Variation in Form and Function in Jewish English Intonation

Dissertation

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Rachel Steindel Burdin

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Dissertation Committee:

Professor Brian D. Joseph, Advisor

Professor Cynthia G. Clopper

Professor Donald Winford

Abstract

Intonation has long been noted as a salient feature of American Jewish English speech (Weinreich, 1956); however, there has not been much systematic study of how, exactly Jewish English intonation is distinct, and to what extent Yiddish has played a role in this distinctness.

This dissertation examines the impact of Yiddish on Jewish English intonation in the Jewish community of Dayton, Ohio, and how features of Yiddish intonation are used in Jewish English. 20 participants were interviewed for a production study. The participants were balanced for gender, age, religion (Jewish or not), and language background (whether or not they spoke Yiddish in addition to English). In addition, recordings were made of a local Yiddish club.

The production study revealed differences in both the form and function in Jewish English, and that Yiddish was the likely source for that difference. The Yiddish-speaking participants were found to both have distinctive productions of rise-falls, including higher peaks, and a wider pitch range, in their Yiddish, as well as in their English produced during the Yiddish club meetings. The younger Jewish English participants also showed a wider pitch range in some situations during the interviews.

The Jewish English participants also showed an increased use of rising pitch accents in listing contexts, as well as (!)H-L% boundary tones in narratives and a discourse completion task. The source of this increased use of (!)H-L% contours appears to be in Yiddish, as similar boundaries, as a part of a rise-fall contour, were found to be used in similar scenarios in the Yiddish DCT task by the Yiddish speakers. It is hypothesized that these contours can function more readily as a way of linking clauses together in Yiddish and Jewish English, compared to Standard English. The Yiddish speakers also showed other distinctions, in the

use of more rise-falls in a narrative task, as well as more rises, and fewer plateau contours in a listing task.

All of the above leads to an increase of what Jun (2014) calls *macro-rhythm*, a regular alternation between high and low tones within a phrase, in Jewish English, and particularly in the variety spoken by those who also speak Yiddish. This dissertation thus provides evidence that macro-rhythm can vary among varieties spoken in the same geographic area, and also that intonational substrate features can be maintained in a variety, even in the face of increased spatial assimilation, and loss of speakers of the substrate. This increase in macro-rhythm is also shown to be socially meaningful: that is, speakers use macro-rhythm to construct particular types of Jewish identities, and that this feature is heard as signaling Jewishness by listeners. This social meaning is shown first by its use in comedic performance of Jewish speech, as well as through a perception task, where rises and rise-falls were found to make a speaker sound more Jewish compared to plateau contours. This perception of "Jewishness" is tied to a particular type of Jewish identity (specifically, one that is older and Yiddish-speaking) in both the performances and the perception task, providing evidence for conceptions of Jewish English that predict the use of features being tied to particular types of Jewish identities, rather than a homogenous ethnolect.

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Fields of Study

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Chapter 1

Introduction

The speech of Jews in the United States has been noted as distinct by laypeople (Mencken, 1936) and linguists (Thomas, 1932) since the 1930s, with intonation and prosody said to be a particularly salient feature (Tannen, 1981; Fader, 2009; Benor, 2012). However, the exact nature of this prosodic distinctiveness has not been well-studied. It has been claimed (and is likely the case), that the origin of this distinctness, like many other features of Jewish English[1], is likely in Yiddish (Weinreich, 1956); however, there has been little systematic study of the effects of Yiddish intonation on Jewish English intonation. This dissertation provides one such study, and explores variation and change in intonation within the Jewish English community in Dayton, Ohio. This dissertation adds to the small, but growing, literature examining contact-induced change and variation in intonation, and provides evidence for (1) theories of intonation typology that allow for the salience of global patterns, like macro-rhythm (Jun, 2014), and (2) models of sociolinguistic variation that predict heterogeneity within the community being studied, like Benor (2011b).

Part of this dissertation is documentary in nature. Although the use and intergenerational transmission of Yiddish has remained strong in isolated religious groups, language shift has happened outside of these communities, and the number of non-Orthodox Yiddish speakers is dwindling by the year. This dissertation documents the Yiddish being spoken by the community in Dayton, Ohio. In addition to this documentation of Yiddish, this dissertation fills a gap in studying Jewish English in the Midwest, with most previous studies

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[1] Although there are likely Jewish English varieties in other English-speaking countries with large Jewish populations, including the UK and South Africa, those varieties have not been well studied. As such, when "Jewish English" is referred to here, it refers to North American Jewish English, unless otherwise specified.

focusing on the Eastern Seaboard (documented in Benor (2012), Fader (2009), Newman (2000), among others) or Los Angeles (documented in Andrews (1993) and Benor (2011a)). The Dayton Jewish community shows settlement and language shift patterns similar to other medium-sized cities throughout the United States (detailed in Chapter 6). The linguistic patterns found in Dayton thus may be generalizable to other smaller to mid-sized American Jewish communities.

Another goal of this dissertation is methodological, in combining tools for the study of variation in intonation from the fields of sociolinguistics and laboratory phonology. There have been a number of studies looking at variation in intonation, particularly variation in the phonetics and phonology of intonation across different dialects and languages, that have mainly relied on read speech or elicited dialogues (e.g., Mennen (2004), Atterer and Ladd (2004), Arvaniti and Garding (2007)). These studies are useful for examining differences in phonetic detail, as read speech allows for control over the segmental string, which can affect the production of an intonational contour. However, it is well known that the intonational patterns of read speech are different from non-read speech (Ito and Speer, 2006), and also that read speech may not show, or will show to a lesser degree, socially meaningful variants compared to more spontaneous interview speech (Labov (1966), *inter alia*). As such, read speech is not ideal for studying some socially meaningful variation in intonation.

On the other hand, studies of intonational variation that have emerged from a more sociolinguistic tradition have relied on spontaneous speech (e.g., McLarty (2011); Holliday (2016)). The use of spontaneous interview speech, while it may elicit production of the variants of interest by the speakers, can make it harder to pin down the exact nature of the differences found. For example, multiple studies have found an increased use in L+H* in African American English (see Thomas (2015) for an overview). However, it is not clear why this is the case: it may be that African American English speakers are more likely to produce more focused items in discourse (which, in Mainstream American English[2], are

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[2]As others have pointed out, comparing ethnically-marked varieties to an unmarked "Standard" is not without its problems, as it serves to reify the idea that there is, in fact, an unmarked Standard which

more likely to be produced with rising pitch accents) and that fact is reflected by an increase in the use of L+H*. Alternatively, it may be that the link between an item being in focus and an item having a rising pitch accent is weaker in African American English. Choosing between these two hypotheses is difficult with only uncontrolled interview speech, where we would have to, e.g., determine which items were in focus, *ad hoc*, in order to chose between these two hypotheses. Researchers have attempted to do this sort of analysis (e.g., Calhoun (86)), however, inter-transcriber agreement on what counted as "focused" was "lower than might be hoped" (Kappa agreement of 0.67 between two annotators, rising to 0.85 after discussion), showing that this task is quite difficult.

As such, we have two considerations to balance when studying variation in intonation: one is to get speech which is controlled enough to be able to describe the differences between varieties with accuracy, and the other is to get speech that is spontaneous enough to see the differences we are interested in. One way to achieve these goals is to obtain a wide range of speech from subjects. This approach is already being used to study intonational variation in British English (in the IViE corpus; (Grabe et al., 2001)) as well as in Romance Languages (in the design of the Interactive Atlas of Romance Intonation; (Prieto et al., 2014)), both of which collected semi-controlled speech (in the form of map tasks and discourse completion tasks) and more spontaneous speech (in the form of interviews). Following these other researchers, the production data collected for this dissertation includes a wide variety of

is spoken. However, from a theoretical standard, it is necessary that we have something to compare the variety of interest to if we want to say it is distinctive in some way (see Benor (2010) for discussion). In this dissertation, I generally use "Standard English" to refer to this ideological construct and "Non-Jewish English" to refer to the variety spoken by the non-Jewish subjects in this study. However, in reporting the results of others, I generally use the terminology used in the original paper or in the field. For example, work on American English prosody, including the original ToBI guidelines, is said to describe "Mainstream American English", and it is not necessarily the case the MAE ToBI will always line up with a local Standard English variant. African American English will sometimes be contrasted with "European American English", and sometimes with "Standard English", depending on the source. Related, I also make the choice to speak, following Green (2002) at times, of "varieties" rather than "languages" or "dialects". The line between "language" or "dialect", particularly when discussing things like "Jewish English" or other Jewish languages, it is not always clear, and, I argue in Chapter 5, not necessarily pertinent: Benor (2009) for example, argues that the distinction between a Jewish "language" like Yiddish and something like Jewish English is a matter of degree, rather than kind. "Variety" is intended as a neutral term, making no claims about a particular linguistic system's status as a language or a dialect.

speech collected from the participants, including interview speech, storytelling tasks, a discourse completion task, a listing task, and recordings of group speech. A wide range of production data is thus used to document differences in the *form* of intonation (here, referring to differences in the phonetics and phonology of intonation) and the *function* of intonation (the use and meaning of particular tones and tunes).

This study also makes use of perception data, which is increasingly used in both the study of sociolinguistic meaning and intonational meaning, to ensure that the meanings (both social and pragmatic) attributed to contours by researchers are also held by speakers of the varieties. These methodologies have already been used to study areas related to the topic of this dissertation including the social meaning of various features of Jewish English (Benor, 2012), variation in intonational meaning (e.g., Portes et al. (2014) and Espinal and Prieto (2011), looking at French and Catalan, respectively), and the interaction between the pragmatic and social meanings of intonational contours (Tyler, 2015).

This dissertation explains how variation in these two areas, form and function, leads to more general differences in intonation, specifically, macro-rhythm, as defined by Jun (2014) in Yiddish and Yiddish-influenced Jewish English intonation compared to Standard English. There are differences in form, in the use of an overall wider pitch span, and distinctive production of a rise-fall contour (ToBI transcribed as L+H* !H-L%), as well as differences in function, in using this rise-fall, and its components (rising pitch accents, and the (!)H-L% phrase accent/boundary tone combination) in different ways, in the speech of Jewish English speakers, particularly ones who also speak Yiddish, compared to non-Jewish English speakers. All of these differences lead to an overall increase of alternations of low and high pitch, leading to an increase in macro-rhythm.

Rather than picking up on a particular contour as marking somebody as Jewish, speakers and listeners tune into this more global feature of intonation (macro-rhythm). Evidence for this use of macro-rhythm having social meaning (that is, that speakers use this feature to construct particular types of Jewish identities, and that listeners perceive this feature as

marking someone as performing Jewishness in some way) is presented through an analysis of the intonation that comedians use in performing certain types of Jewish personae, and through a perception experiment that shows that utterances with a greater degree of macro-rhythm are perceived by listeners as indicating that a speaker is more likely to be Jewish, and Yiddish-speaking. This dissertation thus provides new evidence for variation in the degree of macro-rhythm among co-territorial varieties[3]. It also shows how macro-rhythm is used in socially meaningful ways, which may prove useful for describing other varieties of English which have been found to have salient, and potentially, more global, differences in intonation, including African American English (Holliday, 2016) and Appalachian English (Reed, 2016).

The study of the comedians and the perception task in particular also provide additional evidence for approaches to Jewish English, and other ethnically-marked varieties, that conceive of those varieties as ethnolinguistic repertoires (Benor, 2011b): that is, not monolithic "ethnolects", but rather collections of linguistic features that can be used by speakers to index particular types of identities. This dissertation links a greater degree of macro-rhythm not just with Jewishness, but with, most strongly, a particular type of Jewishness that is associated with older, Yiddish-speaking Jews. This feature can also be used in different ways by different users of Jewish English.

Finally, the dissertation as a whole adds to the literature on contact-induced changes in intonation, first by showing divergent effects of contact on the form and function in the same intonational contour. A study of the form and function of contour (the rise-fall described by Weinreich (1956)) shows similarities in how three Yiddish speakers produce the contours in both Yiddish and English, but very different outcomes for how that contour is used in Yiddish and English. Second, it shows that contact with Yiddish is necessary, both for making use of Yiddish-influenced intonation in production (including comedic

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[3]That is, linguistic varieties which occupy the same geographic space; the term "co-territorial" is borrowed from Weinreich (2008) who uses it to describe languages spoken in the same area as Yiddish.

performances), and for the understanding of the social meaning of those contours. However, we also see that assimilation within a community does not alway mean the loss of substrate features in a given variety: despite the growing suburbanization and shrinking of the Jewish population in Dayton, we can still see the use of features, by younger monolingual English speakers, which likely have their origins in Yiddish.

Part 1 deals with the past literature related to the topics covered in the dissertation, as well as a description of the community being studied. Chapter 2 outlines the theoretical approach to intonation and intonational meaning used in this dissertation. Chapters 3 and 4 examine past approaches to studying variation in intonation, as well as variation in intonation in contact situations. Chapter 5 gives an overview of past research on "Jewish English" and defines the term. Chapter 6 outlines the community being studied. Part 2 (chapters 7 through 13) outline the production study. Finally, Part 3 looks more closely at the perception of macro-rhythm, with chapter 15 detailing the use of intonation in the performances of Jewish personae, and exploring how particular types of intonation are linked with a specific type of Jewish identity, and chapter 16 outlining the perception study, and providing additional evidence for the social meaning of greater macro-rhythm in the Jewish English community. Chapter 17 concludes the dissertation.

Chapter 2

A framework for intonation

2.1 Autosegmental/metrical (AM) theory

The existence of a phonology of intonation, or of intonation as a full part of the linguistic system, is not without controversy (see Ladd (1996; 2008) for an overview). Part of the controversy stems from the fact that there are paralinguistic functions of pitch, including the signaling of things like speaker affect and emotion, and this signaling is gradual, and non-discrete (e.g., the wider my pitch range, the more surprised I am). A speaker can thus use pitch in both paralinguistic ways (e.g., to show surprise by use of an expanded pitch range) and in linguistic ways (e.g., to mark something as focused by use of a pitch accent). This intertwining of the paralinguistic and linguistic functions of pitch can make it difficult to pin down the linguistic nature of intonation, and others have thus argued for a special status of intonation: for example, that it is a "half-tamed savage" (Bolinger, 1978), or that intonation has the unique ability to override more "linguistic" meanings of utterances (i.e., that "how you say" something is more important that "what you say" (Pike, 1945)).

However, others like Ladd (2008) point out that, first, many of the more "paralinguistic" functions of intonation can also be achieved through other parts of the linguistic system. Politeness, for example, can be signaled through words like *please* and anger through the use of taboo words (*Put that goddamn cigarette out*); however morphemes are still considered to be linguistic, despite their use in these situations. Likewise, deference can be signaled through the use of constructions like double modals in some dialects of English (*I was wondering if you might could*), but syntax and pragmatics are still considered to be linguistic. We also

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know that paralinguistic cues can be present in the production of segmental features, as well as suprasegmental features: people can tell, for example, if somebody is smiling when producing a word due to the effects of spreading the lips on vowel formants, but at the same time, people can also identify the vowel being produced. Likewise, social information can also be carried on these same channels (e.g., the F2 of a person's production of /u/ marking them as being from California) but again, that does not preclude the linguistic functions of F2, in that speakers can still identify these vowels. None of these facts preclude the status of morphology, syntax, pragmatics, or phonetics as parts of the linguistic system. As such Ladd assumes that, just as we can study both the more "paralinguistic" and linguistic functions of morphemes and phonemes, or how paralinguistic cues can travel on the same channels that carry linguistic cues (e.g., vowel formants), we can separate out the linguistic functions of intonation from the paralinguistic functions of fundamental frequency (f0) for study and analysis.

