Identity and mobility in linguistic change across the lifespan:

The case of Swabian German[1]

Karen V. Beaman

Abstract

Identity construction and mobility have been shown to influence dialect performance and play a critical role in language change (Blommaert 2014; Britain 2016; Coupland 2001; Johnstone 2011). To investigate the relative importance of identity and mobility and their role in language change, this paper presents the results of a 35-year panel study with 20 speakers of Swabian German. Twelve linguistic variables, six phonological and six morphosyntactic, reveal how identity and mobility influence speakers' choice of dialect variants. The findings from the panel study, in comparison with an ongoing trend study, offer new understandings in dialect retention and attrition, revealing how 'feeling Swabian' and a 'sense of place' play a vital role in our understanding of dialect change across the lifespan.

1 Introduction

Concepts of identity, time, and place have long pitted dialectology and sociolinguistics at opposite ends of the methodological spectrum. Traditional dialectologists have concentrated on homogeneous groups of speakers – typically elderly, rural men who have spent their entire lives in a single location – as the 'true' dialect speakers. Sociolinguists have sought orderly heterogeneity with primarily urban speakers, and until recently, have paid little attention to factors such as individual orientation and geographic mobility. In recent years, educational, cultural, and demographic changes throughout the world, and particularly in Germany, have led to unprecedented dialect levelling (Auer 2005, 2018). However, as Britain (2009: 121) has claimed, dialect attrition "does not necessarily lead to an overall shift to the standard language". Smith and Durham (2012: 2) have shown that dialect shifts "may not indicate rapid dialect obsolescence per se, but merely reflect differing code choice" influenced by issues of time, identity, and place.

In sociolinguistic research, increasing focus is being placed on the role of the individual within the community in investigating language change. A growing body of work shows how identity construction and a sense of place influence dialect performance and hence play a vital role in our understanding of language variation and change (Sankoff, Wagner and Jensen 2012;

MacKenzie and Sankoff 2010; Sankoff and Blondeau 2010; Bowie 2005, 2010). Recent research points to the role of 'dialect identity' – the "positioning as a user or non-user of the local dialect" (Johnstone 2016: 51) – and 'place identity' – the use of local/regional dialect forms in innovative and strategic ways (Coupland 2001) – as pivotal factors in dialect usage.

This paper brings together three opposing approaches in analysing the changing dialect situation in Swabia – traditional dialectology versus quantitative sociolinguistics, the role of the individual versus the role of community, and the analysis of mobility versus sedentarism. With rising levels of education and increasing residential and workplace mobility over the last 35 years, the linguistic situation in southwestern Germany is undergoing profound change, providing an ideal opportunity to investigate the issues of time, identity, and place with respect to dialect attrition. The two questions this research seeks to address are: (1) is Swabian thriving or dying as a German dialect in the speech of individuals across their lifespan; and (2) how do notions of identity and mobility impact dialect attrition or retention across the lifetime of the individual?

2 Research Background

Sociolinguistic research on language change has been firmly grounded by the *uniformitarian principle*, which claims that the processes we observe in the present can help us gain knowledge about processes in the past (Lyell 1833). Labov (1966, 1974) introduced this principle into sociolinguistics with the

apparent time method and the "use of the present to explain the past", and now, fifty years after his seminal work on New York City English, longitudinal studies are common practice in variation sociolinguistics for investigating language change (e.g., Buchstaller 2015, 2016; Gregersen, Maegaard and Pharao 2009; Rickford and Price 2013; Sankoff and Blondeau 2007; Sankoff and Laberge 1978; Sankoff and Wagner 2006; Schilling-Estes 2005; Tagliamonte and D'Arcy 2009; Wagner and Sankoff 2011; Wagner 2012).

Two basic approaches to collecting and analysing real-time data have become prevalent: (1) *panel studies* follow a specific group of speakers and resample the same people at different points in time; and, (2) *trend studies* examine different cross-sections of the population at different points in time. Both types of studies are critical to developing a full understanding of language change: trend studies are most suitable for determining language change within a community; whereas panel studies are indispensable for understanding language changes at the individual level (Sankoff 2006). Sankoff (ibid. 2019) has defined three types of intra-speaker trajectories: (1) *speaker stability*, when speakers remain constant after early childhood while the community continues to change, (2) *lifespan change*, when speakers adapt their language use in the direction of the community-wide trend, and (3) *retrograde change*, when speakers move against the community-wide trend, away from innovative forms to more conservative ones. Sankoff (2006)

maintains that most studies show that apparent time change typically mirrors real time change.

A paucity of lifespan research has been conducted in situations of *dialect contact* and *dialect levelling*, "a process whereby differences between regional varieties are reduced, features which make varieties distinctive disappear, and new features emerge and are adopted by speakers over a wide geographical area" (Williams and Kerswill 1999: 149). Such situations are generally caused by broad social changes, such as industrialisation, urbanisation, agricultural development, and an expanding and more diverse workforce (Kerswill 2001). Milroy (2002: 7) defined dialect levelling as "the eradication of socially or locally marked variants […] in conditions of social or geographical mobility and resultant dialect contact". She found that dialect levelling is more common in urban populations in which people tend to have weaker social ties (Milroy 1987). Cheshire et al. (1999) pinpointed adolescents as driving the levelling process, as they adapt their speech to that of their peers rather than their parents.

Trudgill (1986) maintains that dialect levelling can best be explained by *accommodation theory* (Giles, Bourhis and Taylor 1977), which suggests that when speakers of different dialects come into contact, convergence (or divergence) ensues.

> *When mutually intelligible, but distinct dialects of the same language come into contact, linguistic accommodation occurs. When this contact is long-*

term [...], accommodation can become routinised and permanent through the process of koineisation, and a new dialect can emerge. (Britain and Trudgill 1999: 245)

Auer and Hinskens (2005: 356) claim that it is difficult to find evidence to indicate that interpersonal accommodation leads to levelling and community-wide change. They argue that

there is some evidence that interpersonal accommodation occurs, but [it] is better explained as accommodation towards a stereotypical persona or mental representation (model) of a social group than as accommodation to the actually co-present interlocutor. (ibid.: 343)

Auer (2005: 22) maintains that dialect contact and levelling creates a *diaglossic* situation, one defined by "intermediate variants between [the] standard and (base) dialect". These intermediate varieties are often referred to as *regiolects* or *regional dialects*, which are characterised by "non-discrete structures" (ibid.) such as a standard/dialect continuum. Auer maintains that, contrary to the Americas, where language change is normally *endogenous*, i.e., generated internally within the speech community, language change in Europe is typically *exogeneous*, i.e., created via external influences, such as dialect contact and levelling. Hence, Auer follows Mattheier (1996) in using the term *advergence* to describe the fact that, as a result of dialect contact, varieties in Europe typically "adverge" toward the standard language (Auer and Schwarz 2015).

Two primary outcomes can result from a dialect contact situation, either stable *bidialectalism* or *dialect shift*. In their study of bilingual children of ethnic minority and bidialectal communities in the Netherlands, Cornips and Hulk (2006: 355) found that bidialectalism has "increased so much that monolingual speakers of non-standard dialects have become the exception". In Shetland, Scotland, Smith and Durham (2012: 57) suggest that we are experiencing the emergence of a "pivotal generation in dialect obsolescence", one "signalled by extreme linguistic heterogeneity across a group of historically homogeneous speakers (e.g., Dorian 1994)". In the end, Britain (2009: 122) contends that dialect contact and dialect death are "inextricably linked", yet the attrition process does not necessarily lead to a wholesale shift to the standard language. While some dialects are receding, new varieties are emerging, moulded by ever greater contact among speakers of different varieties on a regional, national and even global scale and accelerated by a multitude of social and economic developments that have brought speakers from more distinct varieties in closer contact than ever before (Britain 2009).

While dialect contact and levelling have been studied extensively, dialectologists and sociolinguists alike have systematically skirted the issue of geographic mobility and its impact on language variation and change. In the past, linguists have been singularly focused on finding 'authentic speakers', the prototypical NORM (non-mobile, older, rural, male) informants, those born and raised exclusively in the region under study (Chambers and Trudgill 1998). In fact, speakers who have moved extensively

in and out of the region, or even within the region under study, have been treated with suspicion (Chambers 2000). Britain (2002: 603) remarks that "given the historical origins of variationism in traditional dialectology, […] it is paradoxical that one of the social categories that has received least attention of all is space". Auer (2013: 6) questions "whether the exclusive focus on stable settlements and immobile speakers has ever done justice to language and language change". From the Great Migration to European colonial expansion to the age of industrialisation and urbanisation, the human race has always been highly mobile. At the turn of the century, only about 3% of the world population lived in cities. Today, as a result of industrialisation and urbanisation, more than half of the world's population lives in urban areas, and this trend is expected to continue to increase 62% by 2050 (United Nations 2019). Auer (2013: 7) asserts that "mobility has become such a central feature of human existence in the age of globalization that any kind of linguistics that is not able to address its effects will be in danger of falling out of step with reality".

With ever-increasing globalisation, expanding immigration, and swelling numbers of commuters travelling from rural locations to urban centres for work, mobility and *superdiversity* (Vertovec 2007) have become part of everyday life. Blommaert (2010: xiv) argues for "a view of language as something intrinsically and perpetually mobile […]. The finality of language is mobility, not immobility". Britain (2016) insists that, as researchers, we need to expand our theoretical lens to consider both ends of the

mobility/immobility scale, incorporating a more nuanced view of paths in the middle.

In broadening their theoretical focus, many studies have also begun exploring the question of how individuals communicate a personal identity through their choice of language variants, which can serve as a precursor to linguistic change (Labov 1966; Silverstein 2003; Eckert and Wenger 2005; Bucholtz and Hall 2005; Coupland 2008). Tajfel (1978: 63) defines social identity as "that part of an individual's self-concept which derives from his [*sic*] knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership". Le Page and Tabouret-Keller (1985) use the term *acts of identity* to indicate that

> *the individual creates for himself [sic] the patterns of his [sic] linguistic behavior so as to resemble those of the groups with which from time to time he [sic] wishes to be identified or so as to be unlike those from whom he [sic] wishes to be distinguished. (ibid.: 181)*

Similarly, Kiesling (1998: 95) stresses that "identity is a display, it must be understood in terms of social relationships, including potential social relationships a speaker chooses not to identify with". Auer and Hinskens (2005: 356) echo Kiesling saying that a speaker's identity, or orientation, is the best predictor of linguistic accommodation, specifically, "a strong attitudinal orientation towards the group with whom one wants to associate, or a strong attitudinal dissociation from those from whom one wants to

dissociate". For example, Wolfram and Schilling-Estes (2003: 732) report on Smith Island's resistance to an on-going change because the traditional variant is highly valued and serves as a "marker of in-group identity". Auer (2005) claims that a diaglossic situation with non-standard language varieties provides for unlimited intermediate forms,

allowing users to act out, in the appropriate contexts, an identity which could not be symbolised through the base dialects (which may have rural, backwardish or non-educated connotations) nor through the national standard (which may smack of formality and unnaturalness and/or be unable to express regional affiliation). (ibid.: 28)

Thus, elements of identity construction and mobility have been shown to influence dialect levelling and play a critical role in language change (Blommaert 2014; Britain 2016; Coupland 2001; Johnstone 2011). The current study attempts to unravel these influences and discover the critical role that identity and mobility play in the trajectory of linguistic change across the lifespan.

