case, the correct position to take, given the principle that once something merges—in this case, the Pennsylvanian PG short front vowels before *r*—the merger is irreversible (Labov 1994), and therefore a dialect preserving uncollapsed forms preserves, at least in part, older distinctions.¹⁵

¹⁴ For the sake of comparison, Stine (1990), Haag (1982), and Buffington and Barba (1965) all agree that the Pennsylvanian PG word for ‘not’ is the æ-less *net*, and æ-less forms for ‘mother’ are also given—Stine and Haag give forms such as *Mamm*, *Mamma*, and *Mammi*, while Buffington and Barba give *Mudder* and *Midder*.

¹⁵ Note that this difference in post-vocalic *r* and the vowels preceding it could provide a test case for Van Ness’s (1990) claim that contemporary PG is diverging into various dialects from a fairly recent earlier homogenous form of PG, as a comparison of nineteenth-century Ohioan and Pennsylvanian PG post-vocalic *r* could show whether PG was in fact quite so monolithic a century ago.

7. Analysis of the Borrowing of æ Into PG

This leads directly to the process of borrowing English words that contain æ, which has occurred in both dialects of PG. Thomason and Kaufman (1988) (hereafter T&K) have come up with a model to explain various types of linguistic borrowing.¹⁶ The T&K model is a descriptive model rather than an abstract structural model, and deals with what sorts of social stresses result in particular types of language change—for example, in the case of (at least Ohioan) PG the adoption of a phoneme not previously seen in the language, as well as the widespread borrowing into PG of various English lexical, syntactic, and morphological items not dealt with in this paper. The T&K model claims that in order for such widespread influence from one language to be felt in another while the original language is maintained, there must be extremely close contact between the two language groups, with such borrowing occurring most easily among speakers who as a group are fluently bilingual in the two languages. The claim is that if the borrowing language community maintains its language, it will be able to borrow from the other language while maintaining its own language.

The bilingualism of PG speakers has proven fairly easy to test—several researchers have tested PG speakers for bilingualism and have found that, at least for the “plain” segment of the population (among whom the most language change is taking place), PG-speakers are equally fluent in PG and English (among others Enninger *et al* 1984; Meister Ferré 1991). In addition, several researchers have found that there is close economic and moderately close social contact between PG speakers and the surrounding English-speaking community (Hostetler 1993; Kraybill 1994; Meyers 1994). It should also be noted that Huffines (1988) describes the linguistic convergence of PG toward English as a strategy of maintaining PG as a viable language. This matches well with the T&K model, which allows for such convergence while

¹⁶ Fuller (1996) has criticized Thomason and Kaufman’s (1988) approach as overly descriptive, and has proposed that the changes occurring in PG fit Carol Myers-Scotton’s (1993) Matrix Language Frame model. Further research would be needed to determine which of these models works better for the case of PG.

maintaining the original language; in short, the data available on the situation of PG borrowing items from English fits the T&K model, but it must be said that one reason for this may be that the T&K model is quite general, and therefore quite difficult to disprove.

8. Concluding Remarks and Summary

This paper has looked at a change in the phonemic system of PG which has proceeded differently in dialects of the language as spoken in Ohio and eastern Pennsylvania. Based on data from the mid- and late nineteenth and twentieth centuries, conclusions were drawn concerning the method by which æ, a previously unknown sound in PG, might have entered the PG system through borrowing from English. It was noted that this is the sort of borrowing predicted by Thomason and Kaufman's (1988) model of borrowing and shift in language contact situations in situations where there is such close cultural contact between language groups, and evidence was brought in to show that there is in fact close cultural contact between speakers of PG and the surrounding English-speaking population.

Future fieldwork needed to clarify the issues brought up in this paper and to test the conclusions drawn include above all a study of the use of æ in PG in both eastern Pennsylvania and Ohio, as well as a study of the tendency to lower short front vowels before an *r* in eastern Pennsylvanian PG. It could also be useful to undertake an acoustic analysis of the æ in Pennsylvanian PG words of German origin to determine whether the sound is actually the same as the æ in words borrowed from English, or whether the æ in German-origin words is only *nearly* merged with the æ in English-origin words.

In short, it has been possible to put forth certain tentative conclusions based on the data presented here, but confirmation of them awaits testing through fieldwork.

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