I follow Ladd (2008) in assuming that (1) intonation has phonology and (2) this phonology is not, at any fundamental level, different in kind from segmental phonology. The specific model of intonational phonology used in this dissertation is auto-segmental/metrical (AM) theory, as outlined in Pierrehumbert (1980). Under AM theory, intonational tunes, which can be modeled by movements in f0, are deconstructable into an underlying sequence of tonal targets, in a similar manner to how movements in F1 and F2 are thought to be caused by underlying sequences of vowel targets. This decomposition of contours into level tonal targets is in contrast to other earlier theories ("Configuration" theories) which assume contours (e.g., rises, falls) as their primitives (see, e.g., Bolinger (1951)) [1]

In addition to these tonal targets, part of the phonology of intonation also includes rules for associating these tones with a segmental string. In Mainstream American English,

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[1] As a side note, Weinreich (1956) in fact makes reference to this debate, in his description of the rise-fall, claiming that variations in the pitch range of the production of the rise-fall gives evidence for a configuration, rather than levels, theory of intonation (p. 642). This is, ultimately, an incorrect argument. As Ladd (1996) points out, AM theory, a "levels" theory, can account for variation in the phonetic realization of tones.

there are three types of tones: *pitch accents*, *phrase accents*, and *boundary tones*. Pitch accents, annotated with a * (e.g., H*, L*) are tones which are associated with stressed syllables. In English, pitch accents are assigned post-lexically. English has two levels of prosodic phrasing, intermediate phrases and intonational phrases, which are marked by edge tones. Phrase accents (annotated with a -, e.g., H-, L-) are associated with the right edges of intermediate phrases (ip), and boundary tones (annotated with a %, e.g., H%, L%) are associated with the right edges of intonational phrases (IP). Each intonational phrase contains at least one intermediate phrase, and each intermediate phrase contains at least one pitch accent. The end of an intonational phrase, then, necessarily consists of a sequence of a pitch accent, phrase accent, and boundary tone. This final sequence creates the *nuclear contour* of the intonational phrase. Note that, though these contours are decomposable, it can be useful to speak of nuclear contours as units (e.g., describing L+H* !H-L% as a rise-fall contour, or L*+H L-H% as a rise-fall-rise contour), just as it is useful to talk about things like verb phrases or idioms as whole units.

Building off the compositionality of the phonology of intonational contours, Pierrehumbert and Hirschberg (1990) lay out a compositional theory of meaning for intonational tones and tunes, in which the meaning of a particular nuclear contour is built up from its components. For example, a rise-fall-rise (L*+H L-H%) and a low question rise (L* L-H%) share a low phrase accent and a high boundary tone (L-H%) and thus, should have some common elements of communicative function between them (in this case, specifically, that "the current utterance will be completed by a subsequent utterance" (ibid., p. 285)).

The meanings of pitch accents, phrase accents, and boundary tones set forth by Pierrehumbert and Hirschberg (1990) are mainly pragmatic, and thus the interpretations of contours can vary widely depending on context. For example, the L-H% sequence has a H% boundary tone which marks an utterance as being forward-looking. This sequence can thus be used to link clauses together in things like lists (indicating that each utterance in a list should be interpreted as forming a unit with the others), or to indicate that an utterance is

"other directed", as in a question. The exact meaning and interpretation, then, of a L-H%
will differ from situation to situation; however, there is still a core pragmatic meaning of the
utterance being completed by, or connected to, a subsequent one. In addition to exploring
the meanings of specific pitch accents or boundary tones, it can also be useful to talk about
the meanings of contours as a whole (e.g., the L*+H L-H% rise-fall-rise is described as
signaling "incredulity" or "surprise" (Hirschberg and Ward, 1992)), in the same way that
we talk about the meanings of whole phrases in addition to the meanings of the individual
morphemes that they are composed of.

2.2   Variation in AM theory

The pitch accents, phrase accents, and boundary tones in English function like morphemes.
(With Beckman and Venditi (2010) going so far as to describe English pitch accents as
"pragmatic morphemes" (p. 41)). Ladd's framework likewise equates the function of English
intonation with the function of morphemes, noting that while the meanings of intonation
are nebulous, they are no more so than other pragmatic morphemes like German *doch*.
However, like morphemes like *ing*, pitch accents and edge tones are made up of discrete
units of sound, and thus intonation has a phonological side, if we take Ladd's definition
of a phonological description of a language as including "a level of description in which
the sounds of an utterance are characterized in terms of a relatively smaller number of
categorically distinct entities". In English intonation, these "categorically distinct entities"
include different pitch accents, phrase accents, and boundary tones. Finally, as a part of the
sound system, intonation also necessarily interacts with with the phonetic system. Just like
for segments, we need language- and dialect-specific rules for the phonetic implementation
of these categories[2].

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[2]Here, just as in segmental phonology, the line between phonetics and phonology is is murky, particu-
larly when dealing with issues of phonetic realization: Ladd, for example, states that his characterization
of phonology "deals with issues of 'postlexical' phonology and phonetic realisation" (p. 11). Likewise, some
theories of phonology, rather than assuming a strict, modular, feed-forward system in which phonological

Within the AM framework, and recognizing that intonation has morphological meaning, a phonology, and interacts with phonetics, we see that there are several ways in which we might see variation, both cross-linguistically and within a given language, as outlined by Ladd (1996). The first is *systemic*: we might see differences in the inventory of pitch accents and edge tones (cf. differences in the phonological inventory of segments in different languages and dialects). The second is *phonotactic*: we might have differences in how those tones are aligned with the segmental string, or how they can be combined (cf. differences in allowable syllable structures in different languages and dialects). The third is *realizational*: we might have differences in how the same or similar phonological categories are produced (cf. phonetic differences in the production of the same or similar vowel or consonant across difference languages or dialects). Finally, we might have *semantic* differences: differences in what tones (and thus, tunes) mean, or how they are used (cf. differences in interpretation of the same morpheme, or the use of different morphemes for the same or similar meaning across different dialects).

Broadly speaking, then, we can have differences in form, covering both the phonetics and phonology of a language or variety's intonation, and differences in function, covering the semantic and pragmatic meanings of tones and tunes. This broader distinction is useful because change and variation in the first three of Ladd's four categories (systemic, phonotactic, and realization) have analogues in the study of sound change and variation, so that techniques that are useful for studying sound change should also be useful for studying these changes. However, changes in the last category (semantic) are more analogous to changes in meaning, both pragmatic and social, and as such, techniques that are useful for studying pragmatic and social changes will be useful in examining changes in the function of intonation. More details are described in from Chapter 7 onward, covering the production and perception studies of the current work.

representations of words are simply passed along to a phonetic realization system, assume much more interaction between phonetics and phonology, with, e.g., phonetic realization rules being sensitive to systematic, within-phoneme variation, as in Pierrehumbert (2002).

This work also covers variation in macro-rhythm, as defined in Jun (2014), which lays out her theory of prosodic typology. Her typology first makes a broad distinction between languages like Mainstream American English, which are head-marking languages (which mark prominence on the phrasal head, by use of, e.g., a pitch accent), head/edge-marking languages (which mark prominence both on the phrasal head and at the phrase edge), and edge-marking languages (which mark prominence on the phrase edge only). Jun proposes macro-rhythm as an additional parameter of cross-linguistic variation, which is somewhat independent of this axis of variation.

Jun defines macro-rhythm as the perception of rhythm that is caused by regular alternation of high and low tones within a prosodic phrase (e.g., having an underlying sequences like HLHLHL as opposed to LHLLLH). Macro-rhythm is contrasted with micro-rhythm, which is the perception of rhythm caused by sequences in things like syllables or feet. The exact source of these alternations in tones (i.e., whether the sequence is a series of lexical tones, or accentual phrase accents, or post-lexical pitch accents) does not matter in classifying a language's macro-rhythm. This source-neutral approach means that (1) languages can differ in their status as a head/edge-marking language or an edge-marking language, or whether or not they have lexical tone or pitch accents, but can still be similar in their degree of macro-rhythm, as long as they both have (or don't have) regular alternations in high and low tones, and (2) languages that are similar in their status of being head/edge- or head-marking languages can differ in their degree of macro-rhythm[3].

For head-marking languages like MAE, Jun describes three factors that determine the degree of macro-rhythm in the language. The first is the number of pitch accent types. A language that has only one pitch accent will be more macro-rhythmic than a language with multiple pitch accent types. For example, if a language's only pitch accent is a rising LH

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[3]Jun divides languages into three broad categories: strong, medium, and weak macro-rhythm. She does note that edge-marking languages necessarily have stronger macro-rhythm than head/edge- and head-marking languages; head/edge-marking languages also necessarily do not have weak macro-rhythm, due to regular alternations caused by the presence of AP phrases (but can have medium or strong macro-rhythm).

pitch accent, sequences of pitch accents will always be LH LH LH. If a language has both a rising LH and a falling HL pitch accent, we can get sequences like LH HL LH instead, with fewer alternations between L and H.

The second is the type of the most common pitch accent. A language that has either a rising (LH) or a falling (HL) pitch accent as the most common pitch accent will be more macro-rhythmic than a language with level pitch accents (H or L) as the most common pitch accent. Having more rising or falling pitch accents would increase the likelihood of alternating sequences like LH LH LH; having level pitch accents means that it would be more likely to have non-alternating sequences like H H H.

Finally, the frequency of pitch accents matters: languages that put a pitch accent on every or nearly every content word have a greater degree of macro-rhythm than languages that do not. For example, if we have an intonational phrase with three content words, with a LH pitch accent on each word, we would have a sequence of LH LH LH within that intonational phrase, giving us multiple alternations between low and high pitch. However, if only one content word has a LH pitch accent, then we would have fewer alternations of low and high pitch within that intonational phrase.

MAE is categorized by Jun as having "medium" macro-rhythm. English has five phonological pitch accents (H*, L*, L+H*, L*+H, and H+!H*), of which the most common is H*. Pitch accents occur a bit less than once per content word (that is, not every content word is pitch accented). We can compare English with another head-marking language like Greek, which also has five pitch accents (H*, L*, L*+H, L+H*, and H*+L); however, the most common pitch accent is a rising pitch accent (L*+H), and pitch accents occur about once every content word (so that nearly every content word is pitch accented), meaning that Greek has a greater degree of macro-rhythm than English. On the other hand, European Portuguese, also a head-marking language, also has 5 pitch accents (H*, L*, L*+H, H+L*, and H*+L), out of which the H* is most common; however, it uses fewer pitch accents per content word than English, and thus, has weaker macro-rhythm that English.

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The phonetic implementation of tones also potentially comes into play when determining the degree of macro-rhythm: German is also characterized, like English, as having medium macro-rhythm. Jun notes (p. 528) that its most common pitch accent, although it is phonologically level (H*), has a steeper rising slope, and thus more closely resembles an English L+H* rather than H*. Although Jun does not say this explicitly, this would also mean that German's H* and L+H* pitch accents more closely resemble each other, phonetically, in terms of slope. As Jun's proposed calculation for macro-rhythm based on f0 takes into account variation in the phonetic realizations of slopes (p. 538), German would potentially have a smaller degree of variation in pitch accent slope compared to English, and thus, more regular alternations in high and low f0, meaning greater macro-rhythm.

I propose also adding in pitch range to the measurement of macro-rhythm. Jun bases macro-rhythm based on work that shows that alterations in f0 can affect how listeners group words together (e.g., Dilley and McAuley (2008); Dilley and Shattuck-Hufnagel (1999)), and that f0 can contribute to the perception of rhythm as much as duration (e.g, Barry et al. (2009)); however, none of these studies examines how a greater or lesser degree of alternations in f0 affects these ratings. However, it seems likely that having a greater difference in f0 between peaks and valleys (and thus, a larger f0 range) would make those peaks and valleys more perceivable. At the very least, we know that participants also pick up on cross-linguistic differences in global pitch range (see, e.g., Mennen et al. (2007), where English is described as sounding "over-excited"), which likely works in tandem with macro-rhythm to create global impressions of the intonation of a language, even if it turns out that pitch range does not influence perception of rhythmicity, *per se*.

Jun also restricts her definition of macro-rhythm to pitch alternations within a phrase. This restriction is for two reasons: the first is the relatively small inventory of intonational phrase tones (which are usually either only L or H), and the second is the fact that macro-rhythm, along with the size of IPs, will likely vary much more within utterances of a language compared to between languages. The degree of macro-rhythm in a language

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would thus vary across different types of speech acts. However, I believe that, in this case, we can make direct comparisons of the degree of macro-rhythm, taking into account larger units, up to IPs, assuming that we collect similar types of speech acts from different languages or varieties, of similar IP size. Our conclusions would have to be limited to those particular styles of speech (stories, lists), but would still provide an area in which we can make comparisons.

Importantly for this study, a language's degree of macro-rhythm lies at an intersection of variation in intonational form and intonational meaning. Part of what determines macro-rhythm is what Ladd (1996) calls *systemic* variation (what is your language's inventory of pitch accents?) as well as *realizational* variation (How are those pitch accents produced?). But part also covers function or *semantic* variation: that is, what a language does with tone and intonation may affect its degree of macro-rhythm.

For example, previous research suggests a connection between the degree of macro-rhythm in a language, and the use (or not) of pitch accents in marking focus. English, with medium macro-rhythm, makes use of pitch accent distinctions (rising vs. non-rising), as well the presence or absence of pitch accents to mark focus; Guaraní, with strong macro-rhythm, makes use of deaccenting, but not pitch accent type, for marking focus (Burdin et al., 2015). The same pattern can be found when comparing Egyptian Arabic, which has strong macro-rhythm, and does not use pitch accent type to mark focus, with Lebanese Arabic, which has medium macro-rhythm, and does (Chahal and Hellmuth, 2014).

A language with a larger inventory of pitch accents can use pitch accent type to mark focus, but this larger inventory means that the language will have a weaker degree of macro-rhythm. Additionally, if a language de-accents words which are not in focus, that will affect how often pitch accents occur, again, meaning weaker macro-rhythm. However, if a language has only one or two types of pitch accents, and thus, does not (or cannot) use pitch accent type to mark focus, it will have stronger macro-rhythm; likewise, if a language never de-accents content words, even if they're not in focus, this potentially means that all

or almost all content words will have pitch accents, meaning that the language will have stronger macro-rhythm. Also, if a variety has different meanings for, say, plateaus compared to rises, or rising pitch accents compared to high pitch accents compared to another variety, this will in turn lead to differences in how often they are used, and subsequently, differences in the degree of macro-rhythm between the varieties.

Finally, it should be noted, that while Jun describes variation in macro-rhythm across space (e.g., between different dialects of Japanese and Korean), she does not make note of variation in macro-rhythm between varieties of the same language which are spoken in the same geographic space. However, there is no particular reason why we shouldn't see variation between co-territorial varieties, and descriptions of African American English compared to European American English suggest that this might be the case. For example, Jun and Foreman (1996) found a greater use of post-focal pitch accents in AAE compared to EAE, which, under Jun's criteria, would mean that AAE has a greater degree of macro-rhythm than SAE, as this would lead to an overall increase use of pitch accents (her third criteria for determining the amount of macro-rhythm); likewise, if AAE has accentual phrases, as proposed by Gooden (2009) and Cole et al. (2005), that would make it a head-edge marking language, and potentially, more macro-rhythmic than MAE [4].