3 Data and Methods

This chapter reports on the results of a panel study investigating interspeaker stability and change across a 35-year time period in Swabian, or *Schwäbisch*, a High German dialect belonging to the Alemannic family, spoken by

800,000 people or 1% of the German population (see fig. 1[2]). Swabian is spoken in southwestern Germany and has no non-Germanic dialect borders: it is bordered in the north by Franconian, in the east by Bavarian, in the west by Alemannic (or *Badisch*), and to the south by Swiss German.

3.1 Speech Communities

Two communities in the central Swabian dialect area were selected for this research: the large urban metropolis of Stuttgart and its surrounding suburbs, and the mid-sized town of Schwäbisch Gmünd and its surrounding rural villages. Stuttgart is an international centre with over one million inhabitants and is home to many well-known global firms, such as Daimler-Benz, Porsche, Bosch, and Siemens. Schwäbisch Gmünd, with 60,000 inhabitants, lies 100 kilometres east of Stuttgart. It is a typical mid-sized German town, surrounded by small rural villages with 77% of the land dedicated to woodland and agriculture.

---

[2] This work has been released into the public domain by its author, Et Mikkel at German Wikipedia. This applies worldwide. Et Mikkel grants anyone the right to use this work for any purpose, without any conditions, unless such conditions are required by law. https://commons.wikimedia.org/wiki/File:Deutsche_Dialekte_1910.png. (1 August, 2019.)

Fig. 1: German dialects around 1910

3.2 Swabian Corpus

The data for this research were collected via Labovian-style sociolinguistic interviews (Labov 1984). 40 native Swabian speakers were interviewed in 1982, 20 of whom were re-interviewed 35 years later in 2017. The interviews were conducted by native Swabian speakers, with the principal investigator present in the role of friend-of-a-friend (Milroy and Milroy 1985). In order to increase compatibility across the two recording periods, the same interview questions were asked in both years, covering questions about the speakers' childhood, hobbies, neighbourhood, and attitudes towards the Swabian culture and language. All interviews were conducted in a casual setting, typically over coffee and cake in the speakers' homes. The interviews have been supported by extensive ethnographic observations made by the principal

investigator's prolonged time living in the region both in 1982 and again between 2016 and 2019.

3.3 Transcription

The interviews were transcribed in ELAN (Wittenburg et al. 2006; Nagy and Meyerhoff 2015) by native German speakers, linguistics students at the University of Tübingen, following a well-documented set of transcription guidelines and using a standard orthography explicitly adapted for Swabian. All transcripts were verified by the principal investigator to ensure conventions were followed and to neutralise any potential transcriber bias. Transcripts were extracted from ELAN, and linguistic variables were automatically coded for a binary distinction between the dialect variant and the standard German variant based on a bespoke Swabian-German Lexicon (SGL) built from the corpus of Swabian interviews. The SGL is used as a tool to ensure that all tokens of a given variable in a transcript are located and properly coded (as "dialect" or "standard" variant), ensuring the *principle of accountability* (Labov 1972) is followed.

3.4 Dialect Density Index (DDI)

Modelled on the work of Wolfram and others (Van Hofwegen and Wolfram 2010; Oetting and McDonald 2002), a Dialect Density Index (DDI) was developed as the dependent variable to represent the concentration of dialect variants in each speaker's repertoire. DDI is a token-based frequency measure

that represents the total dialect variants as a percent of the total dialect features (i.e., linguistic variables). Twelve linguistic variables, six phonological and six morphosyntactic, have been selected to expose the rich palette of features available to the Swabian speaker (see tab. 1). A total of 50,875 tokens were extracted, 21,714 from 1982 and 29,161 from 2017, with an average 1,086 tokens per speaker in 1982 and 1,458 tokens per speaker in 2017.

Tab. 1: Linguistic variables under investigation

Name	Swabian ~ Standard	Examples (Swabian Orthography)
PHONOLOGICAL VARIABLES:		
Palatalisation	[ʃt] ~ [st]	da darfsch ja bloß hundertdreißig fahre in Italien
MHG /i:/ Diphthong Shift	[ɔɪ] ~ [aɪ]	mã braucht da kôi Fleisch dazu
Nasalisation	[ã] ~ [a]	mã kã es mit em normale [Mehl] mache
Unrounded Front Vowel	[ɛ] ~ [ø]	so gut wie meeglich probier es
Diphthongisation /u/	[u] ~ [uə]	nã muess er sueche
Long /e:/ Opening	[ɛ:] ~ [e:]	gschwind nã Kanada gange, dã e baar Jãhr lããbe
MORPHOSYNTACTIC VARIABLES:		
Verbal Plural Inflection	[əd] ~ [ən]	die finded es wichtig.
Irregular Verb - gehen	[gangə] ~ [ge:an]	willsch du an Telefon gange?
Irregular Verb - haben	[hɛn] ~ [ha:bən]	mr hen e aldes Haus khet
Swabian Affix - -le	-le ~ -chen/-lein	dass er en Mãdle mãg un se ihn mãg
Swabian Affix - ge-	θ ~ ge-	un hen hier e Haus [ge]baut
Periphrastic Subjunctive	dããd ~ würde	es dããd beeinflusse

Tab. 2: Swabian panel speaker demographics

Community	Pseudonym	Sex	HigherEd	Age		SOI		SMI	
				1982	2017	1982	2017	1982	2017
Gmünd	Alf	M	yes	23	59	4.5	4.2	15	37
Gmünd	Angela	W	yes	18	53	4.5	4.4	0	84
Gmünd	Anneliese	W	yes	22	57	3.5	3.8	44	73
Gmünd	Berdine	W	yes	21	57	3.9	3.5	17	83
Gmünd	Elke	W	no	22	57	4.2	4.4	0	0
Gmünd	Herbert	M	no	51	85	4.2	4.4	14	9
Gmünd	Jurgen	M	yes	20	55	3.8	3.8	0	75
Gmünd	Louise	W	no	54	88	4.3	3.8	0	0
Gmünd	Markus	M	yes	22	57	4.3	2.6	0	51
Gmünd	Rachael	W	no	48	83	4.4	4.1	0	0
Gmünd	Rupert	M	yes	24	58	4.0	2.4	39	52
Gmünd	Siegfried	M	yes	22	57	4.2	4.8	0	0
Gmünd	Theo	M	yes	18	54	4.0	3.6	0	33
Stuttgart	Bertha	W	no	19	54	3.6	3.6	16	45
Stuttgart	Egbert	M	yes	24	59	4.0	3.7	25	23
Stuttgart	Erna	W	no	49	83	4.2	4.4	7	5
Stuttgart	Helmut	M	yes	22	57	3.3	2.1	18	57
Stuttgart	Manni	M	yes	24	59	3.7	2.7	27	17
Stuttgart	Pepin	M	yes	26	60	3.4	3.8	31	46
Stuttgart	Ricarda	W	yes	18	53	3.5	2.0	15	67

3.5 Extra-linguistic Predictors

Five extra-linguistic factors have been incorporated into the analysis: (1) two recording years (1982 and 2017), (2) two communities (Stuttgart and Schwäbisch Gmünd), (3) two speaker sexes (male and female), as self-reported via the demographic survey completed at the end of the interview, (4) orientation to Swabian, and (5) residential mobility (the latter two are explained further below). Most speakers are of the same age group (18-25 in 1982 and 53-60 in 2017) and socioeconomic status (middle class); four speakers, parents of the younger speakers, were in their early 50's in 1982 and hence in their late 80's in 2017. 14 of the 20 speakers completed their Abitur, the German college preparatory exam. Overall, the corpus represents

a typical and fairly homogenous group of Swabian speakers. Table 2 provides a summary of the Swabian panel speaker sociodemographics.[3]

3.5.1 Swabian Orientation Index (SOI)

In order to measure speakers' level of 'dialect identity', a *Swabian Orientation Index (SOI)* was developed, modelled on Hoffman and Walker's (2010) *Ethnic Orientation*, Sundgren's (2009) *Integration Index*, and Sharma's (2011) *Diversity Index*. Drawn from work in social psychology, SOI combines both objective or *etic* measurements with subjective or *emic* approaches to frame the notion of identity within the social context of the group under investigation (Mendoza-Denton 2002; Le Page and Tabouret-Keller 1985; Tajfel 1974). This perspective toward identity measures speakers' "*perception of difference"* by both insiders and outsiders, the extent to which speakers "*share qualities or values"*, the degree to which they "*participate in shared activities"* (Hoffman and Walker 2010: 40−41), and the extent to which they *interact with other Swabians and with non-Swabians*, i.e., interlocutor accommodation (Trudgill 1981; Auer and Hinskens 2005).

   The SOI is derived from speakers' responses to 16 questions asked in the interview covering their (1) allegiance and feelings about being Swabian, (2) attitudes towards the Swabian language, (3) knowledge of Swabian culture,

---

[3] All names used are pseudonyms to protect the identities and confidentiality of the informants.

people and icons, and (4) self-reported answers to whether they speak Swabian or standard German with family, friends, relatives, neighbours, teachers, colleagues, and others. Figure 2 presents a list of the 16 questions. The speakers' responses to the questions were subjectively evaluated on a five-point scale and averaged, creating an index from one for the lowest to five for the highest level of Swabian orientation (re-scaled to an index from 0.0 to 1.0 for multivariate analysis purposes). Validation of the index was performed through Principal Components Analysis (PCA) for each of the four subscales (Swabian allegiance, Swabian culture, Swabian language attitudes, and Swabian language usage). All subscales proved to be highly significant predictors of dialect versus standard language usage.

Swabian Allegiance:

1-1. Self-Declared Swabian: Are you a 'real' Swabian?
   5=definitely, 4=maybe, 3=don't know, 2=not really, 1=no

1-2. Non-Swabian Friends: Do you have friends who are NOT Swabian?
   5=no, 4=a few, 3=don't know, 2=many, 1=a lot

1-3. Swabian Ridicule: If yes, do they laugh at how you speak?
   5=always, 4=sometimes, 3=don't know, 2=not really, 1=not at all

1-4. Accommodation: If yes, do you change how you speak?
   5=not at all, 4=a little, 3=don't know, 2=a lot, 1=always

Swabian Language Attitudes:

2-1. Opinion of Swabian Language: What do you think of the Swabian language?
   5=super, 4=good, 3=don't know, 2=not good, 1=awful

2-2. Job Prospects for Swabians: Is it difficult to find a job when you speak Swabian?
   5=great, 4=good, 3=no impact/don't know, 2=maybe some, 1=very difficult

2-3. Swabians Speaking German: Is it odd when a Swabian speaks standard German?
   5=very odd/awful, 4=funny, 3=don't know, 2=good, 1=great

2-4. Non-Swabians Speaking Swabian: Is it odd when a non-Swabian speaks Swabian?
   5=very odd/awful, 4=funny, 3=don't know, 2=good, 1=great

Swabian Cultural Competence:

3-1. Swabian Knowledge: Are there different Swabian dialects?
   5=considerable, 4=some, 3=don't know, 2=not much, 1=none

3-2. Swabian Specialties: Do you know how to make Spätzle? Maultaschen?
   5=of course, 4=somewhat, 3=don't know, 2=not well, 1=not at all

3-3. Swabian People & Jokes: Do you know [various well-known Swabians]?
   5=of course, 4=somewhat, 3=don't know, 2=not well, 1=not at all

3-4. Swabian Activities: Do you participate in 'Hocketse ' and local activities?
   5=always, 4=some, 3=don't know, 2=not much, 1=never

Swabian Language Usage:

4-1. Parents Speak Swabian: Do your parents speak Swabian?
   5=both, 3=one, 1=neither

4-2. Friends & Family: Do you speak Swabian with …?
   5=considerable, 4=some, 3=don't know, 2=not much, 1=none

4-3. Neighbors (older & younger): Do you speak Swabian with …?
   5=considerable, 4=some, 3=don't know, 2=not much, 1=none

4-4. Others: Do you speak Swabian with …?
   5=considerable, 4=some, 3=don't know, 2=not much, 1=none

Fig. 2: Swabian Orientation Index (SOI) questions

3.5.2 Swabian Mobility Index (SMI)

In order to assess the impact of mobility on Swabian usage, a *Swabian Mobility Index (SMI)* was developed to measure speakers' level of "sedentarism" or "nomadism" (Britain 2016) and their degree of regional or

local "belonging" (Chambers 2000) and how it may have changed across their lifetimes. The SMI comprises two subscales: *residential dispersion* (represented by the Greek letter lambda λ) computes the number of moves a speaker has made over their lifetime, weighted by the number of years spent in each location; *residential distance* (represented by the Greek letter delta δ) calculates the geographic distance (in kilometers) from the speaker's birthplace to each city lived in, weighted by the number of years in each location and converted to logarithms to reduce skewness for those who have moved long distances. The SMI is the average of these two scores (re-scaled to an index from 0.0 to 1.0 for multivariate analysis). Figure 3 shows the formulae.

Residential Dispersion:

$$\lambda = 100 \times 1 - \sum_{i=1}^{n} \sqrt{y_i}$$

Residential Distance:

$$\delta = \frac{100 \times \sum_{i=1}^{n} log(1 + d \times y)_i}{n}$$

Swabian Mobility Index (SMI):

$$SMI = \frac{(\lambda + \delta)}{2}$$

where:
  n = total number of years lived (speaker age)
  d = residence (city) distance from birthplace (city)
  y = years living in a residence (city)
  i = number of moves (residences lived in)

Fig. 3: Swabian Mobility Index (SMI) calculation

For example, in the first recording in 1982, Angela was 18 years old. The family had never moved, and at that point in her life she had never lived away

from home, giving her an SMI of 0. By 2017, she had lived in nine different locations, both within and outside of Swabia (see tab. 3).

Tab. 3: Angela's residential dispersion and distance values

	Residence (City)	Years in Location	km from Birthplace
Birthplace	Schwäbisch Gmünd	--	--
Residence 1	Schwäbisch Gmünd	19	0
Residence 2	Heidelberg	2	157
Residence 3	Mannheim	2	172
Residence 4	Mannheim/Hohensachsen	2	172
Residence 5	Mannheim	4	172
Residence 6	Deggendorf	3	315
Residence 7	Iggingen	11	8
Residence 8	Groß Nemerow	2	710
Current Residence	Iggingen	8	8

Based on the formulae in fig. 3, Angela's *Residential Dispersion Index* is 79 and her *Residential Distance Index* is 89, giving her an SMI of 84 in 2017. In contrast, Angela's brother Rupert had a SMI of 39 in 1982 (he was 24 at the time and had moved 150 kilometers away for school) and a SMI of 52 in 2017 (he was 58 years old and 25 years of his life has been in the same location, although not his birthplace). The SMI provides a useful heuristic for measuring speakers' changing levels of "nomadism" and "sedentarism" (Britain 2016) across their lifetimes and more accurately reflects the real-life mobility of the modern Swabian speaker.

3.6 Statistical Methods

Token counts for each variable were calculated in R project[4] for statistical analysis. Multivariate analyses were conducted using generalised linear regression mixed modelling (*glmer* function in the R package *lme4,* version 1.1-21) to evaluate the relative effect of each factor when multiple factors are concurrently in play. Interviewer name and speaker ID were incorporated as random effects to handle interspeaker variability and to neutralise potential interviewer bias. Estimates were calculated using the *predict* function (R package *stats,* version 3.5.3), which develops the best possible prediction for the probability of speaking dialect, combining both fixed and random effects. Multivariate logistic regression models allow us to examine the combination of factors which have the greatest effect on individual change across speakers' lifespans.

3.7 Interviewer Effect

A critical aspect of this Swabian corpus concerns the Interviewer Effect. Due to the nature of panel studies, different interviewers are often involved, particularly in this situation, with two sets of interviews separated by 35 years. Hence, to some extent, the differences in dialect usage between the years may be a result of the *gap effect*, which could be an artefact of the long time span between the two interviews and the lack of familiarity between the speakers

[4] https://www.r-project.org/.

and the interviewer in the second interview (Cukor-Avila and Bailey 2017: 205). It is worth noting that in 1982, the speakers in each community were a tight-knit group of friends and family, all living within close proximity to one another; by 2017, they had moved, married, changed jobs, and grown apart to such an extent that many had even lost contact with one another. Even family members who were formerly close had dispersed to such a degree that regular contact had become quite limited.

Thus, several tests were developed to assess the impact of different interviewers across the years on speakers' dialect density. The first test, *interviewer closeness*, evaluated whether the interviewer and the speaker were previously acquainted with one another or not (within the same recording period); however, no statistically significant difference in dialect usage based on prior acquaintance was found. Nevertheless, to ensure that any potential bias based on different interviewers was neutralised, Interviewer name was incorporated as a random effect in the mixed modelling. Second, *interviewer same sex* was evaluated to determine whether there were differences between speakers and interviewers of the same sex or different sexes. In 1982, a statistically significant difference was found: there was 15.3% greater probability of speaking dialect with an interviewer of the same sex in 1982, an effect that was not detected in the 2017 interviews. Hence, to account for this effect, *interviewer same sex* was incorporated into the model as a fixed effect. Finally, no differences were found between interviewers and

speakers from the *same generation* or from different generations, so this factor was eliminated.

4 Analyses and Results

The analyses and results of the Swabian panel study are organised into four sections: (1) individual lifespan change in dialect density across the 35-year timeframe of this study, (2) influence of extra-linguistic factors (i.e., speaker sex, community, Swabian orientation, mobility) on speakers' dialect density over the years, (3) differences in the twelve linguistic variables across time and in the two different communities, and (4) different types of individual speaker change over their lifespans. Finally, some ethnographic observations are brought to bear to aid in the interpretation of the findings.

4.1 Dialect Density across the Lifespan

The first step in investigating the changes in Swabian usage across the 35-year timespan of this study is to look at changes in the Dialect Density Index (DDI). The average DDI for the 20 panel speakers in 1982 was 43% (n = 12,714), dropping in 2017 to 27% (n = 29,161), an overall decrease of 16% over the 35-year timeframe of this investigation. Preliminary findings from 104 speakers in the Swabian trend study currently in progress show an even greater decline in dialect density across five generations, from 50 − 56% (Stuttgart − Schwäbisch Gmünd, respectively) with the oldest generation in 1982 to 13 − 23% (Stuttgart − Schwäbisch Gmünd, respectively) with the

youngest speakers in 2017, a 37 − 33% (Stuttgart − Schwäbisch Gmünd, respectively) decline in dialect usage over the 35-year timespan. The results of the trend study provide evidence that the changes in dialect density among the 20 panel speakers are the result of *individual communal change*, in which both the individual and community are changing, and are not due to *age-grading*, in which only the individual is changing in accordance with "patterns appropriate to their age status" (Sankoff 2019: 199).

Figure 4 plots the 20 panel speakers based on their DDI in each of the two years. The horizontal axis plots principal components 1 (PC1) (using *prcomp* function in R package *stats,* version 3.5.3) for the six phonological variables, and the vertical axis plots PC1 for the six morphosyntactic variables. These two principal components account for 69% of the variability for the phonological variables and 78% of the variability of morphosyntactic variables. The upper right corner approximates 100% usage of the twelve dialect variants, while the lower left corner verges toward 100% usage of standard German variants. The crosses represent each speaker's dialect density in 1982, and dots indicate their dialect density in 2017. The dialect attrition can be seen by the left and downward trajectory of the points (i.e., plus signs (1982) moving to dots (2017)). The points for the 12 variables move more toward the left than downward, indicating a greater loss of morphosyntactic dialect variants than phonological ones. The general pattern is one of dialect attrition over the lifespans for most speakers (details about the individual speakers are discussed below).There are, however, two

speakers who show retrograde movement: Louise uses more phonological dialect variants and Siegfried more morphological variants in 2017 than they did in 1982, a point we will return to in the following sections.