This study focuses on differences in the form and meaning of the rise-fall, as well as its components (rising pitch accents, the (!)H-L% phrase-accent/boundary tone contour) in English, Jewish English and Yiddish in Dayton, OH. Evidence is provided for there being a greater degree of macro-rhythm in Yiddish, which has, in turn, influenced Jewish English.

In order to do so, however, it is necessary to survey the literature examining variation and change in intonation, both contact induced and not, that has been conducted under the AM framework, looking at variation in form, function, and both form and function together, to get a sense for the range of variation and change possible in intonation, and

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[4]However, note that Gooden's (2009) proposal of additional pitch accents in AAE could, on the other hand, potentially lead to a lesser degree of macro-rhythm, as an increase of pitch accent types means a lesser degree of macro-rhythm.

how change and variation in intonation works.

Chapter 3

Variation in intonation in non-contact situations

Compared to variation in segmental features, variation in intonation has been understudied. However, the last 20 years or so have seen great growth in research productivity in this area. The first part of this survey gives an overview of research that has been done, primarily in English, looking at variation in intonation, first surveying research that has been done on variation in intonational form, and then research on variation in intonational function. For the most part, this chapter looks at variation and change in intonation that is not claimed to be due to ongoing language contact; the following chapter examines, more pertinently to this study, variation and change in intonation that has been attributed to contact.

3.1 Variation in intonational form

3.1.1 Phonetic differences

Differences in the phonetic implementation of intonational tones or tunes can be affected by (at least) two things: the first is language- or dialect-specific differences in phonetic realization rules, and the second, physiological factors that can affect the production of f0 (although, as discussed below, these physiological factors are not purely deterministic, and can be shaped by broader social factors).

A handful of studies have looked at dialectal variation in peak alignment in rising pitch accents in British English. Ladd et al. (2009) found differences between Standard Scots English (SSE) and Southern British English (RP), with later peak alignments in SSE compared to RP. Elsewhere in Germanic, Atterer and Ladd (2004) and Mücke et al. (2009)

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found regional differences in peak alignment in Northern and Southern varieties of German, as well as differences between German and English. Sullivan's (2010) work on Glaswegian and Belfast rises also found alignment, as well as scaling, differences, with Glaswegian having earlier peaks, and Belfast having higher scaled H tones. These studies show that fine-grained phonetic differences can exist between languages and dialects which are quite similar in terms of prosodic typology (German and English, as in (Atterer and Ladd, 2004)) as well as between regional dialects.

We also see variation in the phonetics of intonation that has its roots in physiological differences. The thickening and lengthening of the vocal chords caused by higher levels of testosterone mean that those with higher testosterone levels (e.g., postpubescent cis[1] gender men; trans men who take supplemental testosterone) will have on average, lower f0 than people who have lower testosterone levels (e.g., prepubescent children, cis gender women). However, studies have shown gender differences in f0 which do not seem to be due to any obvious biological differences. Hasek et al. (1980) found f0 differences between English-speaking girls and boys as young as seven (and thus, presumably pre-pubescent, and with similar testosterone levels); Glaze et al. (1988) likewise found f0 differences when looking at a group of children between the ages of 5 and 11. It should be noted that other studies have not found significant differences between pre-pubescent girls and boys in f0 (e.g., Perry et al. (2001)); however, it appears that in at least some cases, we can find gender differentiation in f0 before there is a clear biological basis for that difference.

We see differences in f0 based on age apart from the differences that we see pre- and post-puberty. Most studies have found a decrease in f0 (e.g., Nishio and Niimi (2008), Reubold et al. (2010)) in women as they age; however, there are contradictory results for

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[1] *Cis* is a newer term, modeled after the word *trans*. A trans person is a person whose gender identity is not the same as the one assigned to them at birth ("Assigned at birth" is the preferred terminology for many in this community. The issues (linguistic and otherwise) surrounding the presumed dichotomy between (culturally-determined) gender and (biologically-determined) sex, are outlined in more detail in Zimman (2014)). A trans man is thus a man who was assigned female at birth, but who identifies as male. Some (but not all) trans men take testosterone to develop secondary sex characteristics. A cis individual is one whose gender identity aligns with the one assigned to them at birth.

male speakers, with some studies showing a decrease in f0 (e.g., Harrington et al. (2007)) and others, an increase (e.g., Harnsberger et al. (2008)). A longitudinal study of recordings from five well-known British English speakers by Reubold et al. (2010) suggests that these contradictory findings may be due to men's voices initially decreasing in f0 as they age, and then beginning to increase in f0 past a certain point (for the speakers in their study, in their late 80s).

In addition to these differences in f0 caused by physiological factors, differences in average pitch range have been posited between different dialects and languages. Differences in pitch range between African American English (AAE) and Standard English have been proposed; however, what exactly these differences are is a source of debate: there have been multiple studies which have found both lower f0 ranges for AAE-speaking men, as well as wider pitch ranges for African American speakers compared to European American English speakers; however, other studies have not found differences (see Thomas (2015) for an overview)[2]. Thomas (2015) suggests that the contradiction in findings might be due to greater use of extremely high and low pitch for expressive purposes by AAE speakers, rather than a different "normal" pitch range, meaning that the wider pitch range values might only show up in certain styles.

Additionally, average differences in f0 between men and women have been found to differ cross-culturally, with, for example, Dutch speakers having smaller f0 differences between men and women compared to speakers of Japanese (van Bezooijen, 1995). Average f0 and pitch range have also been found to vary, cross-linguistically, with German speakers having, on average, lower and narrow pitch ranges compared to English speakers (Mennen et al., 2007, 2012). This suggests that, despite certain biological determinants, outlined above, a degree of fluidity in f0 range is available for, and used by, speakers.

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[2]There is, of course, considerable debate about the role of contact in the development of African American English, and contact with West African languages at the time of the development of AAE has been cited as a potential factor for some of the differences in intonation between AAE and Standard English. However, at the very least, there is not significant on-going contact between, say, African American English and the languages of West Africa, and as such, it will be discussed in this section.

The above studies first show that we can find differences in both global f0 range, as well as in the phonetic implementation of pitch accents within and across languages and dialects. Most of the research has focused on peak alignment; however, things like rise shape, and peak height likely also vary between dialects. The above studies also show similarities with studies that look at variation in segmental features. First, just as we need to take underlying phonological categories into account when studying F1 and F2, as well as adjacent segmental features that might effect F1 and F2, we also need to take into account (1) phonological categories and (2) segmental string information when studying intonation. The above studies solve this problem by making use of read texts, and comparing similar categories (i.e., rising pitch accents in nuclear position) between and within languages. Likewise, just as in studying segmental features, we should be careful that all participants are performing the same or similar tasks, to control for task specific effects. Finally, just as we need to control for physiological differences in the size of the vocal tract in studying F1 and F2, we also need to do the same when studying f0.

This research follows the spirit of these studies by using controlled tasks across participants and across languages, including tasks meant to elicit the same or similar segmental strings, including a controlled listing task and a discourse completion task, to look at variation in pitch range and in the production of a rise-fall contour.

3.1.2 Phonological differences within languages

The above studies mostly dealt with either (1) differences in the production of the same or similar phonological categories (e.g., rising pitch accents), or (2) global differences in f0. However, there have been few studies examining phonological differences (e.g., differences in the tonal inventory of dialects, or how those tones align with the segmental string) in English varieties that do not involve on-going contact. Arvaniti and Garding (2007) found that, while Southern Californian English speakers had a clear contrast between the L+H*

and H* pitch accents, Minnesotan English[3] speakers lacked that contrast, using only L+H* instead. More drastic phonological differences have been claimed for AAE and MAE, with Gooden (2009) and Cole et al. (2005) providing some evidence for an additional level of prosodic phrasing in AAE, and Gooden (2009) also positing additional falling pitch accents in African American English (H+L* and H*+L).

The lack of studies positing large scale phonological differences between dialects of English spoken in the United States means that, if we do find massive phonological differences between Jewish English and English, that would be somewhat unexpected, and previous studies (Burdin, 2012, 2014) have not found any evidence for, e.g., additional pitch accents or levels of phrasing in Jewish English.

3.2   Differences in function

Grice and Baumann (2007) lay out examples of the different functions that intonation can have in a language. Intonation can be used to distinguish lexical items (through the use of e.g., contrastive pitch accents), to mark syntactic structure (e.g., marking syntactic phrase breaks with edge tones), to mark information structure (e.g., using a rising pitch accent on focused items), to distinguish different types of speech acts (e.g., using a rise to indicate that an utterance is question, not a statement), and to show emotion, affect, and attitude (e.g., using a rise-fall-rise contour to show surprise).

These functions are wide-ranging, but they are no more wide-ranging than the functions that morphemes perform in languages (especially sentence final particles; see Wakefield (2016)), and it is possible for a particular intonational contour to perform multiple functions at once, again, just like morphemes. Calling somebody *sir* can, for example, both signal the gender of the addressee, as well as indicates that the speaker is signaling politeness

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[3]While contact with Scandinavian languages may certainly have played a role in the development of Minnesotan English intonation, Arvaniti and Garding do not discuss this contact as a possibility for this difference, and their speakers were not, e.g., bilingual in Swedish and English.

or deference. Prieto (2015) goes into more details about these multiple levels of meaning present in intonation, and gives Portes et al. (2014) as a working example. In their study, Portes et al. (2014) find that intonational contours in French can signal, at the same time, both a speaker's level of commitment to a particular statement and to what extent the speaker believes the listener will believe them.

There is disagreement about the extent to which the various functions of a particular intonational contour can be boiled down to a core, central meaning. In a study of listener-submitted meanings of "uptalk" rises, Tyler (2015), finding that "finished" meanings of uptalk patterned quite differently from meanings related to "clarity" and "happiness", argues against there being a core meaning of these rises, instead arguing for multiple core meanings for these contours, some more "linguistic" (e.g., signaling that an utterance is not complete) and others more "non-linguistic" (e.g., signaling that somebody is happy). However, again, this problem (both of having to deal with morphological and social meanings, and the connections and interactions between social meanings) is not unique to intonation; see, e.g., Campbell-Kibler's (2009) work on the social meanings of *ing*.

We expect that we can see variation in all of these functions of intonation within and across dialects and languages. We might see variation in, for example, the signaling and interpretation of emotion based on intonational cues, with speakers of varieties with narrower pitch rangers (like German) sounding "bored" to speakers of varieties with wider pitch ranges (like English), and, likewise, English speakers being perceived as sounding more "excited" by German listeners (Mennen et al., 2007)[4] . As discussed in the previous chapter, we can see cross-linguistic differences in how languages and varieties use (or don't use) pitch accents to mark focus. Or, we might see differences between varieties in terms of

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[4] These differences in interpretation may have serious consequences. AAE's larger pitch range may be one reason why, e.g., black AAE-speaking female students are more likely to be disciplined for sounding insubordinate compared to white non-AAE speaking students (Holliday, p.c. summer 2015). See also Holliday, Burdin, and Tyler's (2015) post on potential miscommunications between AAE-speaking Sandra Bland and a white police officer on Language Log, located at http://languagelog.ldc.upenn.edu/nll/?p=20746 . Bland was perceived as sounding angry by the police officer, which led to her subsequent arrest and death in jail.

what sorts of contours are used, e.g., to signal that something is a question. The following section gives an overview of findings which suggest variation in the use or interpretation of tones and tunes among dialects of English.

Differences in the distribution of pitch accents, phrase accents, boundary tones have been found in some dialects of English; however, these studies have been somewhat limited. Studies of AAE have found a greater use of L+H* (McLarty, 2011) as well as a greater use of post-focal pitch accents (Jun and Foreman, 1996) compared to Standard English, both of which suggest a slightly different relationship between focus marking and pitch accenting in AAE compared to MAE. In comparing Midland and Southern English, Clopper and Smiljanic (2011) found that Midland talkers used more L-H% contours compared to Southern talkers, and the Southern talkers used more L* pitch accents compared to Midland talkers in some reading passages, suggesting differences in the form used for the same functions in narrative structure. These differences in distributions are suggestive of a difference in function of these tones between these dialects of English. However, no further work has been done to more carefully look at or describe these functional differences.

By far the largest body of work on variation in the function of intonation is research into the range of phenomena known as "uptalk", a cover term for the use of rises on statements. It should be noted that some descriptions of uptalk assume a common meaning between rises on questions and rises on statements. Uptalk has been characterized as simply the use of question contours on statements, see, e.g., the title of Ching (1983), "The question intonation in assertions", or Lakoff's 1973 description of the phenomena as having "the rising inflection typical of a yes-no question" (p. 230). If this description of uptalk is accurate, then we are in fact, not actually dealing with a difference in the function or meaning of uptalk between the varieties: what is happening is that, e.g., users of uptalk produce more utterances that they are uncertain about compared to non-users of uptalk (which is in fact how Lakoff in particular characterizes the form, along with some media

commentators[5].)

However, other studies have claimed that there are differences in the functions of rises between users and non-users of uptalk. McLemore (1990) characterizes the use of low rises as indicating group involvement, and stating that "[...]suggestions that women use phrase-final rises more frequently than men because they more frequently want to convey uncertainty or deference or inconclusiveness are mistaken" (p.17). In a study of the use of rising contours in Southern Ontario English, Shokeir (2008) found differences both in the production and interpretation of rises between those who use uptalk (women), and those who don't (men), with women being more likely to use rises in a map task, and men being more likely to characterize utterances with rises as being "uncertain", "not confident", or signaling that the speaker is not yet done talking compared to women[6]. Similarly, Ritchart and Arvaniti (2014) found, in a study of Southern California speech, that women were more likely to use rises to hold the floor compared to men. Additionally, more social meanings can be signaled by the use of uptalk, with listeners hearing users of uptalk to be, e.g., more likely to be from Southern California, and young (Tyler, 2015). These studies all suggest that there can be variation in the function of certain intonational contours in varieties of American English: rises can be used for different types of speech acts, or to signal different types of emotional affect, depending on the variety.

To avoid some of the previous problems pinning down the exact nature of the differences of function of intonation, this dissertation first will look at broad distributional differences in the use of pitch accents, phrase accents, and boundary tones between Jewish English and non-Jewish English. These differences in function are explored using a discourse completion task (DCT), in which a subject is given a scenario and asked to respond, out loud, as if they

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[5] See, e.g., Davis (2010) ("What am I talking about, you ask? Uptalk. That ever-growing tendency to end statements with upward inflections to make them sound like questions. Like you're not quite sure what you're saying is true. Or clear. Or will be acceptable to your audience. To suggest that you're willing to back down, or restate your point, or change your viewpoint altogether if your listeners don't nod their approval."), and Wolf (2015) on "uptalk" and "vocal fry" as being antithetical to a "strong female voice".

[6]Unfortunately, Shokier did not further investigate what the rises meant for women.

were in the scenario. DCTs help avoid some of the problems we see in early studies of uptalk: that is, *ad hoc* assumptions about what a particular contour means (e.g., that it signals surprise or uncertainty), and then claiming that increased use of that contour means that the speaker is expressing that meaning more often. DCTs, by setting up specific scenarios, make it easier to pin down the meaning that a speaker is expressing (e.g., surprise, asking a neutral question). Then, if we see different contours used by different groups of speakers in their responses, we have better evidence that these contours actually mean something different to those different groups (e.g., that a particular contour signals surprise in one variety, but not in another). Other controlled tasks used in this dissertation (narrating a picture book, listing items) likewise at least partially control for the meanings that are being expressed, both making it easier to compare across groups and to determine the functions of the particular contours being used.