The three ellipses in fig. 4, drawn to show two standard deviations from the mean of the group, highlight three groups of speakers. The upper ellipse surrounds the speakers from Schwäbisch Gmünd in 1982. Its small, compact nature signifies there was considerable homogeneity among the speakers of Schwäbisch Gmünd – a tight-knit community in 1982 – at least with regards to the use of these twelve dialect variants. The middle ellipse encircles all speakers in 1982, and the largest ellipse encloses all the speakers in 2017. This large ellipse reveals that the Swabian dialect has become considerably more diverse in 2017 than it was in 1982, and there is no longer a clear demarcation between Schwäbisch Gmünd and Stuttgart. These results are consistent with other research showing impending dialect obsolescence in situations of vast linguistic heterogeneity in communities that were historically homogeneous (Dorian 1994; Smith and Durham 2012). However, as we will see in the following sections, individual details can be obscured when looking solely at group averages: in fact, as we will see below, there are important individual differences across the lifespans of certain speakers, modulated by the extralinguistic factors of identity and mobility.
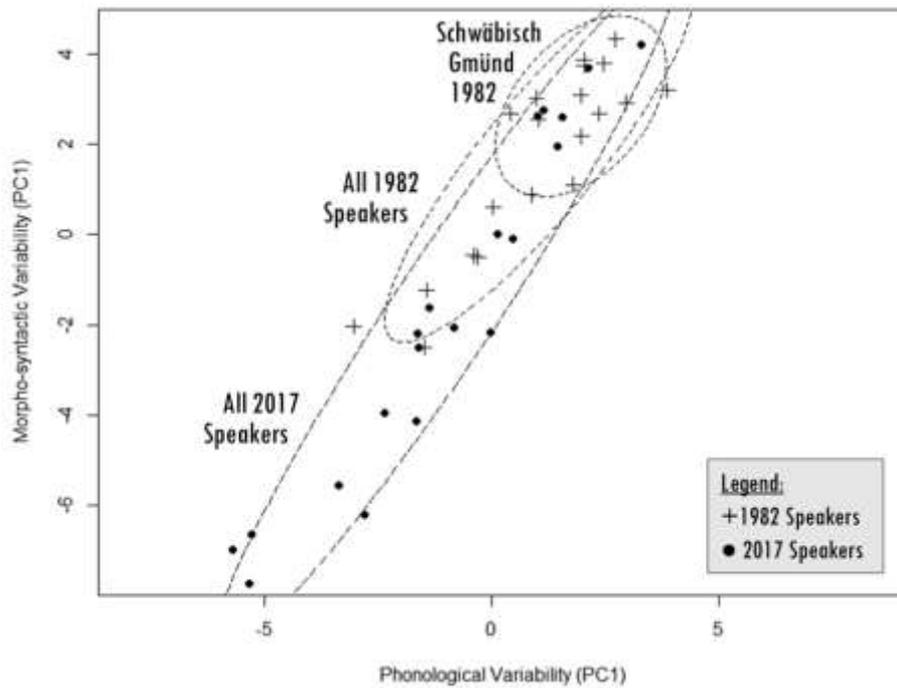
Fig. 4: Swabian dialect density and change over the years

4.2 Extralinguistic Constraints on Dialect Density

Table 4 reports the results of the multivariate analysis of DDI (the dependent variable) based on the five extra-linguistic factors under investigation (the independent variables). Table 4a presents the results for the five main effects: recording year, Swabian orientation, and speaker mobility are highly significant at the .001 level; community is significant at the .05 level, and speaker sex is verging on significant. However, the univariate results do not convey the full picture. As tab. 4b through 4f show, there are critical interaction effects among these factors which reveal a more nuanced picture of what is happening with the dialect in Swabia. Each of these will be discussed in turn.

Tab. 4: Mixed effects model showing the influence of social factors on dialect density

Factors		spkrs	weight	lodds	prob	diff	sig
Year	1982	20	.599	-0.3240	42.0%	-14.7%	***
	2017	20	.401	-0.9798	27.3%		
Orientation	lowest (2.0)	18	.381	-1.1189	24.6%	18.0%	***
	highest (4.8)	22	.619	-0.2979	42.6%		
Mobility	lowest (1.0)	30	.585	-0.4745	38.4%	-15.3%	***
	highest (4.1)	10	.415	-1.2037	23.1%		
Sex	Men	22	.458	-0.8281	30.4%	8.6%	.
	Women	18	.542	-0.4462	39.0%		
Community	Gmünd	26	.538	-0.3796	40.6%	-16.9%	*
	Stuttgart	14	.462	-1.1702	23.7%		

Table 4a. Univariate Main Effects

Year	Speaker Sex	spkrs	lodds	prob	diff	sig
1982	Men	11	-0.3459	41.4%	5.5%	
	Women	9	-0.1234	46.9%		
2017	Men	11	-1.3653	20.3%	7.3%	
	Women	9	-0.9641	27.6%		

Table 4b. Interaction Effects: Year + Sex

Year	Sex	Orientation	spkrs	lodds	prob	diff	sig
1982	Men	Low (mean 3.5)	4	-0.6158	35.1%	10.2%	.
		High (mean 4.2)	7	-0.1917	45.2%		
	Women	Low (mean 3.5)	3	-0.2522	43.7%	4.8%	
		High (mean 4.2)	6	-0.0590	48.5%		
2017	Men	Low (mean 3.0)	7	-1.7768	14.5%	19.9%	***
		High (mean 4.2)	4	-0.6450	34.4%		
	Women	Low (mean 3.1)	4	-1.3245	21.0%	12.7%	**
		High (mean 4.2)	5	-0.6757	33.7%		

Table 4c. Interaction Effects: Year + Sex + Orientation

Year	Community	spkrs	lodds	prob	diff	sig
1982	Gmünd	13	-0.1917	45.2%	3.8%	
	Stuttgart	7	-0.3462	41.4%		
2017	Gmünd	13	-0.8520	29.9%	15.8%	***
	Stuttgart	7	-1.8027	14.2%		

Table 4d. Interaction Effects: Year + Community

Year	Commty	Orientation	spkrs	lodds	prob	diff	sig
1982	Gmünd	Low (mean 3.6)	2	-0.1446	47.4%	2.4%	
		High (mean 4.2)	11	-0.2002	45.0%		
	Stuttgart	Low (mean 3.5)	5	-0.5861	35.8%	-20.6%	***
		High (mean 4.1)	2	0.2536	56.3%		
2017	Gmünd	Low (mean 3.2)	6	-1.0599	25.7%	-8.0%	.
		High (mean 4.3)	7	-0.6738	33.8%		
	Stuttgart	Low (mean 2.8)	5	-2.2753	9.3%	-25.6%	***
		High (mean 4.0)	2	-0.6211	35.0%		

Table 4e. Interaction Effects: Year + Community + Orientation

Year	Sex	Mobility	spkrs	lodds	prob	diff	sig
1982	Men		11	-0.3459	41.4%	-5.5%	
	Women		9	-0.1234	46.9%		
2017	Men	Low (mean 2.1)	5	-1.2907	21.6%	-2.2%	
		High (mean 3.5)	6	-1.4274	19.4%		
	Women	Low (mean 1.7)	5	-0.7078	33.0%	-11.3%	***
		High (mean 3.5)	4	-1.2844	21.7%		

Table 4f. Interaction Effects: Year + Sex + Mobility

NOTES:

Significance levels: *** 0.001; ** 0.01; * 0.05; . 0.1

n = 20 speakers; 40 recordings; 12 variables; 50,875 tokens

Weight calculated using sum contrasts as opposed to treatment contrasts

4.2.1 Community and Swabian Orientation

As we saw with fig. 4, there are notable differences in dialect density between the two communities. Table 4d verifies that, in 1982, the two communities were more similar in their levels of dialect density, 41.4% for Stuttgart and 45.2% in Schwäbisch Gmünd, only a 3.8% difference. However, by 2017, a significant difference between the two communities had developed, revealing Stuttgart to have a lower probability of dialect usage, 14.2%, versus Schwäbisch Gmünd, 29.9%. While dialect usage has receded in both communities, there has been a larger decline in the large urban centre of

Stuttgart (27.2% decline) than in the semi-rural community of Schwäbisch Gmünd (15.3% decline).

Table 4e shows the three-way interaction between recording year, community, and Swabian orientation, signaling the critical role that Swabian orientation has come to play in dialect retention: speakers in Stuttgart with high orientation toward Swabian are more likely to speak dialect (56.3% in 1982 and 35.0% in 2017), whereas in Schwäbisch Gmünd orientation plays no significant role across the years. It is interesting to note that Swabian orientation may be beginning to emerge as a significant indicator in Schwäbisch Gmünd, showing an 8.0% difference between high and low orientation in 2017, bordering on significant at the $p > .10$ level. It appears that role of Swabian orientation is intensifying as a crucial indicator of dialect loss or retention across the lifespan of a speaker.

4.2.2 Speaker Sex and Swabian Orientation

Table 4b shows the interaction effects between recording year and speaker sex. While there is a large drop in dialect usage (from $41 - 47\%$ (men − women) in 1982 to $20 - 28\%$ (men − women) in 2017), the difference between men and women speaking dialect is not statistically significant (5.5% difference in 1982 and 7.3% difference in 2017). Table 4c presents the three-way interaction effects between recording year, speaker sex, and Swabian orientation. In 1982, there was no significant difference in speakers' tendency to speak dialect based on their Swabian orientation scores (10.2% difference

for the men (bordering on significance) and 4.8% difference for the women). However, by 2017, a distinct gender-difference had developed: men with low orientation scores are only 14.5% likely to speak dialect and women only 21.0%; yet for those with high orientation scores in 2017, the probability of men and women speaking dialect is roughly the same, 34.4% and 33.7% respectively. It appears that women's propensity to speak dialect is less influenced by their Swabian orientation, while for the men, this factor has a more powerful effect.

Figure 5 depicts the predicted probabilities of the panel speakers in speaking dialect across the two recording periods. The two solid diagonal lines show the predicted relationship between dialect density and Swabian orientation for the men, indicating a strong positive correlation between dialect usage and Swabian orientation across the years. The men appear to follow the expected linguistic pattern across their lifespans. The two dashed diagonal lines show the predicted relationship between dialect density and Swabian orientation for the women. In 1982, the predicted relationship shows only a slight positive correlation, and by 2017, a negative correlation has emerged. By 2017, Swabian orientation had become a decisive indicator in speaking dialect for the men, but not for the women: the women seem to retain more of their dialect despite their orientation scores. While it may be simplistic to consider a binary categorisation for speaker gender (Eckert 1989: 246-247), nonetheless, there is a clear distinction here that calls out for interpretation.

Why would men and women react differently across the 35 years covered by this study? How have the ways in which sex and gender are shaped in Swabia – and in German society at large – changed, and what ideological associations concerning male-female roles might be at play as speakers continue to construct social meaning through their use of dialect? It appears a gender effect may be at play in how differently men and women respond to indices of orientation and mobility. In Germany in the 1950's and 1960's, women were typically housewives. The change for women to move outside of the home into the working world started later in Germany than it did in the English-speaking world (Grunow, Hofmeister and Buchholz 2006). The following section on Swabian mobility will shed some light on these issues
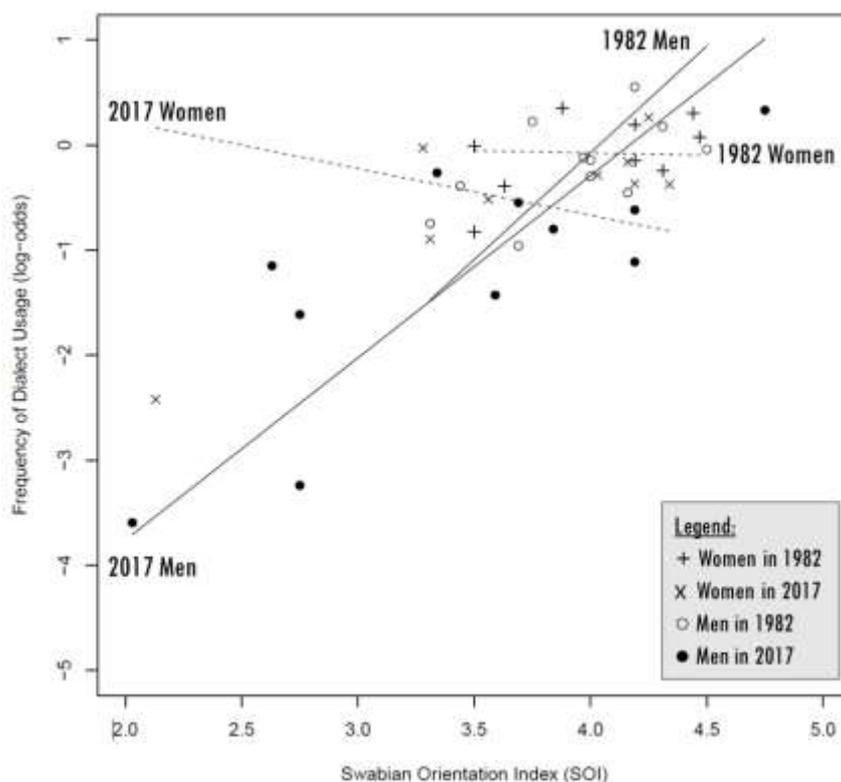

Fig. 5: Dialect density and Swabian orientation

4.2.3 Speaker Sex and Geographic Mobility

Another piece of the puzzle influencing the (in)stability of Swabian dialect use across the lifespan is mobility. The assumption is that the more mobile individuals are, the less likely they are to speak dialect – a phenomenon that arises from processes of accommodation through greater contact with speakers of different varieties. It is important to note that, in 1982, most of the speakers were students at the time living at home or attending local universities, and hence their mobility was quite low. The four older speakers were also non-mobile in 1982, never having moved beyond their hometown throughout their lifetimes. As previously noted, the world in 2017 has become considerably more mobile, demonstrating that the 1982 non-mobile speakers (cf. 'NORMs') truly are artefacts of their time.

Table 4f shows that the overall probability of speaking dialect in 1982 was 41.4% for the men and 46.9% for the women, a non-significant difference and with no distinction based on mobility. However, by 2017, mobility had become a significant factor, yet only for the women: women with high mobility have an 11.3% lower probability of speaking dialect than those with low mobility; while for the men, use of dialect for those with high and low mobility scores shows no significant difference (-2.2%). Interestingly, tab. 4f reveals that women with high mobility converge toward the men in their dialect usage: high mobility women show a 21.7% probability of speaking dialect in comparison to 21.6% for low mobility men and 19.4% for high mobility men.

These findings suggest some crucial insights into the changes in German society over the last 35 years. While traditionally it has been the men who travelled more and further for work, as women take on similar responsibilities outside the home, their dialect usage follows suit. Extra-linguistic factors, in this case life-changing events for women (such as moves due to a new job, marriage, divorce), can impact speaker's linguistic repertoire throughout their lifetime. These results signal that speakers are susceptible to the changing cultural and linguistic norms of their environment, adapting their repertoires appropriately throughout their lifetime and demonstrating that linguistic repertoires are indeed quite malleable across the lifespan of an individual.

4.3 Change in Linguistic Variables

Now we turn to an analysis of the individual linguistic variables investigated in this study. As Tables 5a and 5b show, all variables show significant attrition across the two time periods. Except for the two affixes (*-lein/-le* and *ge-/∅*), the morphosyntactic variables have receded significantly more than the phonological ones. These findings support the general assumption that morphological variables are more salient and more highly stigmatised and hence recede more rapidly than phonological ones, although further research needs to be conducted to verify this position.

Tables 5c and 5d present the individual variables by community. Except for *-st/-ft*, all variables show a significant distinction between Stuttgart and Schwäbisch Gmünd. Palatalization of coda-final *-st* is a feature of the larger

Alemannic family and is not unique to Swabian, which may be a factor in why it patterns differently. For all variables, speakers from Stuttgart have lost more of their dialect variants that those from Schwäbisch Gmünd. This finding is as expected, considering the highly mobile, international metropolis of Stuttgart (cf. Milroy and Milroy's (1985) 'weak ties') versus the mid-sized town of Schwäbisch Gmünd and its rural surroundings (cf. Milroy and Milroy's (1985) 'strong ties').

Tab. 5: Linguistic variables by year and community

Variable	Year	n	lodds	prob	diff	sig
st~ʃt	1982	4761	1.0209	73.5%	-14.8%	***
	2017	5716	0.3531	58.7%		
aɪ~ɔɪ	1982	3914	-1.5848	17.0%	-9.2%	***
	2017	4975	-2.4723	7.8%		
an~ã	1982	2717	-0.3574	41.2%	-16.6%	***
	2017	3027	-1.1245	24.5%		
ø~e	1982	1365	-1.0740	25.5%	-13.1%	***
	2017	1401	-1.9615	12.3%		
aɪ~ɔɪ	1982	1747	-0.7085	33.0%	-15.6%	***
	2017	2692	-1.5589	17.4%		
e~æ	1982	1827	-0.7873	31.3%	-10.9%	***
	2017	3291	-1.3648	20.4%		

Table 5a. Interaction Effects: Year + Phonological Variables

Variable	Community	n	lodds	prob	diff	sig
st~ʃt	Gmünd	6415	0.8329	69.7%	-9.4%	
	Stuttgart	4062	0.4161	60.3%		
aɪ~ɔɪ	Gmünd	5322	-1.2541	22.2%	-19.2%	***
	Stuttgart	3567	-3.4668	3.0%		
an~ã	Gmünd	3564	-0.4841	38.1%	-15.3%	*
	Stuttgart	2180	-1.2180	22.8%		
ø~e	Gmünd	1775	-0.8380	30.2%	-24.4%	***
	Stuttgart	991	2.7801	5.8%		
aɪ~ɔɪ	Gmünd	2809	-0.6474	34.4%	-22.8%	***
	Stuttgart	1630	-2.0369	11.5%		
e~æ	Gmünd	2853	-0.8315	30.3%	-12.5%	*
	Stuttgart	2265	-1.5302	17.8%		

Table 5c. Interaction Effects: Community + Phonological Variables

Variable	Year	n	lodds	prob	diff	sig
an~ad	1982	628	3.3772	96.7%	-37.3%	***
	2017	954	0.3800	59.4%		
gehn ~ ganə	1982	266	0.7516	68.0%	-51.4%	***
	2017	418	-1.6163	16.6%		
habn ~ hɛn	1982	1022	0.2948	57.3%	-35.5%	***
	2017	1843	-1.2758	21.8%		
lein ~ lə	1982	1707	-1.1095	24.8%	-12.9%	***
	2017	2277	-1.9970	12.0%		
gə ~ ø	1982	1638	-1.2181	22.8%	-11.1%	***
	2017	2386	-2.0182	11.7%		
werden ~ tun	1982	122	0.7723	68.4%	-31.1%	***
	2017	181	-0.5178	37.3%		

Table 5b. Interaction Effects: Year + Morphosyntactic Variables

Variable	Community	n	lodds	prob	diff	sig
an~ad	Gmünd	878	2.7296	93.9%	-36.5%	***
	Stuttgart	704	0.2982	57.4%		
gehn ~ ganə	Gmünd	429	0.9317	71.7%	-66.8%	***
	Stuttgart	255	-2.9655	4.9%		
habn ~ hɛn	Gmünd	1657	0.0848	52.1%	-34.7%	***
	Stuttgart	1208	-1.5590	17.4%		
lein ~ lə	Gmünd	2423	-1.2930	21.5%	-10.0%	*
	Stuttgart	1561	-2.0367	11.5%		
gə ~ ø	Gmünd	2564	-1.2923	21.6%	-11.8%	**
	Stuttgart	1460	-2.2233	9.8%		
werden ~ tun	Gmünd	220	1.5283	82.2%	-74.4%	***
	Stuttgart	83	-2.4746	7.8%		

Table 5d. Interaction Effects: Community + Morphosyntactic Variables

Two variables have dropped off drastically in Stuttgart, namely *gange* 'go' (66.8% decline) and *tun* 'to do' for the subjunctive (74.4% decline), perhaps

signalling a higher level of social stigma for these highly salient grammatical variables (Prichard and Tamminga 2012; Buchstaller 2016). As is apparent, there is considerable dialect levelling occurring in Swabia, particularly Stuttgart. This finding corroborates other considerable research that has documented a levelling of local dialects and the emergence of regional standard dialects or 'regiolects', particularly across Europe (e.g., Auer 2005; Ghyselen 2016; Hernández-Campoy and Villena-Ponsoda 2009; Hinskens 2007; Schmidt 2011).