Contact-induced change and variation in intonation

The previous chapter outlined differences in intonation which have been found in English, but which were not (explicitly) attributed to contact. This chapter outlines variation in intonation which is seen in communities with either on-going contact between languages, or with known contact in the past. The first section outlines the frameworks for contact-induced change (and subsequent variation) drawn on in this dissertation, and the next section, examples of contact-induced change in intonation.

4.1 Frameworks of contact-induced change

Weinreich et al. (1968) outline five issues for the study of language change and variation: the *constraints* problem (what sort of changes are possible?), the *transition* problem (what steps can be observed as a change takes place?), the *embedding* problem (how does a change become embedded in the linguistic and social structure of the community?), the *evaluation* problem (how is a change perceived by the community?) and the *actuation* problem (why does a change take place in a particular community at a particular time?). Although these issues were outlined for internally-motivated change, the same issues are present in situations of contact-induced change.

Here, I mainly focus on the *constraints* problem–what are the possibilities for variation and change in intonation in contact situations?–as well as the *actuation* problem–why do particular changes take place at a particular time? This chapter draws on two models of contact-induced change: Van Coetsem's 1988 model, and Mufwene's (2008) Language

Ecology model. Van Coetsem's model will be pertinent for the constraints issue: what sorts of contact induced changes are possible in the speech of bilinguals? Mufwene's model is useful for discussing the spread of changes from bilinguals into the community, relevant to the actuation and embedding problems.

In van Coetsem's (1988) model, there are two mechanisms of contact-induced change. The first, *borrowing*, also called *recipient language* agentivity, occurs when the speaker of the recipient language (e.g., English) uses a feature of the source language (e.g., a French word) when speaking the recipient language. The second, *imposition*, also called *source language* agentivity, occurs when a speaker of the source language (e.g., French) uses a feature of the source language (e.g., French articulatory habits) when speaking the recipient language (e.g., English).

Van Coestem's *imposition* is similar to Weinreich's 1968 *interference*, or what others, particularly in the second language acquisition literature, call *transfer*. Many of these other models talk about interference and transfer as something that occurs from a first or native language into a second or non-native language. In van Coestem's model, however, imposition is something done from a dominant language onto a less dominant language, and while a speaker's dominant language is often their native or first language, it does not have to be, as hierarchies of language dominance are fluid. They can shift over time, as in situations of language attrition, when a native language becomes less dominant than a second language. Dominances can also switch based on the topic: a mostly English-dominant Spanish/English bilingual who mostly learned linguistics in Spanish language courses might be Spanish-dominant when speaking about linguistics[1]. The ability of dominance relationships to change over time means that, in van Coetsem's model, there is no qualitative distinction between *transfer* (native language onto non-native language) and what others might call

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[1] "It may also happen that the speaker generally has a comparable degree of proficiency in languages A and B, although B will dominate A when he handles certain subjects. 'A child learning both languages in familial and play environments, for example, may be equipped to deal with everyday things in both tongues; but if it studies certain subjects in a unilingual school, it will have difficulty discussing these "learned" topics in the other language' (Weinreich 1953:81)" (van Coetsem 1988, p.17)

backwards transfer (non-native onto native) or *reverse interference* (Friedman and Joseph, 2016): both would be instances of imposition. A "backwards transfer" situation is simply the result of a re-ranking of dominance relationships between languages.

In general, according to van Coetsem, "less stable" aspects of language, like lexical items, are more likely to be borrowed, while "more stable" aspects, like phonological and syntactic patterns, are more likely to be imposed. Prosody and intonation, as a part of the phonological system, then, should be more likely to be imposed, rather than borrowed.

The next section briefly reviews some studies of second language acquisition, in which we assume, particularly in the beginning stages, that the first language is the dominant language. These studies give us an idea of what patterns we can expect to see in the imposition of intonation: that is, they give us broad outlines of the constraints (or lack thereof) for what sort of intonational patterns we might expect to see in contact situations.

4.2   Contact at the individual level: SLA studies

Phonetic imposition of a dominant language into a less dominant language has been well documented for segmental features, and has been assumed to be a major source of a foreign accent. For example, Flege and Port (1981) found that Arabic-speaking learners of English produced English stops with Arabic voice-onset time patterns. Similar effects have been found looking at intonation. German and English have similar inventories of pitch accents; however, the phonetic implementation of rising pitch accents differ, with German having later peaks compared to English. In a study of the English of native German speakers, Atterer and Ladd (2004) found that the German/English bilinguals produced later peaks in their English compared to the native English speakers. This finding suggests imposition of the phonetic patterns of the speakers' more dominant German onto their less dominant English.

However, like studies of segmental effects in second language acquisition, there is evidence to suggest that there are (1) individual differences in the degree of imposition found in SLA, and (2) the distinction between "dominant" and "non-dominant" language is not always clear cut. As mentioned above, van Coetsem's model is useful in that it can account for situations where there is a clear flip in dominance relationships between languages. However, the model falls short when we are dealing with speakers who end up with features which are neither entirely language A nor entirely language B, but somewhere in the middle. This problem can most easily be seen in the phonetic system, where it is possible to view gradient shifts in the production of a category, and we can end up with speakers producing values that are intermediate between the norms between two languages in both languages, making it harder to see which language is imposing (and thus, dominant) on which.

For an example, we can turn to Mennen (2004), which looked at a group of five Greek/Dutch bilinguals. All were L1 speakers of Dutch who all lived in the Netherlands, but had been studying Greek for many years. Dutch and Greek both have rising, post-lexical pitch accents; however, Dutch shows alignment differences for pitch accents associated with short and long vowels, while Greek does not. The rising pitch accents in Greek also have later peaks compared to the Dutch rising pitch accents. Mennen examined peak alignments in her subjects' Greek and Dutch, and compared them to monolingual Greek and Dutch speakers. Mennen found four patterns among the five subjects. One subject had monolingual native-like patterns in both her Dutch and her Greek. Another subject maintained a monolingual native-like distinction between peak alignment in short and long vowels in his Dutch; however, the peaks were later (and thus, more Greek-like) overall. Another had cross-linguistic distinctions between his Dutch and Greek peaks, but showed a lack of long/short vowel distinction in his Dutch. Finally, two speakers failed to distinguish both between their long and short vowels in their Dutch, and between their Dutch and Greek.

Similar results were found in de Leeuw et al. (2012) who conducted a study of German L1 speakers in Canada, who had been in the country an average of 38 years, again looking at

peak alignment, this time in German and English. As noted above, German has later peaks compared to English. Although as expected, like Atterer and Ladd (2004), the researchers found that, on average, the German/English bilinguals produced later peaks compared to the English monolinguals, the researchers also found considerable interspeaker variation. Some speakers managed to have monolingual native-like rising pitch accents in both their German and their English. However, many of the speakers ended up with a compromise system: their rising pitch accents in their German and their English were quite similar, and the location of the peaks in both languages were in between the norms for monolingual German and monolingual English speakers.

If we wanted to ascribe these effects to imposition we would need to say that, for de Leuuw et al's (2012) subjects, when the subjects are speaking German, we see effects of English imposition (in producing the peaks slightly earlier compared to monolingual German speakers), and when the subjects are speaking English, we see effects of German imposition (in producing the peaks slightly later compared to monolingual English speakers). However, this explanation is unsatisfactory, as while van Coetsem's model allows for differences in dominance across topics, it would require these speakers to, e.g., have English occasionally be a dominant language in their phonetics, *but only when the participants were not speaking English*, which is an unsatisfactory and unlikely explanation.

Mennen (2004) draws on Flege's (2003) Speech Learning Model (SLM) to explain her results. Flege's model is rooted in exemplar-type models of phonology, where phonological categories are built up over time based on exposure. A crucial moment in the process of language learning is whether or not the learner creates a new category, or not, for a sound in a second language. If the speaker successfully creates separate categories, they will likely maintain native-like productions of the categories in their native language, and can acquire native-like productions in their new language, if given enough exposure to examples from the category. This separation will be easiest with sounds which are perceptually different from each other, and hardest with sounds that are more similar. However, if a speaker

does not separate the categories (which, in this initial stage, would be a clear instance of van Coetsem-style imposition), and places the sound from the new language in the same category as another language, overtime, with more exposure to the new language, the category might shift, and the speaker might end up with productions in both (or all) of their languages which are non-native like. Due to the outsized effect of the initial state for the language learner (whether or not they create a new category), de Bot characterizes language acquisition as a complex system, in a technical sense (2007). In complex systems, relationships between starting and ending states are not linear (cf. the famous analogy of a butterfly flapping its wings causing a hurricane elsewhere): one action at the beginning (here, whether or not to create a new category for a sound) has massive effects later on.

In contact situations, then, we expect to have three broad categories of bilinguals, when examining their phonetic and phonological systems, based on what happens when they first acquire a new language, depending on whether or not new categories are created when they first encounter a new language. Those in the first category are "balanced bilinguals". These are bilinguals who have successfully maintained separate phonetic systems for both of their languages, and thus, show no evidence of imposition from one language onto the other. The second category consists of those that show clear van Coetsem-style imposition of their dominant language onto their non-dominant language (including L1 onto L2, and vice versa). These include the German/English bilinguals in Atterer and Ladd (2004), and the speakers from Mennen (2004) who showed clear imposition of Dutch onto their Greek. The final category contains speakers with no clear dominance patterns who end up sounding non-native like in both (or all) of their languages (where we see a gradual phonetic drift of what had possibly been singular category created by imposition, in both languages).

There are a variety of factors which will explain which category each speaker falls into, but the most important factor will likely be the amount of exposure to each language, including both age of acquisition[2], and how long a person has been learning the new lan-

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[2]There is, of course, a considerable amount of debate about the Critical Period Hypothesis, which suggests that, due to biological facts, native-like acquisition of linguistic material after a certain age is impossible.

guage. Individual differences will also likely play a role. A listener who can better hear the difference between a L1 and L2 phoneme will be in a better position to create a new category: for example, English learners of Mandarin who had better pitch discrimination showed better acquisition of tones (Bowles et al., In press).

When looking at the phonetics of the intonation of people who speak both Yiddish and English, we might, first, like Mennen (2004) and de Leeuw et al. (2012) did, see group level means that suggest somewhat straightforward imposition, with the dominant language (Yiddish) imposing on the less dominant language (English). However, individual patterns of the bilinguals are likely to vary widely, depending on the individual, and things like age of acquisition of Yiddish and English, how they learned the language, and other factors, such as musical ability, which might affect the ability to distinguish intonational patterns. In some cases, we might see the maintenance of two separate phonetic systems; in others, we might see English systems that look more Yiddish-like, or Yiddish systems that look English-like.

4.3   Contact at the community level

As described in the previous section, at an individual level, we expect the effects of contact to be extremely heterogeneous: sometimes, we see balanced bilinguals, sometimes we see speakers with clear patterns of imposition, sometimes we see speakers who look like they've ended up somewhere in the middle. However, somewhat paradoxically, we can observe regular outcomes at the community level where we see, e.g., features in a language or dialect as a whole that clearly come from a substrate or superstrate language in both the form and function of intonation.

However, even researchers who disagree with a strong version of the Critical Period Hypothesis, admit that, at the very least, a late start to learning a second language is a disadvantage, (see, e.g., Bongaerts et al. (1996)), even if it can be overcome by some learners in some situations.

For example, we can see what looks to be imposition from Basque onto Spanish in some varieties of Spanish. Madrid Spanish (MS) has a L*+H pitch accent, annotated as such because the low tone is associated with the stressed syllable. However, studies of Lekeitio Spanish (LS), a variety in contact with Lekeitio Basque (LB), have found that LS has much earlier peak and valley alignments compared to MS (Elordieta (2003); Elordieta and Nagore (2005)). Elordieta and Nagore (2005) attribute this difference in alignment to LB's having a H*+L pitch accent: Basque listeners are able to recognize that the Spanish pitch accent is rising, rather than falling as it is in Basque, but retain their dominant language's pattern of alignment of the H tone with the stressed syllable, leading to a difference in phonetic implementation between MS and LS. The late rises of varieties like Madrid Spanish are also suggested as a factor affecting peak alignment in Cuzco Quechua, which shows late, rather than the expected early rises previously documented in Quechua (O'Rourke, 2003, 2009).

There are also studies documenting changes in the function of intonation that appear to be contact induced. One notable example is documented cases of tonogenesis which have happened in situations where languages with lexical tone are in contact with languages without lexical tone. For an example, we can turn to Palenquero, a Spanish-based creole, spoken in Colombia. Unlike its lexifier language (Spanish), Palenquero has lexically specified tone. The origin of this feature is likely imposition: speakers of Bantu languages which have lexical tone reinterpreted high pitch that was a result of post-lexical pitch accents as being from lexical tone (Hualde and Schwegler, 2008). A similar process is currently happening with Hong Kong English, which is developing lexical tone, likely due to imposition from Cantonese (Cheung, 2009).

It has also been claimed that some contact varieties have shown shifts in the function of post-lexical pitch accents. Arvaniti and Adamou (2011) suggest that the use of intonation to mark focus (in addition to word order and a focal particle) in Komotini Romani developed under contact with Greek. Bullock (2009) documents a similar change in the use of very English-like patterns of pitch accenting (including the marking of focused items, where

French uses edge tones), unattested in any other variety of French, in heritage French spoken in Pennsylvania. There have also been studies suggesting changes in the meaning or functions of particular contours: Murphy (2012) found that, like Hawaiian and unlike Standard English, Hawaiian Creole English uses falling intonation to mark yes/no questions. Alvord (2010) found that Miami Cuban Spanish speakers use both falling and rising intonation to mark yes/no questions. Cuban Spanish uses falling intonation; Standard English and several other varieties of Spanish use rising intonation, and Alvord suggests that Miami Cuban Spanish introduced rising questions into the variety under influence from both English and other varieties of Spanish.

Contact-induced changes in form and function can also interact with each other. The introduction of a new form into a variety can lead to its being used for distinct functions: Queen (2012) documented the use of a phonetic, phonological, and pragmatically distinct high-rising terminal used by third-generation Turkish German speakers. Alternatively, contact can lead to the loss of distinction between forms, and a subsequent loss of functions: Colantonio and Gurlekian (2004) suggest that Buenos Ares Spanish (BAS) shows potential contact effects from Italian in how it marks focus. Under influence from Italian, the late peak alignment described above in some varieties of Spanish became an early peak alignment, and in that change, BAS lost the connection between early peak alignment and focus marking present in other varieties of Spanish.

Analogues can, again, be found in the segmental systems under contact: in some cases, we see introductions of new phonemes or phonotactic constraints, which can be used to distinguish new pairs of words (see, e.g., in Jewish and American English where the introduction of a word initial *schm-* cluster creates new minimal pairs like *schmear* n., 'spread, usually cream cheese, used on bagels', and *smear* n., 'a mark or greasy stain'), and in others, we see the collapse of phoneme distinctions, leading to new homophones (see, e.g., contact varieties of English which do not have interdental fricatives leading to homophones like *tree*, which can either be Standard English 'tree' or 'three').

In any case, in all of the above examples, we have a clear indication that imposition was at work: we see Basque-, Bantu-, Cantonese-, and Spanish-dominant speakers impose phonetic and phonological patterns onto their Spanish, Spanish (again), English, and Quechua, respectively. Greek-, English-, and Hawaiian-dominant speakers imposed the functions of their intonation onto their Romani, French, and English, respectively. And, in the final cases, we see, respectively, imposition of both the form and function of Turkish and Italian onto German and Spanish.

There needs to be a mechanism, then, by which we move from the heterogeneous situation described in the previous section among individual bilinguals to community-wide patterns. Here, we can appeal to Mufwene's Ecology of Language (2008) model. In any language change situation, involving contact or not, we see considerable individual variation in idiolects, creating what Mufwene calls a "feature pool", with accompanying competition among features. Language change takes place when one of the competing features is selected by speakers out of that pool, and spreads throughout the community, with the selection of features parallel to the process of natural selection in the evolution of species. The factors determining selection of features from the pool are complex, but things like the make-up of the population matter. If there are a large number of non-native speakers of a language, interacting with each other more than with native speakers of a language (as happened on large plantations in the Caribbean), we see a greater proportion of substrate features in a contact variety; if, on the other hand, there is more integration and interaction between native and non-native speakers, we see a lesser degree of substrate features. Sociolinguistic factors will also necessarily affect which features are selected, in the same way that other models of language change need a particular feature to be embedded in the social, as well as the linguistic structure (Weinreich et al., 1968). We can sometimes see this at work quite deliberately. Yiddish has both Slavic and Germanic lexical items, and often, Slavic, or at least, non-Germanic, items are selected over competing Germanic ones, in order to further Yiddish's linguistic distance from Standard German. (For an example of this at work, see

example (5) in chapter 8).

At the individual level, then, we can see several different outcomes of language contact in the phonetic and phonological systems, with speakers falling into each of the three broad groups described above producing different linguistic features (the actuation of the sound change). From this pool of features, some will spread throughout the community (propagation of the change) and cause community-wide language change (conventionalization of the change). For example, we can imagine, in the Palenquero situation, there were likely some speakers who were able (against all odds) to produce native-like Spanish, without lexical tone. However, speakers who produced lexical tone when speaking Spanish almost certainly greatly outnumbered them, due to a lack of significant access to the lexifier language, giving these features an advantage to be selected out of the feature pool and spread throughout the community. A feature getting imbued with social meaning will also likely cause its spread in the pool, as speakers use it to signal particular types of identity–Bantu features might have been symbolically associated with a Bantu identity, and thus, potentially preferred for that reason.

For this study, then, we first need to establish the facts about the relative proportion and density of Yiddish-dominant speakers in Dayton, which will be done in Chapter 6. Secondly, we also want evidence that some aspects of Yiddish-influenced speech are socially meaningful, so that we have a motivation for monolinguals adopting those features in order to index a particular type of Jewish identity, which as is further explored in Chapters 15 and 16.

4.4 Implications for this study

For this study, we expect, then, we might see something that looks like imposition when looking at group-level means of, e.g., phonetic characteristics of intonation, or in how pitch accents are used by people who speak both Yiddish and English. However, there will also

be individual differences: some speakers might have more cleanly separated Yiddish and English intonational systems. Others might show more Yiddish intonation in their English, and vice versa. Finally, some may end up with a compromise system of some sort.

The make up of the population will influence whether and how these features of Yiddish spread throughout the community: if we have dense pockets of people who speak both Yiddish and English, interacting mostly with other people who speak both Yiddish and English, who then have English monolingual speaking children, part of whose input is Yiddish-influenced English, it is possible that at least some aspects of Yiddish intonation will end up being available as a part of Jewish English for monolingual speakers. Whether or not particular features are socially meaningful will also influence to what extent we see them used by non-Yiddish speaking Jewish English speakers.

However, before we turn to the details of the study, and background on the community being studied, we should define what we mean by "Jewish English".

Chapter 5

Jewish English

Differences between the speech of Jews and non-Jews who live in the same region have been established in many places, and, in fact, have been claimed as something of a universal: Benor (2009) for example, claims that "Wherever Jews have lived, their speech and writing have differed from those of their non-Jewish neighbors" (p. 234), and Wexler (1981) states that "Until World War II, the majority of Jews in Europe, Asia, and Africa, as well as large numbers of immigrants in the Americas and Palestine, still spoke a Jewish language as their first or second language" (p. 101). The United States is no exception, and "Jewish English" has been proposed to be that distinctive linguistic system. The following chapter surveys past work on Jewish English, and outlines the framework for Jewish English used in this dissertation, Benor's (2011b) ethnolinguistic repertoire model.

5.1 A brief note on Jews in America

The majority of Jews in the United States (up to 90%, if not higher) are Ashkenazi Jews (Jews who trace their ancestry back to Eastern Europe), and whose ancestors spoke Yiddish. A large number of Ashkenazi Jews arrived in the United States between the 1880s and the 1920s (following an earlier wave of mostly German Jews). In 1860, the Jewish population in the United States was between 125,000 and 200,000. By 1900, this had jumped to around a million, and by 1940 there were over 4 million Jews in the United States (Sheskin and

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Dashefsky, 2010), with the influx of immigrants being halted in the 1920s by new laws focused on lowering immigration rates from Eastern Europe and Asia[1].

Within American Ashkenazi Jews[2], there are three broad levels of adherence to traditional observance. Orthodox Jews are the most traditionally observant, and consider the laws (e.g., dietary restrictions) given in the Torah and interpreted by later rabbinical authorities to still be binding. Reform Jews, whose movement's roots are in Germany during the enlightenment, a period of assimilation into non-Jewish German culture, are less traditionally observant, and do not consider those laws to be binding. The Conservative movement was founded in the United States in reaction to the Reform movement, and attempts to integrate more traditional observation practices with modern standards. According to a recent Pew Research study, out of Jews who are members of synagogues, 39% are Reform, 29% are Conservative, and 22% are Orthodox, with the remainder falling into other categories. (These numbers look slightly different for all Jews, with 35% identifying as Reform, 18% as Conservative, and 10% as Orthodox, 6% as other, and 30% as no denomination.) (Lugo and Cooperman, 2013).

Both of these facts are relevant to connections with Yiddish, with potential implications for the distinctiveness of Jewish speech. The immigration history of the bulk of American Jews means that age and generation are highly correlated in the Jewish community (Benor 2011, p. 143): if you know how old a Jewish person is, you can make a fairly accurate prediction for how many generations removed from immigration, and thus, native Yiddish speakers, they are, as intergenerational transmission of Yiddish has, for the most part, not taken place among non-Orthodox Jews. For example, a person born in the 1950s is likely either the child or grandchild of immigrants who spoke Yiddish[3]; a person born in the 1980s,

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[1]See Schaengold (2005) for a brief overview of immigration history in Cincinnati, chronicling this shift from a mostly German Jewish immigrant population to a Eastern European one, and some tensions between Yiddish and German which resulted.

[2]As well as non-Ashkenazi Jews who are members of majority Ashkenazi communities.

[3]For example, the author's mother, whose maternal grandparents were born in Poland, and spoke Yiddish, but whose mother, born in Galax, VA, does not.

a grandchild or great-grandchild[4].

Intergenerational transmission of Yiddish is, however, taking place in Orthodox communities, particularly Haredi or "Ultra-Orthodox" communities. Some of these communities have considerable spatial and linguistic isolation from non-Jewish English speakers. For example, in Kiryas Joel, a small town in upstate New York where most of the population is Haredi, approximately 87% of the population reports speaking Yiddish "very well", out of which only 33% reported that they also spoke English "very well" (U. S. Census Bureau, 2014b). This is an extreme example; however, some census tracts in heavily Orthodox areas in New York City (e.g., the Williamsburg neighborhood of Brooklyn) are close to 80% Yiddish speaking (but tend to have higher reported English proficiency rates, of between 50% and 90%) (U. S. Census Bureau, 2014a). In sum, the more Orthodox a person is, the more likely that they either (1) speak Yiddish, and (2) know a considerable number of Yiddish speakers, many of whom might be dominant in Yiddish. As such, religiosity has been thought to be a significant factor in the use of some Yiddish-origin features in Jewish English, as is described below; however, differences can also be found among non-Orthodox Jews.

5.2   First wave studies of Jewish English

A number of "first wave"-style sociolinguistic studies[5] have included "Jewish" as a factor which predicts linguistic variation. In Labov's seminal study (1966) of the Lower East Side, Jewish participants patterned slightly differently from other ethnic groups (e.g., in producing more high, close (oh) variants compared to Italians), and in a revisiting of the area, Becker (2014) found differences between Jews and other ethnic groups in the shift from r-lessness to r-fullness. Differences between Jews and non-Jews have also been found

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[4]Like the author, whose Yiddish was not acquired naturally in the home.

[5]Defined by Eckert (2012) as studies, often focused on variation as it leads to language change, in which investigators rely on predetermined, broad social categories like age, race, class, and gender in classifying participants, and predicting variation.

outside of New York City. Laferriere (1979) found lower rates of [ɒ], and greater use of [o], in words like *form* or *short* in Boston from Jewish speakers compared to Italian and Irish speakers; Boberg (2004) found differences between the vowels of Jews and other ethnic groups in Montreal; and in her study of the Jewish community in Grand Rapids, MI, Knack (1991) found differences between Jews and non-Jews in the community in their production of (oh) and (z). Knack attributed these differences to network connections with people in New York City, as well as possible ideological connections between "Jewishness" and "New Yorkness".

There are also studies before Labov (1966) which found differences between Jews and non-Jews in New York. Some work from the early 1900s focuses on differences based on different linguistic histories. Benardete (1929) described significant Yiddish imposition in the English of an older New Yorker, and other observers noted distinct mixing of Yiddish and English in New York (Mencken, 1936). Thomas (1932) described differences between the language of Jews who were monolingual English speakers and other New Yorkers, with Jewish subjects having a more dental articulation of coronal consonants compared to other New Yorkers, as well having a "drawling, throaty vocal quality" (p. 325).

The above studies, although they talk about differences between Jewish and non-Jewish speech, do not place these differences within a broader context of a distinctive linguistic system: for example, although Becker makes an appeal to African American English to account for the continued r-lessness of the African American subjects in her study, she does not make reference to a larger system of "Jewish English" in describing the variety spoken by the Jewish participants. In most of these studies, "Jewish" is simply used as a variable–like class, gender, or age–that predicts linguistic variation within a wider speech community. Other studies, however, have made reference to "Jewish English".

5.3 Early descriptions of Jewish English

The earliest article describing Jewish English as a full, distinct variety is Steinmetz (1981), although Steinmetz notes that the term "ha[d] been circulating informally among linguists for several years" (p. 15, n. 2) prior to the article. In his article, Steinmetz defines Jewish English as a variety spoken by Modern Orthodox American Jews, whose primary language is English, but who use a "mixture of Yiddish and English" in their speech[6] . In his description of the variety, Steinmetz includes distinctive lexical items (e.g., *shadchan* 'matchmaker', *frum* 'religious'), suffixes (e.g., *-nik*), phrasal calques (e.g., *make a motzi*, 'to say the blessing over bread'), phonological and phonetic differences, including the use of /x/ in loanwords like *chutzpah*, and various semantic shifts, including the semantic extension of English words like *learn* based on the Yiddish homophone *lernen* 'to study', and semantic shifts of Yiddish words like *glatt* originally 'smooth', and used to describe the lungs of kosher[7] animals, but extended to be used to describe a more stringent *kashrut* standard. Steinmetz also notes variation in Jewish English, specifically in the 'extent of hybridization' with Yiddish in Jewish English, stating that non-Orthodox Jewish English speakers also make use of the above features, but to a lesser degree.

Tannen (1981) also describes a fuller Jewish English linguistic system, which she calls "New York Jewish English speech style". Her description mainly focuses on prosodic (with Jewish English speakers, compared to Californian English speakers, using more "expressive

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[6] A note on the transcription of Yiddish

Yiddish is written using characters from the Hebrew alphabet. There are both variations in spelling standards for Yiddish as written in Hebrew characters, as well as various transliteration standards for rendering these forms into Roman characters.

For the most part, Yiddish in this dissertation will be displayed in transliteration, using YIVO transliteration standards with three main exceptions.

The first is in quoting Yiddish-origin words in Jewish English which have generally accepted spellings in English, including words like *chutzpah* 'nerve, gaul, guts' (YIVO: *khutspe*).

The second is in referencing examples from other sources describing Jewish English who have made similar calculations to above (e.g., Benor (2011b) uses *shmooze* 'chat, talk up', and not YIVO *shmues*).

Finally, if a speaker produces a form which diverges phonetically from a YIVO form, the word will be transcribed pseudo-phonetically, with a note indicating the Standard Yiddish form.

[7]*Kashrut* is a noun referring to the general body of laws governing things like (most notably, but not exclusively) dietary standards; something that adheres to those laws is *kosher*.

paralinguistics" including "pitch and amplitude shifts" (p. 137), and having faster speech), pragmatic (e.g., talking about personal topics), and discourse (e.g., interrupting more) features. Benor (2012) and Fader (2009) also discuss Jewish English varieties as full systems and styles, with Benor focusing on what she called "Orthodox Jewish English style", and Fader, "Hasidic English".

5.4   Jewish English as a Jewish language

These two sets of studies–the first using "Jewish" as a variable to describe variation within a speech community, and the second describing a fuller "Jewish English" linguistic system–reflect the controversy over how, exactly, to describe Jewish English. That is, how distinct is "Jewish English", and is it autonomous enough to "count" as a separate variety of English or as a "Jewish language"?

Wexler (1981) discusses this issue in his article outlining his typology of Jewish languages. One category of languages he describes,"Type D", is cases in which "Jews in all regions speak *the same language* as the co-territorial non-Jews, but introduce occasional Hebrew-Aramaic elements" (p. 106, emphasis mine). These varieties are "transitory", he claims, occupying a space that occurs when Jews "shift from a Jewish to a non-Jewish language", or when "obsolescent Jewish languages [are] in the process of merging with the co-territorial non-Jewish cognate". Wexler places "the English now spoken by some Jews in New York City" (pg. 106) in this category. The features used in these varieties are at risk of becoming less distinct because they will either be replaced by "a shift to the standard non-Jewish variant or else become the property of non-Jewish speakers as well, and cease to be the hallmark of the Jewish variant" (p. 106-107). Wexler here makes a claim that the difference between something like Yiddish and something like Jewish English is a difference of kind, rather than degree. Specifically, Jewish English falls into this "Type D" category, and Yiddish is a "Type A" language, which is a full language which shows a "merger of

components of a co-territorial language with heterogeneous imported components" (p. 105).

Benor (2009) challenges this claim that Jewish English is different in kind from languages like Yiddish, and argues instead for a difference in degree, with all Jewish languages sharing the trait of making use of various linguistic features which mark Jewishness in some way. Each community has a "distinctly Jewish linguistic repertoire", which members can draw on to index particular types of Jewish identity. Rather than having a sharp divide between things like Yiddish and things like Jewish English, we instead have a continuum of distinctiveness, with varieties like Yiddish having an unusually high amount of distinctive linguistic features.

Benor (2011b) sketches out her proposed American Jewish English repertoire in more detail. In this study, she and a colleague collected survey data from nearly 25,000 American Jews, and asked about their use of various linguistic features, ranging from the use and meaning of lexical items like *shmooze*, their use of sentence structures like "Are you staying by us?" (meaning "Are you staying with us/at our place?"), stress patterns in words like *Haggadah* (the book used as a part of the ceremonial meal eaten during Passover, which can either be stressed on the penultimate, as it is in Yiddish, or final syllable, as it is in Hebrew) as well as some phonetic features, including maintenance of the *Mary/merry/marry* distinction, and their pronunciation of the word *orange* (which, like maintaining the *Mary/merry/marry* distinction, can be a shibboleth for New York City English, if pronounced more like *arange*).