Figure 6 depicts the change in each of the twelve variables by community and year. The variables pattern into two groups, labelled Lect1 and Lect2, sorted from the highest frequency of occurrence in 1982 to the lowest. The six variables in Lect1 all move in the same direction with similar degrees of attrition across the years. For the six variables in Lect2, however, there are stark differences between the two communities. The plural inflection *-ed* and the use of *tun* 'to do' for the subjunctive have drastically dropped off in Stuttgart, while in Schwäbisch Gmünd they follow a similar pattern to those on the left. Attrition of the two irregular verbs also differs between the two communities: the verb *gange* 'go' is more prominent in Schwäbisch Gmünd, whereas use of *hen* 'to have' is more prominent in Stuttgart. For many of these variables, it appears that Schwäbisch Gmünd is becoming more like Stuttgart in its frequency of dialect variants.
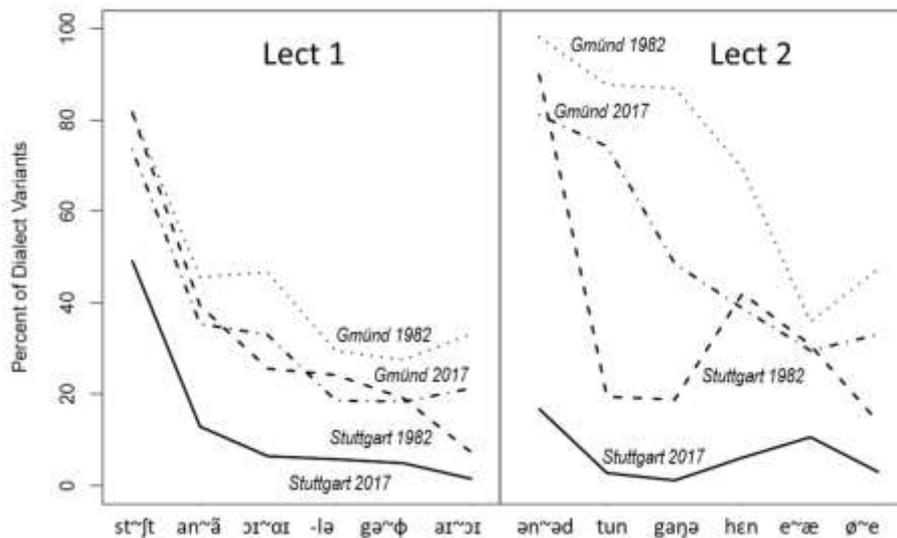
Fig. 6: Change in linguistic variables across the years

4.4 Types of Individual Speaker Change

We now turn to the different types of individual change across the lifespan. Wagner (2012: 179) points out that, in a panel study, "individuals continue to present an especially intractable problem, namely, their individuality". Naturally, speakers have varying life experiences and develop disparate attitudes and priorities over the course of their lifetimes. The effect of this individuality for the 20 Swabian panel speakers can be seen in fig. 7, which depicts each speaker's change in dialect density across their 35-year lifespan (tab. 6 provides detailed statistics for each speaker). Speakers' probability of speaking dialect in 2017 is shown in light grey and their dialect attrition since 1982 in dark grey. Retrograde change, speakers using more dialect variants in 2017 than in 1982, is represented in black.
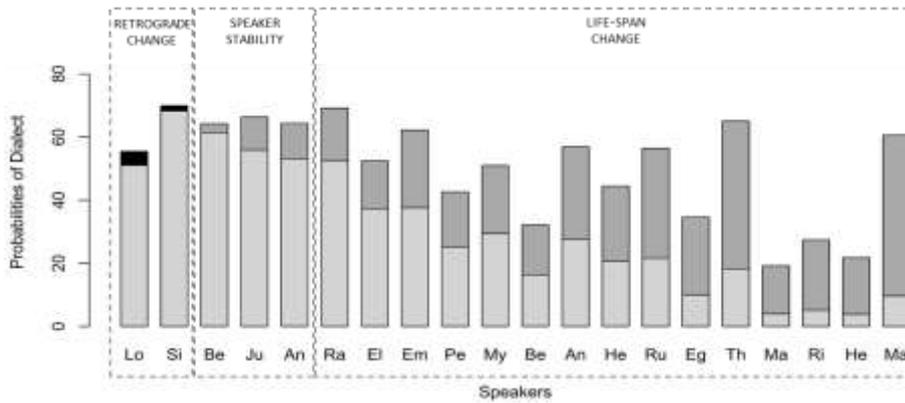
Fig. 7: Individual speaker change in dialect density

The panel speakers fall into Sankoff's (2006, 2018, 2019) three types of lifespan trajectory: two speakers show *retrograde change*, three reflect *speaker stability*, and 15 speakers (75% of the panel participants) exhibit *lifespan change*. While most panel studies have shown a greater number of stable speakers (Sankoff 2018), the individuals in the current study are living through a time of considerable change. Since 1982, extensive social upheaval brought about by greater geographic mobility, higher levels of immigration, and increased focus on advanced education, has resulted in widespread dialect attrition across Swabia, indeed throughout all of Germany and much of Europe (Auer 2005). Ten of the 15 speakers exhibiting lifespan change have exceeded the education levels of their parents. Of the six speakers who have changed the most across their lifespans, three are teachers (Egbert, Theo, Ricarda), one is a radio announcer (Helmut), and two are highly mobile business executives (Rupert and Markus). As other studies have shown, occupation establishes 'socio-economic situatedness' which is highly

diagnostic of speaker (in)stability (Buchstaller 2016; Levon and Buchstaller 2015; Silverstein 1998). Likewise, higher education brings greater social awareness of external linguistic norms, promoting "correction" to the standard (Prichard and Tamminga 2012). While the three stable panel speakers (Berdine, Jurgen, and Angela) have also achieved advanced educational degrees, they also retained high levels of Swabian orientation, revealing the prevailing force that "dialect identity" and indexicalities of social meaning have on individual linguistic choices (Johnstone and Kiesling 2008; Silverstein 2003; Eckert 2008; Moore and Carter 2015).

Two speakers, Louise and Siegfried, exhibit *retrograde change*, speaking more dialect in 2017 than they did in 1982. In 1982, Louise was in her 50's and at the peak of her career. During the interview, she talked about her difficulties in being the only woman on the all-male board of directors for the local theatre. With the effects of the linguistic market (Sankoff and Laberge 1978) at work, it is reasonable to assume that in 1982 she was accommodating to the standard language. Now in her sunset years, we see her reversing toward the more non-standard dialect forms, revealing the long-tail of language change and demonstrating how late-stage changes can run counter to community-wide trends (Sankoff, Wagner and Jensen 2012). Siegfried has increased his Swabian orientation over the years (from 4.2 in 1982 to 4.8 in 2017), giving him the highest orientation score of all speakers in the study. He has mentally already moved out of the linguistic market and is counting the days until his retirement. Troubled by the changes occurring to his

hometown of Schwäbisch Gmünd and the loss of dialect with the influx of immigrants, Siegfried says he promotes Swabian anywhere and everywhere he can.

Tab. 6: Individual speaker change across the lifespan

| Name | Community | 1982 | | | | | 2017 | | | | | difference |
		SOI	SMI	dialect	total	percent	SOI	SMI	dialect	total	percent	bet years
Markus	Gmünd	4.3	0.0	616	1220	50.5%	2.6	51.0	184	1192	15.4%	35.1%
Manni	Stuttgart	3.7	26.5	347	1266	27.4%	2.7	17.0	42	1521	2.8%	24.6%
Helmut	Stuttgart	3.3	18.0	283	1031	27.4%	2.1	57.0	95	2843	3.3%	24.1%
Ricarda	Stuttgart	3.5	14.5	375	1258	29.8%	2.0	67.0	121	1752	6.9%	22.9%
Egbert	Stuttgart	4.0	24.5	292	785	37.2%	3.7	23.0	262	1470	17.8%	19.4%
Anneliese	Gmünd	3.5	44.0	566	1197	47.3%	3.8	73.0	190	669	28.4%	18.9%
Rupert	Gmünd	4.0	38.5	454	1103	41.2%	2.4	52.0	462	1951	23.7%	17.5%
Herbert	Gmünd	4.2	14.0	491	1270	38.7%	4.4	9.0	489	2173	22.5%	16.2%
Theo	Gmünd	4.0	0.0	236	524	45.0%	3.6	33.0	325	1114	29.2%	15.9%
Ema	Stuttgart	4.2	7.0	725	1395	52.0%	4.4	5.0	409	1075	38.0%	13.9%
Rachael	Gmünd	4.4	0.0	855	1556	54.9%	4.1	0.0	307	737	41.7%	13.3%
Angela	Gmünd	4.5	0.0	546	1076	50.7%	4.4	84.0	693	1781	38.9%	11.8%
Jurgen	Gmünd	3.8	0.0	640	1265	50.6%	3.8	75.0	477	1184	40.3%	10.3%
Alfried	Gmünd	4.5	15.0	372	892	41.7%	4.2	37.0	262	824	31.8%	9.9%
Pepin	Stuttgart	3.4	30.5	294	792	37.1%	3.8	46.0	365	1303	28.0%	9.1%
Bertha	Stuttgart	3.6	16.0	364	1056	34.5%	3.6	45.0	691	2419	28.6%	5.9%
Elke	Gmünd	4.2	0.0	410	958	42.8%	4.4	0.0	471	1176	40.1%	2.7%
Berdine	Gmünd	3.9	17.0	369	765	48.2%	3.5	83.0	452	992	45.6%	2.7%
Siegfried	Gmünd	4.2	0.0	551	1013	54.4%	4.8	0.0	943	1656	56.9%	-2.6%
Louise	Gmünd	4.3	0.0	474	1292	36.7%	3.8	0.0	624	1329	47.0%	-10.3%

4.5 Some Ethnographic Observations

This study has revealed a number of complementary and competing forces on speakers' lifespan trajectories. Cheshire (2006) has argued for quantitative studies to include more qualitative, ethnographic analyses that consider individual experiences and life histories to augment the purely statistical findings. In modern Swabia, three changing forces appear to be influencing

speakers' choices in the use of dialect versus standard German. First, individuals develop opposing worldviews over their lifetime and often choose to convey those views through language. Rupert, Angela, Jurgen, and Berdine are siblings. In 1982, all four showed similar levels of dialect density and Swabian orientation scores, and all maintained close connections to their home and family in Schwäbisch Gmünd. Rupert wrote Swabian poetry, even publishing a small collection of his poems. However, as he went off to college to complete his Ph.D., he began to distance himself from his family. By 2017, his Swabian orientation had dropped from 4.0 to 2.4, and he expressed negative attitudes towards the dialect, saying that speaking Swabian is a sign of lack of education; he is proud of the fact that he has "raised his social status over his parent's generation". Rupert's siblings have also achieved high level degrees and exhibit similar mobility scores: Berdine and Jurgen are teachers in the north of Germany, and Angela is a medical doctor in Stuttgart. However, their Swabian orientation scores have barely changed over the years, and they all demonstrate relative stability in their dialect usage (see tab. 6 for the details). All three say they speak Swabian to everyone and only switch to standard German if they cannot be understood. Jurgen, in particular, is saddened by the fact that Swabian appears to be going the way of *Plattdeutsch*, which has largely died out in everyday usage. The linguistic behavior of these siblings suggest that orientation usurps mobility, occupation and education in the influence it evinces over the linguistic choices individual speakers make.

Second, people develop and foster differing identities over their lifetime. Ricarda and Elke are kindergarten teachers, Ricarda in the sprawling suburbs of Stuttgart and Elke in a small rural town outside of Schwäbisch Gmünd. Ricarda has moved around a lot and even lived outside Swabia for a few years. In 1982, her orientation score was 3.5 and her dialect density was 29.8%; by 2017 her orientation score had dropped to 2.0 (the lowest of all the speakers in this study) and her dialect density to only 6.9%. Even at an early age, Ricarda felt that speaking Swabian did not "fit" with who she was; she said it would make her sound 'slouchy' (*lätschig*). In contrast, Elke has never moved and in fact still lives in the childhood home where she was born. Her Swabian orientation has remained stable (4.2 to 4.4), and her dialect density has changed very little over the years, from 42.8% in 1982 to 40.1% in 2017. Elke claims she can say what she wants to say in Swabian, something she feels she cannot do in standard German. These two speakers of the same age, sex, education, occupation, and socioeconomic status typify very different dialect identities, which can be attributed in large part to their diverse mobilities and to the vast urban/rural divide between Stuttgart and Schwäbisch Gmünd.

Finally, as we have seen, identity and mobility interact. Speakers with high levels of Swabian orientation and low degrees of mobility are retaining their dialect, while those with low orientation, independent of mobility, are rapidly losing their dialect. Markus, a marketing manager for a technology company in Bavaria, has lost a third of his dialect usage. He travels to Munich for work each week and is home on the weekends. Although his wife is also Swabian,

they do not speak Swabian in the home because they want their children to learn to speak standard German. In contrast, Anneliese, now a medical doctor in Zurich, shows only a 20% loss of dialect. She says she loves speaking Swabian and adds, *mã kã e Schwââb aus Schwââbeland nehme, aber Schwââbeländle aus e Schwââb kã mã et nehme* 'you can take a Schwab out of Swabia, but you can't take "little Swabia" out of a Schwab'.

5 Concluding Remarks

This study of 20 Swabian panel speakers has revealed a large group of unstable speakers in an environment of rapid dialect levelling, exhibiting lifespan change that is promoted or repressed by the individual's Swabian orientation, geographic mobility, community, education, and gender. The findings challenge prior assumptions that post-adolescence individuals are stable and do not substantially change their speech patterns across their lifespans. As Labov (2001: 447) has claimed,

> *the lability of speakers 30–50 may be characteristic of changes from above as opposed to changes from below, or of morphology as opposed to phonology, but it underlines the fact that the assumption of stability for young adults […] may have to be revised.*

The social and demographic changes that have taken place in Swabia over the last 35 years are vast: higher levels of education, increasing mobility, decreasing local orientation, and changing gender roles. We have also seen

that a change in the effects of speaker sex may be in play. The findings show a positive correlation between level of dialect density and Swabian orientation for the men, whereas the women are retaining more of their dialect despite their orientation scores. Based on the preliminary results from the Swabian trend study, it seems clear that the changes across the lifespan are indicative of community-wide, generational change and are representative of the Swabian population today.

The findings of this study suggest that intangible notions of personal orientation are so powerful that they can overshadow and eclipse more tangible constraints such as mobility and education or social class (i.e., education). Individual orientation is also manifested in the urbanity/rurality of the community: greater dialect attrition is occurring in the more open, loosely knit, urban community of Stuttgart, where individuals have lower Swabian orientation scores on average (3.1) than in Schwäbisch Gmünd, where Swabian orientation is higher (3.8). Speakers in Schwäbisch Gmünd attach social meaning to dialect variants and are proud to portray their 'dialect identity', which results in higher levels of dialect retention (14.2% in Stuttgart versus 29.2% in Schwäbisch Gmünd). According to Milroy (1987: 175), the more closely individuals are connected to the local community, the more closely their language approaches the vernacular. While it is social pressure that may prompt speakers to use (non)standard forms, this study has shown that community and local orientation have a more powerful influence.

References

Auer, Peter. 2005. Europe's sociolinguistic unity, or: A typology of European dialect/standard constellations. In Nicole Delbecque, Johan van der Auwera and Dirk Geeraerts (eds.), *Perspectives on variation. Sociolinguistic, historical, comparative* (Trends in Linguistics 163), 7–42. Berlin/New York, NY: de Gruyter Mouton.

Auer, Peter. 2013. The geography of language. Steps toward a new approach. *FRAGL* 16. 1–39.

Auer, Peter. 2018. Dialect change in Europe. Leveling and convergence. In Charles Boberg, John Nerbonne and Dominic Watt (eds.), *The handbook of dialectology*, 159−176. Hoboken, NJ: Wiley-Blackwell.

Auer, Peter and Christian Schwarz. 2015. Dialect-to-standard advergence: The relevance of compounding borrowing. In Rena Torres Cacoullos, Nathalie Nathalie and André Lapierre (eds.), *Linguistic Variation: Confronting Fact and Theory.* New York: Routledge.

Auer, Peter, Paul Baumann, and Christian Schwarz. 2011. Vertical vs. horizontal change in the traditional dialects of southwest Germany. A quantitative approach. *Taal en Tongval* 63(1). 13–41.

Auer, Peter and Frans Hinskens. 2005. The role of interpersonal accommodation in a theory of language change. In Peter Auer, Frans Hinskens and Paul Kerswill (eds.), *Dialect change. Convergence and divergence in European languages*, 335−357. Cambridge et al.: Cambridge University Press.

Auer, Peter and Helmut Spiekermann. 2011. Demotisation of the standard variety or destandardisation? The changing status of German in late modernity (with special reference to south-western Germany). In Tore Kristiansen and Nikolas Coupland (eds.), *Standard languages and language standards in a changing Europe*, 161−176. Oslo: Novus Press.

Blommaert, Jan. 2010. *The sociolinguistics of globalization*. Kindle Edition. Cambridge et al.: Cambridge University Press.

Blommaert, Jan. 2014. From mobility to complexity in sociolinguistic theory and method. . *Tilburg Papers in Culture Studies* 103.

Bowie, David. 2005. Language change over the lifespan. A test of the apparent time construct. *University of Pennsylvania Working Papers in Linguistics* 11(2). 45–58.

Bowie, David. 2010. The ageing voice. Changing identity over time. In Carmen Llamas and Dominic Watt (eds.), *Language and identities*, 55–66. Edinburgh: Edinburgh University Press.

Britain, David. 2002. Space and spatial diffusion. In Jack K. Chambers, Peter Trudgill and Natalie Schilling-Estes (eds.), *The handbook of language variation and change*, 603−637. Malden, MA: Blackwell.

Britain, David. 2009. One foot in the grave? Dialect death, dialect contact, and dialect birth in England. *International Journal of the Sociology of Language* (196–197). 121–155.

Britain, David. 2016. Sedentarism and nomadism in the sociolinguistics of dialect. In Nikolas Coupland (ed.), *Sociolinguistics. Theoretical debates*, 217−241. Cambridge: Cambridge University Press.

Britain, David and Peter Trudgill. 1999. Migration, new-dialect formation and sociolinguistic refunctionalisation. Reallocation as an outcome of dialect contact. *Transactions of the Philological Society* 97(2). 245–256.

Bucholtz, Mary and Kira Hall. 2005. Identity and interaction. A sociocultural linguistic approach. *Discourse Studies* 7(4–5). 585–614.

Buchstaller, Isabelle. 2015. Exploring linguistic malleability across the life span. Age-specific patterns in quotative use. *Language in Society* 44(4). 457–496.

Buchstaller, Isabelle. 2016. Investigating the effect of socio-cognitive salience and speaker-based factors in morpho-syntactic life-span change. *Journal of English Linguistics* 44(3). 199–229.

Chambers, Jack K. 2000. Region and language variation. *English World-Wide* 21(2). 169–199.

Chambers, Jack K. and Peter Trudgill. 1998. *Dialectology*, 2nd edn. Cambridge: Cambridge University Press.

Cheshire, Jenny. 2006. Age and generation-specific use of language. In Ulrich Ammon et al. (eds.), *Sociolinguistics. An international handbook of the science of language and society*, vol. 2, 2nd completely rev. and extended edn., 1552−1563. Berlin/New York, NY: de Gruyter.

Cheshire, Jenny et al. 1999. *The role of adolescents in dialect levelling*. Final report submitted to the Economic and Social Research Council.

Cornips, Leonie and Aafke Hulk. 2006. External and internal factors in bilingual and bidialectal language development. Grammatical gender of the Dutch definite determiner. In Claire Lefebvre, Lydia White and Christine Jourdan (eds.), *L2 acquisition and creole genesis. Dialogues* (Language Acquisition and Language Disorders 42), 355−377. Amsterdam et al: Benjamins.

Coupland, Nikolas. 2001. Language, situation, and the relational self. Theorizing dialect-style in sociolinguistics. In Penelope Eckert and John R. Rickford (eds.), *Style and sociolinguistic variation*, 185−210. Cambridge et al.: Cambridge University Press.

Coupland, Nikolas. 2008. The delicate constitution of identity in face-to-face accommodation. A response to Trudgill. *Language in Society* 37(2). 267–270.

Cukor-Avila, Patricia and Guy Bailey. 2017. The effect of small n's and gaps in contact on panel survey data. In Suzanne E. Wagner and Isabelle Buchstaller (eds.), *Panel studies of variation and change*. New York, NY: Routledge.

Dorian, Nancy C. 1994. Varieties of variation in a very small place. Social homogeneity, prestige norms, and linguistic variation. *Language* 70(4). 631–696.

Eckert, Penelope. 1989. The whole woman. Sex and gender differences in variation. *Language Variation and Change* 1(3). 245–267.

Eckert, Penelope. 2008. Variation and the indexical field. *Journal of Sociolinguistics* 12(4). 453–476.

Eckert, Penelope and Étienne Wenger. 2005. What is the role of power in sociolinguistic variation? *Journal of Sociolinguistics* 9(4). 582–589.

Ghyselen, Anne-Sophie. 2016. From diglossia to diaglossia. A West Flemish case-study. In Marie-Helen Côté, Remco Knooihuizen and John Nerbonne (eds.), *The future of dialects. Selected papers from Methods in Dialectology XV* (Language Variation 1), 35−62. Berlin: Language Science Press.

Giles, Howard, Richard Y. Bourhis and Donald M. Taylor. 1977. Towards a Theory of language in ethnic group relations. In Howard Giles (ed.), *Language, ethnicity and intergroup relations* (European Monographs in Social Psychology 13), 307−348. London: Academic Press.

Gregersen, Frans. Marie Maegaard and Nicolai Pharao. 2009. The long and short of (æ)-variation in Danish. A panel study of short (æ)-variants in Danish in real time. *Acta Linguistica Hafniensia* 41(1). 64–82.