The survey data revealed the heterogeneity of the Jewish population's use of features from the repertoire: different Jews report the use of different features, and report using those features in different ways. Jews who showed a connection to Israel, by having visited or lived there for extended periods of time, for example, were more likely to report making use of Modern Hebrew loanwords like *sababa*, 'cool' or to pronounce *Haggadah* with the stress on the last syllable, as opposed to the second (as it is in Hebrew, as opposed to in English or in Yiddish).

Benor's approach here is more "third wave"[8] focusing on the use of features in the construction of different types of Jewish identities, rather than "Jewish" as a predictor of certain types of variation. Yaeger-Dror (2014) likewise argues for a more third-wave approach to Jewish English, arguing that religious identity intersects with other facets of identity, including linguistic heritage, location, and race. Similar models have been used to describe variation in Singapore English, where, rather than simply code-switching between two distinct varieties, speakers integrate linguistic features, to greater and lesser degrees, from the various languages spoken in Singapore to orient their identities towards or away from "local" and "global" identities in a multidimensional space (Alsagoff, 2010; Leimgruber, 2012).

As a side note, the racial categorization of Ashkenazi Jews in America has a long and complex history. As is described further in the next chapter, in the 1930s, Ashkenazi Jews (along with other Eastern Europeans) were, like African Americans, targets of discriminatory housing practices, as well as, as noted above, the target of immigration quotas. However, Ashkenazi Jews were, and are still, for example, labeled as "White" in the Census data examined in Chapter 6[9] Modan (2001) details some of the issues of racial identification of Ashkenazi Jews in the Washington, D.C. area, who reject to various degrees the label of "White". Becker (2014) also touches on this conflict, noting that her Jewish subjects "saw their ethnicity as similar but not identical to a white identity" (p. 151). (For more information, see also Painter (2010) for a general overview of shifting notions of "whiteness" over time in European and American culture.)

We see a divide on Jewishness-as-ethnicity between Benor (2010) and Yaeger-Dror's (2014) frameworks, with Benor, to a certain extent, conceiving of Jewishness as an ethnicity (by calling Jewish English an *ethno*linguistic repertoire), and Yaeger-Dror preferring to view religion (and Jewishness) as something that intersects and interacts with ethnicity, but

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[8]Defined in Eckert (2012) as research focusing on how speakers use language to create their social identities.

[9]It is not known what non-Ashkenazi Jews were identified as in the census data.

which ultimately makes up a separate axis of identity. Regardless of the status of "Jewish" as race or ethnicity, both Yaeger-Dror's and Benor's conception of Jewish English predict a great deal of variation in "Jewish English", with the Jewish English of a third-generation Ashkenazi-heritage speaker in New York City likely looking somewhat different than the Jewish English of a child of Iranian immigrants who lives in Los Angeles.

There have been several studies following this more third wave approach to Jewish English. Benor (2012) details the acquisition of features at multiple levels of the linguistic system–lexical, phonological, syntactic, etc.– of Jewish English by newcomers to the Orthodox community, who were already Jewish, but not Orthodox, with acquisition of those features as an integral part of their assimilation into the community. Fader (2009) examined the use of Yiddish features into Jewish English by women in Orthodox communities in Brooklyn, and how those features relate to their religious identity, with those belonging to more religiously stringent sects having a larger degree of Yiddish influence in their English compared to those in less religiously stringent sects. Finally, looking outside of the Orthodox community, Levon (2006) documents how two young Reform Jews in New York City variably make use of released /t/: one, who conceives of New Yorkness and Jewishness as related, makes greater use of a glottalized /t/, potentially signaling more connections with the local variety, and the other, who conceives of New Yorkness and Jewishness as distinct aspects of their identity, makes greater use of released /t/, which has been posited to signal a Jewish identity in other contexts (Benor, 2001).

5.5   Variation in the ethnolinguistic repertoire

Benor's repertoire approach, broadly followed in this dissertation, explains the variation present in Jewish English, based on the facets of identity which Yaeger-Dror describes, as well as others. Importantly for this study, Benor (2011b) also reports age differences in use of items from the repertoire. Overall, older Jews showed more influence from Yiddish in

various ways: they were more likely to report using the words *maven* 'expert' and *naches* , 'pride' compared to younger subjects, and to have meanings closer to the original Yiddish for words like *shmooze* ('chat' as opposed to the newer meaning, 'kiss up') and *chutzpah* ('audacity' instead of the newer meaning, 'guts'). However, there were some exceptions: some features, like the word *shul* instead of *synagogue* appear to be 'boomeranging', with younger speakers reporting using the words more than older speakers. This apparent time data has since been confirmed with real-time data (Benor, 2015), with words like *shul* gradually increasing in use over time in various Jewish (and non-Jewish) publications.

It also appears that there have been changes within what Avineri (2012) calls the "metalinguistic community" (defined as "a community of positioned social actors engaged primarily in discourse about language and cultural symbols tied to language", p. ii) surrounding Yiddish and Jewish English, including the changes in language ideologies surrounding items in the repertoire. Avineri's work specifically focuses on the metalinguistic narratives around Yiddish in the non-Orthodox community, drawing on Shandler's (2005) work describing Yiddish as a "post-vernacular" language.

Shandler argues that, for large proportions of the American Jewish population, Yiddish has, as there are fewer and fewer non-Orthodox speakers of Yiddish, shifted from being what he calls a "vernacular"[10] language to being a "post-vernacular" language. He defines a vernacular language as one in which there is a referential communicative function to the language: the language can be used to communicate information like "There's a bear over there". However, the primary function of a post-vernacular language is social: what is being communicated in a language is not as important as that it is being communicated in that particular language. Yiddish's primary function for many American Jews is to mark certain spaces and objects as "Jewish", rather than to communicate referential information.

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[10]N.B. that Shandler's definition of "vernacular" is different than e.g., Labov's definition, which states that it is the "most regular" in structure, and the one in which the speaker will be the most relaxed and natural. However, both definitions of "vernacular" shares the distinction of (probably) being the speaker's native or day-to-day language. A post-vernacular language is one that is no longer used in day-to-day life; a vernacular one is.

Naturally, the use of a Yiddish word will still carry some referential information, but this function is secondary. This post-vernacularization comes with other effects: as the language ceases to be used for referential, everyday communication, the parts of the language that are still in use, subsequently, and the language as a whole, are seen as inherently affective, colorful, and expressive.

In this study, like in other communities, we expect variation in the use of Yiddish, and the use of Jewish English features with their roots in Yiddish, including intonation, based on age and familiarity with Yiddish. We also expect variation in what the use of Yiddish *means*. A native-Yiddish speaker might use Yiddish intonational features in English much as they are used in Yiddish (to be described in more detail in the next section), e.g., to mark something as a particular type of question, or to signal disbelief. However, as those features become a part of Jewish English, their social meaning (e.g., of marking a particular utterance as being "Jewish"), might become more important, and Jewish English speakers might use those features not to signal different types of speech acts, but to make themselves "sound more Jewish".

5.6   Jewish English intonation

As mentioned in the introduction, intonation has long been noted as a salient feature of Jewish English. Prior descriptions of intonation in the Jewish English community, although limited, show variation in the function of intonation.

The most well-studied of these is the distinctive rise-fall contour, used in both Yiddish and Jewish English, described by Weinreich (1956). Weinreich mainly describes the contour as being distinctive in function, giving it three main uses. The first is to mark what he calls "dramatized" transitions between phrases; here, the rise-fall is in contrast to a rise (marking a "marked" transition) or a plateau (marking an "unmarked" transition). The second is to mark "incredulous" yes/no questions. The third is to mark "questioning" vocatives. The

rise-fall is also described by Weinreich as being distinct in form, with it being "musical" in nature; Weinreich also describes speakers as "flattening" the contour in "non-culturally intimate" situations, suggesting both that the pitch range of the contour can vary and that a rise-fall with a wider pitch range is more distinct than one with a smaller pitch range. Weinreich also notes the spread of the rise-fall in American English beyond the Jewish community, but says that it is "slangy and humorous (not so in Yiddish)" (p. 642). Here, then, we have a suggestion of a shift in meaning for the rise-fall, from "vernacular" functions (marking speech act types) to more "post-vernacular" functions (signaling humor).

Newman (2000) further examined the rise-fall contour in Yiddish, particularly focusing on Weinreich's proposal that the rise-fall might be linked with Talmudic cantillation patterns [11]. She found the rise-fall being used on "contrastive" if/then statements in Yiddish, mirroring similar patterns, in both logical construction and melody, in Talmudic discourse.

Benor (2012) noted the use of the rise-fall by newly-Orthodox Jews in English, particularly who had studied at a *yeshiva*[12]. However, she only heard it used to mark "dramatized transitions", and not in any of the question contexts described by Weinreich (Benor, p.c.). This suggests that there might have been a change in the functions of the rise-fall as it moved into English, with the question functions disappearing, but the signaling of "dramatic transitions" remaining.

Burdin (under revision) further explored the rise-fall in the English of non-Orthodox Jewish women from the New York City area. The rise-fall used in "dramatic transitions" described by Weinreich and Benor was determined to be the one ToBI transcribed as a L+H* !H-L%. The women who had more contact with Yiddish (by virtue of being bilingual) had phonetically distinct rise-falls from the other participants, with later peaks, later Tonal Centers of Gravity, and larger rises. The rise-falls were used in "dramatic" transitions,

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[11]The *Gemara/Gemorah*, a collection of religious commentaries, is studied by reading the text out loud in the original language (Aramaic or Hebrew), and then, a translation is rendered in the local vernacular. There are set cantillation patterns, which are used both when reading the original language and rendering the translations, for particular types of discourses in the text.

[12] An institute of learning focused on the study of Jewish religious texts.

which were partially defined as those which occurred in the "evaluation" section of narratives (Labov and Waletzky, 1997), in which the speakers contrasted the events of the narrative with other possible outcomes. However, it was not clear whether or not this use of the rise-fall was unique to Jewish English, as the use of the L+H* !H-L% contour in these contexts does not obviously contradict the meanings of the L+H* pitch accent, H- phrase accent, or L% boundary tone given for Mainstream American English in Pierrehumbert and Hirschberg (1990).

Burdin (2014) looked at the use of rise-fall contours, rising pitch accents, and falling phrase accent/boundary tone combinations more generally in the same group of speakers in listing contexts. "Lists" were defined as sequences of syntactically parallel items, including sequences of nouns, verb phrases, or sentences with parallel structures. Those speakers with more exposure to Yiddish used more of a different rise-fall contour (L+H* L-L%) and fewer plateau (H* H-L%) contours compared to non-bilinguals, as well as more rising pitch accents (L*+H and L+H*), fewer H* pitch accents, and fewer plateau phrase accent/boundary tone combinations (H-L%). These findings again suggest a connection between exposure to Yiddish and differences in intonational patterns in Jewish English; however, it was still unclear to what extent those differences actually represented a difference in meaning for those contours, as opposed to potentially reflecting preferences for different types of lists (which would then be produced with different tunes).

All of the above studies suggest that there is a rise-fall used in Jewish English, which potentially shows differences in both form and function within Jewish English. They however, have limitations: Burdin (under revision), Burdin (2014), and Benor (2012) all looked at only Jewish subjects, without a non-Jewish comparison group, meaning that they showed variation within Jewish English, but not between Jewish English and other varieties of English. More crucially, while these studies show variation, they did not investigate whether or not that variation was socially meaningful. Under both Benor (2010) and Yaeger-Dror's (2014) approaches to Jewish English, if we want to claim that something is a part of the Jew-

ish English repertoire, we must find evidence that the feature we are interested in looking at can be used to signal Jewishness in some way. Although it is helpful to find distributional differences between Jews and non-Jews in the use of various features, under this framework, it is not necessarily the case these differences are socially meaningful, or that if we don't find these differences that a particular feature is not "Jewish" in some way: Jews and non-Jews might use a feature the same amount, but as long as both groups are using it to index Jewishness in some way, it is a part of the repertoire. For example, Benor (2011b) did not find differences in the (self-reported) rate of the use of syntactic fronting patterns which have been said to be a feature of Jewish English (e.g., *Such a nice car he drives*) or in use of the *joe-shmoe* reduplication pattern between Jewish and non-Jewish respondents. However, Benor argues that, if when non-Jewish speakers use these features, they are indexing Jewishness in some way, these features are still a part of the Jewish English repertoire. As such, under Benor's approach, taken here, it is crucial that, in addition to distributional differences between Jews and non-Jews, we want to find that a feature appears to be used by speakers and listeners in a socially meaningful way: that is, speakers use the feature when they are constructing particular types of Jewish identities, and that the feature can convey certain types of identities to listeners.

This study shows that aspects of intonation in Jewish English fit all three of these criteria: there are differences in the form and function of certain contours between Jews and non-Jews, there is evidence for the use of those differences in the performance of different types of Jewish identities, and finally, those differences are heard by listeners as indicating a particular type of Jewishness. This study also shows that the likely origin for this distinctiveness is in Yiddish, and that there are differences within Jewish English in how the rise-fall, and its component tones, are used by Jewish English speakers who also speak Yiddish, and those who do not.

Chapter 6

Jewish Dayton

Dayton, Ohio, provides an excellent site to explore the effects of two general long term trends in the American Jewish community, which may potentially trigger changes in Jewish English: the suburbanization of the Jewish community, and the shrinking of the non-Orthodox Yiddish-speaking population. Both changes have potentially had effects on the access of younger speakers of Jewish English to Yiddish and Yiddish-influenced English, and thus, might lead to lessening influence from Yiddish on Jewish English.

There have been Jewish residents in Dayton since at least the mid-1800s. In a pattern similar to other cities in the United States, the first Jewish immigrants were mainly from Western Europe, German-speaking, and less traditionally observant. Immigrants from Eastern Europe, who were Yiddish-speaking and more traditionally observant, arrived in the later part of the 19th century. The first synagogue in Dayton, a Reform synagogue, was established in the 1860s by the earlier, German immigrants (Unknown, 2013b); the second and third synagogues, which were both more traditionally observant, were established in the 1890s by immigrants from Eastern Europe (Spialter, 2016; Unknown, 2016).

Counting the Jewish population of an area is not straight forward. Some of the main issues are outlined in Ritterband et al. (1988). The main source of demographic data in the United States, the U. S. Decennial Census, does not ask questions about religion. There are some ways of estimating the population using various proxies, including things like counting the number of Yiddish speakers noted in the census, looking at school absence rates on Yom Kippur (where most religious Jewish children would be absent), and counting the number of people with distinctly Jewish last names like *Cohen*. Local Jewish communities do their

own community surveys; however, these counts can rely on measures that might be skewed in various ways. For example, if counts are obtained by doing a mailing survey based on synagogue enrollment records or donations to local federations, this will undercount younger Jews, who are less likely to be associated with these formal groups.

With these caveats in mind, we can get a rough estimate of the Jewish population of Dayton over the years, based on data published by the Jewish American Yearbook. Table 6.1 shows the Yearbook estimates for the Dayton metropolitan area, starting from when the city first appeared in the Yearbook in 1910. The most recent estimate of the population by the Jewish Federation of Greater Dayton was given to the Yearbook in 2015 as 2,710; however, the editor of the Yearbook is on record as doubting the accuracy of that number (Weiss, 2015). This skepticism is partially based on the Federation's estimates of the age distribution of the population: if accurate, the estimate from the Federation would mean that Dayton has a higher percentage of elderly Jews than Miami (which has a notably high population of elderly Jews), which potentially indicates that the younger Jewish population has been severely undercounted. Regardless of the exact numbers, the current Jewish population of Dayton is, at most, about half of what it was at its peak in the 1950s through the 1970s.