Grunow, Daniela, Heather Hofmeister and Sandra Buchholz. 2006. Late 20th-century persistence and decline of the female homemaker in Germany and the United States. *International Sociology* 21(1). 101−131.

Hernández-Campoy, Juan M. and Juan A. Villena-Ponsoda. 2009. Standardness and nonstandardness in Spain. Dialect attrition and revitalization of regional dialects of Spanish. *International Journal of the Sociology of Language* (196–197). 181–214.

Hinskens, Frans. 2007. New types of non-standard Dutch. In Christian Fandrych and Reinier Salverda (eds.), *Standard, Variation und Sprachwandel in germanischen Sprachen*, 281−300. Tübingen: Narr.

Hoffman, Michol F. and James A. Walker. 2010. Ethnolects and the city. Ethnic orientation and linguistic variation in Toronto English. *Language Variation and Change* 22(1). 37–67.

Johnstone, Barbara. 2011. Language and place. In Rajend Mesthrie (ed.), *The Cambridge handbook of sociolinguistics*, 203−217. Cambridge et al.: Cambridge University Press.

Johnstone, Barbara. 2016. Language theory in contemporary sociolinguistics. Beyond Dell Hymes? In Nikolas Coupland (ed.), *Sociolinguistics. Theoretical debates*, 417−432. Cambridge: Cambridge University Press.

Johnstone, Barbara and Scott F. Kiesling. 2008. Indexicality and experience. Exploring the meanings of /aw/-monophthongization in Pittsburgh. *Journal of Sociolinguistics* 12(1). 5–33.

Kerswill, Paul. 2001. Mobility, meritocracy and dialect levelling: The fading (and phasing) out of received pronunciation. In Pilvi Rajamäe and Krista Vogelberg (eds.), *British studies in the new millennium. The challenges of the grassroots*, 45–58. Tartu: University of Tartu.

Kiesling, Scott F. 1998. Men's identities and sociolinguistic variation. The case of fraternity men. *Journal of Sociolinguistics* 2(1). 69–99.

Labov, William, 1966. *The social stratification of English in New York City*, Washington DC: Center for Applied Linguistics.

Labov, William. 1972. Some principles of linguistic methodology. *Language in Society* 1(1). 97–120.

Labov, William. 1974. On the use of the present to explain the past. In Luigi Heilmann (ed.), *Proceedings of the 11th International Congress of Linguists*. 825-851. Bologna: Il Mulino.

Labov, William. 1984. Field methods of the project in linguistic change and variation. In John Baugh and Joel Scherzer (eds.), *Language in use. Readings in sociolinguistics*, 28–53. Englewood Cliffs, NJ: Prentice-Hall.

Labov, William. 2001. *Principles of linguistic change, vol. 2: Social factors*(Language in Society 39). Malden, MA/Oxford: Blackwell.

Le Page, Robert B. and Andrée Tabouret-Keller. 1985. *Acts of identity. Creole-based approaches to language and ethnicity.* Cambridge et al.: Cambridge University Press.

Levon, Erez and Isabelle Buchstaller. 2015. Perception, cognition, and linguistic structure. The effect of linguistic modularity and cognitive style on sociolinguistic processing. *Language Variation and Change* 27(3). 319–348.

Lyell, Charles. 1833. *Principles of geology, being an attempt to explain the former changes of the Earth's surface, by reference to causes now in operation*, 3 vols. London: Murray.

MacKenzie, Laurel and Gillian Sankoff. 2010. A quantitative analysis of diphthongization in Montreal French. *University of Pennsylvania Working Papers in Linguistics* 15(2). 91−100.

Mattheier, Klaus J. 1996. Varietätenkonvergenz: Überlegungen zu einem Baustein einer Theorie der Sprachvariation *Sociolinguistica* 10(1). 31–52.

Mendoza-Denton, Norma. 2002. Language and identity. In Jack K. Chambers, Peter Trudgill and Natalie Schilling-Estes (eds.), *The handbook of language variation and change*, 475−499. Malden, MA: Blackwell.

Milroy, James and Lesley Milroy. 1985. Linguistic change, social network and speaker innovation. *Journal of Linguistics* 21(2). 339–384.

Milroy, Lesley. 1987. *Language and social networks*, 2nd edn. (Language in Society 2). Oxford/New York, NY: Blackwell.

Milroy, Lesley. 2002. Introduction: Mobility, contact and language change. Working with contemporary speech communities. *Journal of Sociolinguistics* 6(1). 3–15.

Moore, Emma and Paul Carter.2015. Dialect contact and distinctiveness. The social meaning of language variation in an island community. *Journal of Sociolinguistics* 19(1). 3–36.

Nagy, Naomi and Miriam Meyerhoff. 2015. Extending ELAN into variationist sociolinguistics. *Linguistics Vanguard* 1(1). 271–281.

Oetting, Joanna B. and Janet L. McDonald. 2002. Methods for characterizing participants' nonmainstream dialect use in child language research. *Journal of Speech, Language, and Hearing Research* 45(3). 505–518.

Prichard, Hilary and Meredith Tamminga. 2012. The impact of higher education on Philadelphia vowels. *University of Pennsylvania Working Papers in Linguistics* 18(2). 86–95.

Rickford, John R. Mackenzie Price. 2013. Girlz II women. Age-grading, language change and stylistic variation. *Journal of Sociolinguistics* 17(2). 143–179.

Sankoff, David and Suzanne Laberge. 1978. The linguistic market and the statistical explanation of variability. In David Sankoff (ed.), *Linguistic variation. Models and methods*, 239–250. New York, NY: Academic Press.

Sankoff, Gillian. 2006. Age: Apparent time and real time. In Keith Brown (ed.), *Encyclopedia of language and linguistics*, vol. 1, 2nd edn.,110–116. Amsterdam et al.: Elsevier.

Sankoff, Gillian. 2018. Language Change Across the Lifespan. *Annual Review of Linguistics* 4: 297-316.

Sankoff, Gillian. 2019. Language change across the lifespan. Three trajectory types. *Language* 95(2). 197–229.

Sankoff, Gillian and Hélène Blondeau. 2007. Language change across the lifespan. /r/ in Montreal French. *Language* 83(3). 560–588.

Sankoff, Gillian and Hélène Blondeau. 2013. Instability of the [r] ~ [R] alternation in Montreal French: An exploration of stylistic conditioning of a sound change in progress. Rhotics: New data and perspectives, ed. by Lorenzo Spreafico and Alessandro Vietti, 249–65. Bozen-Bolzano: Free University of Bozen-Bolzano Press.

Sankoff, Gillian and Suzanne E. Wagner. 2006. Age grading in retrograde movement. The inflected future in Montréal French. *University of Pennsylvania Working Papers in Linguistics* 12(2). 203–216.

Sankoff, Gillian, Suzanne E. Wagner and Laura Jensen. 2012. The long tail of language change. Québécois French futures in real time. *University of Pennsylvania Working Papers in Linguistics* 18(2). 106–116.

Schilling-Estes, Natalie. 2005. Language change in apparent and real time. The community and the individual. *University of Pennsylvania Working Papers in Linguistics* 10(2). 219–232.

Schmidt, Jürgen E. 2011. Formation of and change in regiolects and (regional) dialects in German. *Taal en Tongval* 63(1). 143–174.

Sharma, Devyani. 2011. Style repertoire and social change in British Asian English. *Journal of Sociolinguistics* 15(4). 464–492.

Silverstein, Michael. 1998. The uses and utility of ideology. A commentary. In Bambi B. Schieffelin, Kathryn A. Woolard and Paul V. Kroskrity (eds.), *Language ideologies. Practice and theory* (Oxford Studies in Anthropological Linguistics 16), 123–145.

Silverstein, Michael. 2003. Indexical order and the dialectics of sociolinguistic life. *Language and Communication* 23(3–4). 193–229.

Smith, Jennifer and Mercedes Durham. 2012. Bidialectalism or dialect death? Explaining generational change in the Shetland Islands, Scotland. *American Speech* 87(1). 57–88.

Sundgren, Eva. 2009. The varying influence of social and linguistic factors on language stability and change. The case of Eskilstuna. *Language Variation and Change* 21(1). 97−133.

Tagliamonte, Sali A. and Alexandra D'Arcy. 2009. Peaks beyond phonology: Adolescence, incrementation, and language change. *Language* 85(1). 58–108.

Tajfel, Henri. 1974. Social identity and intergroup behavior. *Social Science Information* 13(2). 65–93.

Tajfel, Henri. 1978. The achievement of group differentiation. In Henri Tajfel (ed.), *Differentiation between social groups. Studies in the social psychology of intergroup relations* (European Monographs in Social Psychology 14), 77−100. London: Academic Press.

Trudgill, Peter. 1981. Linguistic accommodation. Sociolinguistic observations on a sociopsychological theory. In Carrie S. Masek, Roberta A. Hendrick and Mary F. Miller (eds.), *Papers from the parasession on language and behavior*, 218–237. Chicago, IL: Chicago Linguistic Society.

Trudgill, Peter. 1986. *Dialects in contact*. Oxford: Blackwell.

Van Hofwegen, Janneke and Walt Wolfram. 2010. Coming of age in African American English. A longitudinal study. *Journal of Sociolinguistics* 14(4). 427–455.

Vertovec, Steven. 2007. Super-diversity and its implications. *Ethnic and Racial Studies* 30(6). 1024–1054.

Wagner, Suzanne E. 2012. Real-time evidence for age grad(ing) in late adolescence. *Language Variation and Change* 24(2). 179–202.

Wagner, Suzanne E. and Isabelle Buchstaller (eds.). 2017. *Panel studies of variation and change*. New York, NY: Routledge.

Wagner, Suzanne E. and Gillian Sankoff. 2011. Age grading in the Montréal French inflected future. *Language Variation and Change*, 23(3). 275–313.

Williams, Ann and Paul Kerswill. 1999. Dialect levelling. Change and continuity in Milton Keynes, Reading and Hull. In Paul Foulkes and Gerard Docherty (eds.), *Urban voices. Accent studies in the British Isles*, 141–162. London: Arnold.

United Nations, Department of Economic and Social Affairs, Population Division. 2019. World Urbanization Prospects: The 2018 Revision (ST/ESA/SER.A/420). New York: United Nations. .

Wittenburg, Peter et al. 2006. ELAN: A professional framework for
     multimodality research. *Proceedings of the Fifth International
     Conference on Language Resources and Evaluation (LREC)*. 1556–1559.

Wolfram, Walt and Natalie Schilling-Estes. 2003. Dialectology and
     linguistic diffusion. In Brian D. Joseph and Richard D. Janda (eds.), *The
     handbook of historical linguistics*, 713–735. Malden, MA et al.:
     Blackwell.