None of these reports, nor a more detailed 1987 survey give information about the level of observance in the community. Currently, Dayton has two Reform synagogues, a Conservative synagogue, an Orthodox synagogue, and a Chabad house. During several interviews, participants mentioned that the Orthodox synagogue has seen declining membership numbers, and recently came close to merging with the conservative synagogue. This merger did not take place; however, the fact that the merger was discussed suggests that the Orthodox population in Dayton is rather small.

Yearbook Year	Jewish Population Estimate
2015	2,710 (4,000)[a]
2001	5,000[b]
1997	5,500[c]
1987	6,000[d]
1976	6,300[e]
1960	7,200[f]
1957	7,000[g]
1956	7,200[h]
1955	5,850[i]
1948	5,500[j]
1937	5,000[k]
1927	4,900[l]
1917-1918	4,000[m]
1910	3,500[n]

[a]Dashefsky and Sheskin (2015)
[b]Singer and Grossman (2001)
[c]Singer and Seldin (1997)
[d]Singer and Seldin (1987)
[e]Fine et al. (1997)
[f]Fine and Himmelfarb (1960)
[g]Fine and Sloan (1957)
[h]Fine and Sloan (1956)
[i]Fine and Sloan (1955)
[j]Schneiderman et al. (1949)
[k]Schneiderman (1937)
[l]Schneiderman (1927)
[m]Oppenheim (1917)
[n]Friedenwald (1910)

Table 6.1: American Jewish Yearbook estimates for the Jewish population in Dayton. The estimated population is the same in the Yearbooks between the dates shown on the table.

6.1 Location of Jews in Dayton

We can get a rough idea of where in Dayton the Jewish population was located over time based on data gathered by the Federation, the historical location of the synagogues, historical housing data, and to a certain extent, historical census data. The data in table 6.2 are based on data given in a 1987 report on the Jewish community (Zappin et al., 1987) which gave information from a 1987 survey, as well as reproducing data from a 1979 survey (which could not be located). The additional data from 2011 and 2000 come from a newspaper article about the shrinking Jewish population in Dayton (Weiss, 2011).

As can be seen in table 6.2, over the last 30 years, the Jewish population in Dayton has shifted from being almost entirely concentrated in the northern part of the metropolitan area to being spread out across the north, south and east. This shift has also been reflected in the movement of Jewish institutions. The newest synagogue in Dayton was established in 1984, in Kettering, a suburb in the southeast (Unknown, 2013b). Another synagogue moved to its current location, close to downtown, from its previous location in the northern part of the city, in 1994 (Unknown, 2015b). Another moved from the north to the south in 2008 (Spialter, 2016). A large Jewish Community Center, built in the 1970s, was located near Trotwood, in the north. That building was sold in the 2000s, and the new JCC building is in Kettering, a suburb in the southeast (Thompson, 2000). Finally, the Chabad house, established in the 1970s, is located in downtown Oakwood, near where the Yiddish club currently meets.

Data about the location of the Jewish population from before the 1970s can be gleaned from the 1937 Home Owner's Loan Corporation "redlining" map for the Dayton area (Unknown, 2013a), reproduced in figure 6.1 [1]. These maps were used by banks, following the housing crisis in the 1920s, to rate the perceived safety of providing mortgages to purchase

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[1]A larger version of the map can be found at `https://library.osu.edu/projects/redlining-maps-ohio/area-descriptions/Dayton_Area_Description.pdf`

Year	North[a]	South [b]	East [c]	Other
2010	35.3[d]	48.48	14.21	1.9
2000	51.9	41.1	3.9	3
1987	76	18	6	NA
1979	80	14	5	NA

[a] "North" includes the area covered by Englewood, Randolph Township, Madison Township, Ft. McKinley, Dayton View, Lower Dayton View, Riverdale, Harrison Township, Butler Township, Vandalia, North Dayton, Dayton, Huber Heights, and "all outlying areas from Lewisburg to Yellow Springs".

[b] "South" includes West Side, Far-West Side, South-west Side, V.A. Center, Residence Park, Southern Hill, Oakwood, Kettering, Moraine, West Carrolton, Centerville, Miamisburg

[c] "East" includes the area around Wright Patterson Air Force Base, Fairborn, Mad River Township, East Dayton, Walnut Hills, Belmont, Eastman, Beavercreek, Xenia, and Jamestown.

[d] Numbers are as given in original sources

Table 6.2: The percentage of the Jewish population estimated to live in each area of Dayton

houses in certain areas. These maps tended to rate older, inner-city, and minority neighborhoods as riskier than the, at the time, newer and whiter suburbs. On the map for Dayton, reproduced below, there are four grades, labeled A, B, C, and D, which are colored green, blue, yellow, and red, respectively, on the maps, with the green A neighborhoods deemed most desirable, and the red D, the least (hence the term "redlining").

Notes accompanying the maps describe area C11, just northwest of downtown in the Dayton View area, as being 80% "Russian Jewish German-Polish", with an "infiltration" of a "Foreign-Jewish" population. The downtown area was almost entirely a grade D "red" area. Although the redlining maps make notes of various "lower class foreigners" in this area, including Polish, Russian, and Hungarian immigrants, they do not explicitly note a Jewish population, as they did for C11.

Data from the 1940s Decennial Census supported the annotator's statements about the make-up of these areas. The United States Census releases the census schedules (the original worksheets used by tabulators) for a census 72 years later, meaning that the latest available data now is from the 1940 Census. Examining the census schedules showed both the presence of foreign-born, likely Jewish (based on their first and family names, and for some, their reported mother tongue) people around C11, and foreign-born, likely not Jewish
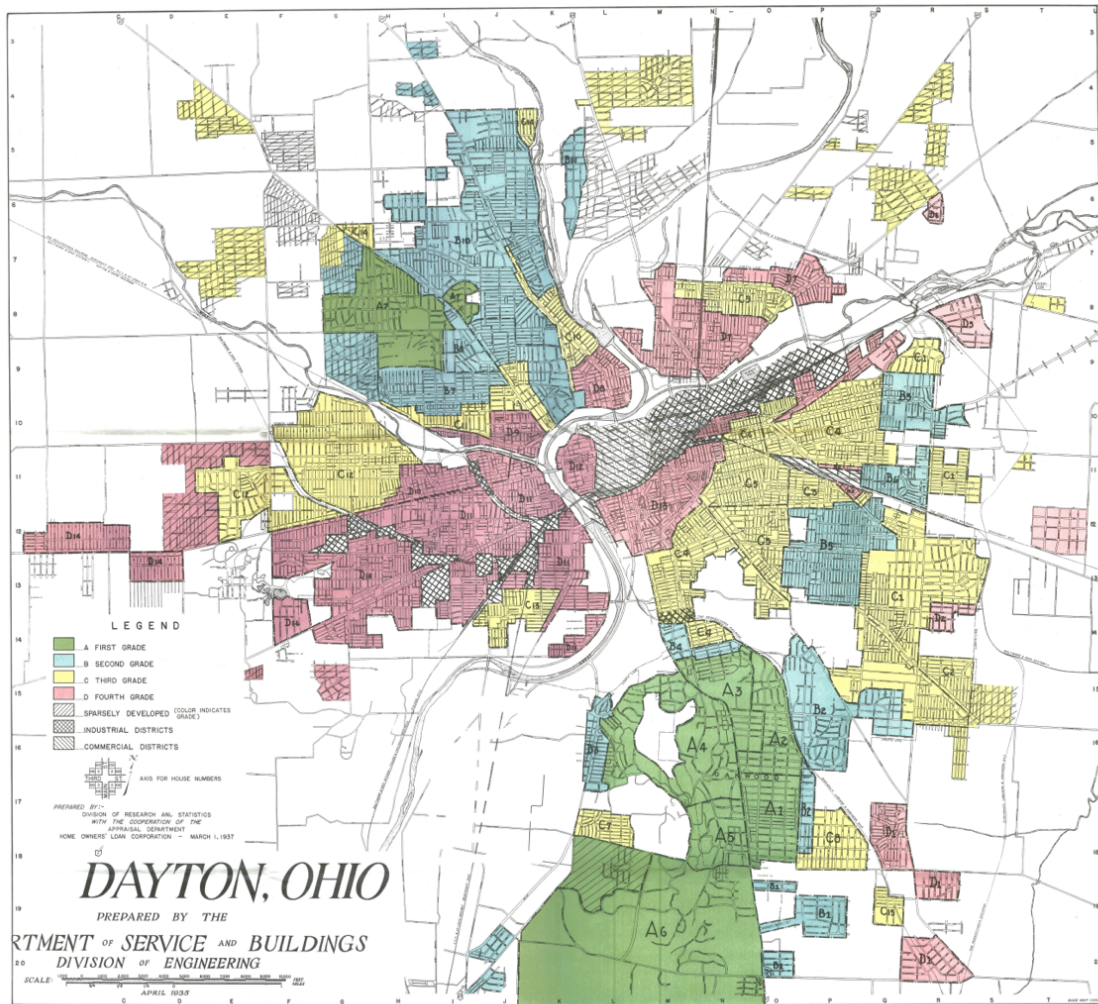
Figure 6.1: HOLC "Redlining" map for Dayton, OH

(again, based on their name, and reported mother tongue) people closer to downtown (see section 6.2 for more details).

The locations of the synagogues in the 1930s also give support to the Jewish population having mostly moved out of downtown at this time. The three original synagogues were all originally located downtown; however, widespread flooding in 1913 destroyed the buildings. The main building of one synagogue was rebuilt downtown at this time; however, an auxiliary building was built northwest of downtown in the 1920s, and the downtown building was sold in the 1940s (Spialter, 2016). Another synagogue moved to the Dayton View area in the 1920s (Unknown, 2015b). The last synagogue located fully downtown moved to the northwest in 1944, and further northwest in the late 1970s, where it is today (Unknown, 2016).

The synagogues and buildings built at that time are located in grade two "blue" areas (B7 and B8 on the maps). B7 was described as having an "Italian-Jewish" foreign-born population of 20%. The synagogues stop just short–often, within a block– of being in the nearby grade one "green" area (A7), and the notes on the B7 parcel state that the "property is fairly good at present, but it is reasonable to assume that the section has reached its peak". These notes first indicate a certain level of general discrimination: a large Jewish population is taken as a sign that the area was on the decline. Secondly, they show us that where, exactly, Jews could live was not entirely under their control: the Jewish population located in B7 and B8 was not able to expand into a nearby "A" neighborhood.

One reason was that many of the "green" areas on the map, including A7, are described in the notes accompanying the map as being "restricted" or "highly restricted". This phrase refers to the existence of restrictive covenants in the deeds of these houses. Restrictive covenants outline standards for the plot the house is on: generally, these include things like how far back from the curb the house should be, how big the house can be, or what sort of materials are allowed to be used to build fencing. Racial restrictive covenants were those that restricted who the house could be sold to, or who could be in the house and

when. The covenants, which grew in popularity in the early 1920s, most often excluded African Americans, but were also used to prevent the sale of houses to Chinese, Mexican, Jewish, or just non-Caucasian buyers in general (Jones-Correa, 2000). A search of the Montgomery County records office confirmed the existence of racial restrictive covenants in some (but not all) of the deeds of houses in those areas, prohibiting the sale of the house to anyone who was not Caucasian. As has been written extensively elsewhere, the acceptance (or rather, non-acceptance) of Ashkenazi Jews as being "white" has been a complex and evolving process over the last hundred years, and, as such, it is likely that these owners of houses with these covenants would not have included Eastern European Jews under the heading of "Caucasian".

The inability of Jews to purchase homes in certain areas of Dayton was known to many of the subjects interviewed. The members of the Yiddish club occasionally discussed the irony of the club meeting in Oakwood, and several of the older subjects discussed not being able to live in Oakwood, despite the fact that two Jewish cemeteries were located there, as the subject in (1) describes:

(1)   There was actually uh, covenants in those deed that you could not sell to a Jew [...] now, mind you we had our two cemeteries out there in Oakwood, so the sick joke used to be told was 'They'll take us horizontally, but not vertically!'

These covenants would not be legally abolished until they were overruled by the Supreme court in 1948 (Jones-Correa, 2000); legal racial discrimination of housing in general was not abolished until the Fair Housing Act of 1968. However, *de facto* segregation of the Jewish population likely remained in place in many areas through the 1980s and early 1990s. One younger participant who grew up in Oakwood in the 1990s and 2000s described being one of the few Jewish families in town when she was younger, and having to explain Judaism to her classmates. She, however, also noted the increasing Jewish population as she got older.

In summary, broadly speaking, the Jewish population in Dayton was initially concentrated downtown. In the early 20th century, the population started shifting towards the northwestern suburbs. The population appears to have remained there through the 1970s, partially due to discriminatory housing policies. Once these policies were no longer legally enforceable, the population began shifting towards the south in the 1980s and 1990s. The population grew during the first shift (to the northwest), and shrank during the second (to the south and east).

These shifts in population, both in location and size, were salient to many of the participants, both Jewish and not. Many of the Jewish subjects expressed concern that the population was declining, and getting older, and this appeared to be a general concern in the wider Jewish community. For example, the two newspaper articles referenced above which had information about the size of the Dayton Jewish community over the last 15 years were both framed as articles documenting the decline in size.

Despite this, two participants were able to name (what they thought was) the exact number of babies born in the community that year (17 or 18), giving that as evidence that, while the Jewish community was shrinking, it was not disappearing. The smaller size of the community also potentially means greater involvement on the part of each individual. Unlike an area like New York, where it is possible to be Jewish and to participate in Jewish activities without joining an official group, in Dayton, one needs to be active in the community in a more official capacity to socialize with other Jews: one participant noted that she herself had never joined a synagogue until moving to the Dayton area.

Others explicitly noted the population being more spread out, and shifting towards the south: one participant, still living in the northwest, noted the long travel time needed to get to his synagogue, now south of where he lives. Another subject, who grew up in the south, and whose parents were members of two separate synagogues, discussed the hassle of needing to drive across town to get to one of the synagogues, which was still on the northwest side of town. Another participant, who had been living in the south side of

town since before the shift took hold, talked about being a member of a committee focused on Jews who lived in the south, as they were somewhat cut off from community services. Finally, two non-Jewish participants who had worked in local schools in the northwest noted the shrinking Jewish population in their area.

In these general patterns, Dayton is reflective of broader trends in the American Jewish community. In many cities, Jews were initially concentrated downtown, and then, between the 1920s and the current day, gradually moved out into more suburban areas, with some recent data suggesting that at least some Millennial Jews are returning to the inner cities (with the New York City area being a notable exception to the pattern of suburbanization) (Sheskin, 2000).

6.2 History of the Yiddish-speaking population in Dayton

Although they do not ask questions about religion, the US Decennial Census, and the American Community Survey, do ask questions of residents about their language. Unfortunately, historical census records about the languages spoken in a given area are spotty, and not directly comparable. The questions asked, and who they were asked to, have changed over the years. Table 6.3 summarizes the available data for the number of Yiddish speakers in Dayton, and the census's best record of the questions asked.

The 1970 question is the most inclusive question, as that year, the census asked about mother tongue, rather than language currently spoken at home, for all respondents, rather than only foreign-born respondents. Here, we get the enormously high number of 1,577, compared to 356 in 1960, and 99 in 1980. This represents approximately 17% of the Jewish population in Dayton, if we use the 1976 estimate from the Federation of 6,300. Despite the jump from 1960, and apparent decline in 1980, this number appears to be accurate.

As mentioned above, the United States Census releases census schedules (the original worksheets used by tabulators) for a census 72 years later, meaning that the latest publicly

Year	Question(s) Asked	Number reporting "Yiddish"	Data source
2009-2013		55 (+/- 47)	American Community Survey Data
2000	Does this person speak a language other than English at home? What is this language?	66	US Census data for Dayton
1990	Does this person speak a language other than English at home? What is this language?	163	US Census data for Dayton
1980	Does this person speak a language other than English at home? What is this language?	99	US Census data for Dayton
1970	What language, other than English, was spoken in this person's home when he was a child?	1,577	US Census data for Dayton Statistical Metropolitan Area
1960	What language was spoken in his home before he came to the United States?	356	US Census data for Dayton SMA

Table 6.3: ACS and US Census data for Yiddish in Dayton

available schedules are from the 1940 Census. Looking at the census schedules in and around the C11 area, which were mentioned above in the red lining maps of having a large number of Russian-Jewish immigrants, is revealing. Enumeration district 94-71 had a population of around 2,400 people. 129 of these people were likely Jewish immigrants, if we include people whose birth-place was given as Russia, Poland, Lithuania, and Latvia and had names that indicated they were likely to be Jewish[2]. These immigrants (many of whom were married to each other) had 158 children.

The Census enumerators that year randomly asked two out of every forty people additional supplementary questions, including the birth place of their parents, and the "language heard at home in earliest childhood". Almost all of the foreign-born Jewish respondents answered with Yiddish. Looking at American-born respondents, if both parents were from outside of the United States, the majority answered that they heard Yiddish in the home. For example, Abe Garlickov (age 18) reported that his father and mother were from Russia, and he heard Yiddish (Indicated as "Jewish" on the form, a literal translation of "Yiddish") in the house (U. S. Census Bureau, 1940a). However, when one parent was from the United States, and the other parent an immigrant, the children tended to report hearing English. For example, Michael Goldberg (age 13), whose father was from Poland, and his mother, from Ohio, reported hearing English (U. S. Census Bureau, 1940b).

In this enumeration district, 131 people were born to two people who were from Eastern Europe, and likely Jewish. Adding that to the 158 foreign-born people who were likely Yiddish-speaking Jews gives us around 269 people in this one enumeration district who heard Yiddish in the home growing up. For the rest of the enumeration districts in and around C11[3], we end up with a total of 402 probably Yiddish-speaking Jewish immigrants. If we assume that the number of children born to these immigrants, and approximately the

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[2] Any last name which was clearly Germanic in origin; anyone whose last name was a variant on "Cohen" or "Levi"; and/or anyone with a first name that was markedly from the Old Testament, like Abraham, Sarah, or Isaac. Conversely, those with markedly non-Jewish names–e.g., Mary, Christopher were excluded.

[3] Enumeration districts 94-67 through 94-76; map available at https://catalog.archives.gov/OpaAPI/media/5836125/content/arcmedia/census-1940/A3378/OH/m-a3378-00048-00069.jpg

same break down of those children born in one- or two- immigrant-parent households, as in ED 94-71, we end up with a total of around 800 people who either natively spoke Yiddish or heard Yiddish in the house as a child in 1940. As such, a total of 1,577 for the entire metropolitan area 30 years later in 1970 is perhaps not unexpected, especially given the general increase of the Jewish population in the 1950s.

In any case, both the number of people who regularly use Yiddish, and who may have heard Yiddish in the home as a child has been shrinking since 1970, and will likely nearly disappear in the next few decades among the non-Orthodox community in Dayton. This is happening as the Dayton Jewish population has become more suburbanized. A Jewish child growing up in Dayton or a similar location in the 1940s likely lived in a neighborhood where many of their peers heard Yiddish at home, or heard Yiddish at home themselves. However, by the 1980s, a Jewish child growing up in Dayton likely heard no Yiddish at all at home, and neither did their peers. This changing situation leaves two open questions. First, was there a large enough critical mass of Yiddish-influenced English for intonational features to be acquired by the Jewish English speaking population as a whole? And secondly, if so, have subsequent generations adopted any of those features in their Jewish English?

The following chapters detail the production study, which looks at three groups from Dayton– older participants who speak both Yiddish and English, older Jewish English monolinguals, and younger Jewish English monolinguals– to see to what extent we see variation in Jewish English based on age and language status, as well as comparing these speakers to age-matched non-Jewish English speakers, to see to what extent those differences are unique to Jewish English. In doing so, I show that there is variation in Jewish English based on both age and language status, as well as that those who speak Yiddish and English have Yiddish intonational features in their English. In addition, I show that only some of those features were adopted by the wider Jewish English community, but despite that, Jewish English intonation is distinct in both form and function from non-Jewish English.

Chapter 7

Production Study: Introduction

The following chapters describe the production study. Yiddish- and non-Yiddish- speaking subjects who identified as Jewish, along with non-Jewish controls were recruited from the Dayton area. One-on-one sociolinguistic interviews were conducted with all of the subjects, and additional recordings were made of the local Yiddish club.

Chapter 8 outlines the linguistic background of the Yiddish-speaking subjects and the linguistic practices of the Yiddish-speaking community in Dayton. Chapter 9 introduces the one-one-one interviews. Chapter 10 examines inter- and intraspeaker variation in the phonetic form of the L+H* !H-L% contour and a similar contour in Yiddish. Chapters 11 through 13 examine variation in the functions of the rise fall, and its components (rising pitch accents (L+H*, L*+H) and plateau phrase accent/boundary tone combinations (H-L%, !H-L%)) in English, as well as similar tones in Yiddish, using data from a discourse completion task, a story-telling task, and a listing task.

These chapters first provide evidence for variation in the form of rise-fall contours, with Yiddish speakers producing rise-falls with higher peaks, larger pitch ranges, and later Tonal Centers of Gravity in their Yiddish compared to their English. These speakers also show evidence for more Yiddish-like features in their English rise-falls produced in the Yiddish club setting, suggesting that these features can be manipulated for sociolinguistic purposes. Younger Jewish English speakers also show some phonetic differences compared to non-Jewish controls, in making use of wider pitch ranges in certain contexts in their English.

Secondly, these chapters provide evidence for variation in the function of the components of the rise-fall. Yiddish speakers use more rise-fall contours in Yiddish, and in English in the

Yiddish club settings, as well as more rising pitch accents and (!)H-L% contours in various settings, suggesting slightly different functions for these tones compared to Mainstream American English. Again, younger Jewish English speakers also appear to make use of some of these features, including the use of more rising pitch accents, and (!)H-L% contours.

Overall, these findings (wider pitch ranges, higher peaks, more rising pitch accents, and in some cases, more rises) suggest a greater degree of macro-rhythm in Yiddish compared to English, and in Jewish English compared to non-Jewish English. Although younger and older speakers appear to use these features slightly differently, it appears that intonation remains a distinctive feature of Jewish English in Dayton, despite the decline of the Yiddish-speaking population, and the geographic spread of the Jewish population as described in chapter 6.

Chapter 8

The Yiddish Club

Yiddish-speaking participants were recruited through the Lynda A. Cohen Yiddish club, based in Dayton. The current chapter gives an overview of the linguistic practices of the club, and the linguistic background of the subjects who volunteered to be interviewed one-on-one.

8.1   General club background

The Yiddish-speaking subjects were all members of the Lynda A. Cohen Yiddish Club of Dayton[1]. There are about a hundred Yiddish clubs in the United States registered with the International Association for Yiddish Clubs (IAYC) (Kutner, 2014). The Lynda A. Cohen club was founded about 10 years ago, by its namesake, who passed away a couple of years before I made contact with the club. These Yiddish clubs have diverse goals and memberships: the IAYC website states that groups range from "serious reading, writing, or performing groups through informal 'entertain me' or 'shmoozing sessions' ". The Dayton club primarily falls on the "shmoozing session" end of the scale. Club meetings are held for an hour and a half, every other month, with meetings occasionally skipped or postponed in

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[1] The name and location of the club are real. Due to (1) the small number of active clubs in Ohio and (2) the necessity of outlining the geographic history of Jews and Yiddish speakers in the city, as done in the previous chapter, it would be impossible to disguise the Dayton club. The club members were made aware of this fact, and consented for the club to be identified by name. Most of the club members also consented to be identified by name. Part of this is likely due to the ideology of language endangerment surrounding Yiddish, as also described in Avineri (2012), as many of the club members are interested in maintaining and promoting their variety of Yiddish. In order to better protect those members who did not wish to be personally identified, some of the names of participants are pseudonyms and others are the member's real names, but which is which will not be made explicit.

the fall due to the Jewish High Holidays[2], during which members may be busy with family obligations. One meeting was also held in conjunction with the Dayton Jewish Federation's "Active Adults" group, and consisted of a more formal presentation by one of the group members to the larger group; this meeting was not recorded. Five meetings were recorded over a period of 14 months, although I attended two other meetings informally before, and three after, beginning and ending recording. The meetings were held in a small meeting room in a semi-private location, with the group members sitting around a large table. There were generally about 12-15 people present at each meeting, with a core group of a half a dozen or so members who were there at nearly every recorded meeting.

The meetings are loosely organized around a theme, with one member of the club nominally leading the meeting. Themes of meetings I attended included "Passover", "Sholem Aleichem", "Writing a Letter", and "The Yiddish Theatre". These meetings sometimes include a presentation by one of the members, in Yiddish, with another member translating into English, or vice versa. Other times, each participant will be encouraged to tell a story, in Yiddish if they are able, or in English, with another member translating into the other language. Usually, there was also a singing portion (usually led by Joe), where the group would listen to a recording of a song (sung in Yiddish), translate the lyrics into English, and then sing along again, in Yiddish, with the recordings. As such, the more formal portions of the meeting were roughly split between Yiddish and English.

However, side conversations and diversions from the general meeting plans were frequent, and these were often conducted in English. Occasionally, members would interrupt these, or the group presentations with a Yiddish comment or question. Some members of the club were more likely to try to use Yiddish than others, and many members of the club would respond with more ritualized responses to other comments, including phrases like *zeyer gut*

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[2]A month long period, typically starting in mid-to-late September, including Rosh Hashana (the New Year), Yom Kippur (the Day of Atonement), Sukkos/Sukkot (Feast of the Tabernacles; a week-long harvest festival), Shemini Atzeret/Atzeres, and Simchat/Simchas Torah (holidays commemorating the completion of a full cycle through the reading of the Torah).

'very good', or *nu*? 'Well?'; however, these informal attempts to switch back into Yiddish were more often unsuccessful than not.

This frequent code-switching is due to the diversity of language backgrounds and language proficiency among the group. The most fluent Yiddish speakers in the group are primarily those who were born in Eastern Europe or Russia, and came to the United States as refugees following World War II (some, via Argentina or Israel). It should be noted, then, that the designation "bilingual" for these speakers (and, indeed, for most Yiddish speakers prior to WWII) is somewhat inaccurate: most had at the very least, some knowledge of the local co-territorial language(s) (e.g., Polish, Russian, Ukrainian, Spanish, Modern Hebrew) of the area in which they were born or initially emigrated to, as well as knowledge of Biblical Hebrew. Several other members are heritage speakers, who learned the language at home in the United States. One member learned the language by attending a Yiddish language school[3], and another learned the language through their peers. Due to this diversity of language backgrounds, all of these participants will be referred to as "Yiddish speakers" throughout, rather than "bilinguals".

The following section outlines the language backgrounds of the Yiddish club members who agreed to be interviewed one-on-one. These subjects, for the most part, make up the more regular members of the club; a handful of the other regulars either did not consent to be interviewed one-on-one (but did consent to be recorded at the meetings), or, due to health issues, were ultimately not able to schedule an interview.

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[3] Many Jewish children in the US attend "Hebrew Schools" run by local synagogues, which usually take place for a few hours on Sunday morning, with some having additional instruction for a few hours after school on a weeknight. The general goal of these schools is to provide enough religious and language instruction for the student to become a *bar* or *bat mitzvah*. "Hebrew High School" is a continuation of religious education for older teens, again primarily held in the afternoon or evening. Yiddishists set up their own, supplementary schools, called "Yiddish Schools", dedicated to teaching Yiddish language and culture (many, but not all of which were not just secular, but decisively non-religious), which could also continue through "Yiddish High School". These schools are distinguished from "Day Schools", which refer to programs which provide a full Jewish educational program which replaces public primary and secondary education.

8.2 Language Histories of Yiddish Club members

8.2.1 Joe

Joe was born in 1929 in Cincinnati to parents who were born in what is now Ukraine, his father near Kiev, and his mother, from "Eastern Ukraine", putting them both in the Southeastern Yiddish (SEY) dialect area[4]. He described his neighborhood (Avondale) as having a large degree of Jewish immigrants and said that he picked up his Yiddish in the neighborhood, rather than at home from his parents (who he reported speaking a mix of Yiddish and English). Joe reported occasionally using Yiddish at various times throughout his life, apart from the Yiddish club, including his time in Germany when he served in the US army in the 1950s, and with Russian immigrants he helped resettle in the Dayton area in the 1980s. Joe moved to Dayton in 1955, to an area just north of the Dayton View area described in the previous chapter, meaning that his neighborhood likely contained a relatively high number of both Jews and people with at least some knowledge of Yiddish.

Joe has had professional music training (which may have implications for his ability to hear and reproduce intonational patterns), in the form of a year and a half of training at the Cincinnati Conservatory; Joe also performed cantorial services for a synagogue in Cincinnati for 20 years (traveling there from Dayton), along with occasional services in Dayton and during his time in the Army, and frequently sings for the Yiddish club.

8.2.2 Ira

Ira was born in 1936 in Sarny, which was then in Poland (but which was, he noted, by the time his younger brother was born, located in Russia); it is now located in Ukraine. The

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[4]Traditionally, Yiddish is classified into four main dialects: Western Yiddish, Central Yiddish, Northeastern Yiddish, and Southeastern Yiddish, with the last three grouped together into a larger Eastern Yiddish group (Jacobs, 2005). It should be noted that there have not been any proposed intonational differences between the dialects; Weinreich (1956) explicitly states that the rise-fall contour, at least for "dramatic transitions", is common between the Eastern dialects.

town is near the transition zone between Northeastern (NEY) and Southeastern Yiddish[5] ; Ira primarily shows SEY vocalic features (e.g., *zin* instead of *zun* 'son', *oykhit* instead of *eykhit* 'also', and *geboyrn* instead of *geborn* 'born'), but (as shown below) also showed knowledge of NEY features. His family remained in the area until the non-aggression pact between the USSR and Germany broke, at which point he and his mother moved to a factory work camp in the Ural mountains[6] . Here, Ira received some degree of educational instruction in Russian. After the war, after returning to Sarny and seeing that it was destroyed, they ended up in a displaced persons (DP) camp in Austria, and came to the US in 1951, when he was 15. Ira's family initially settled in New York and he lived in New Jersey as a young adult before moving to Pittsburgh, and then to Dayton. Ira is heavily involved in the Yiddish club, as well as synagogue life, in Dayton.

Ira spoke Yiddish in the house, and Polish and Russian outside of the house before and during the war. In the DP camp, he also learned some Hebrew, as his family was initially going to be resettled in Israel; he reported speaking Yiddish with the other children in the DP camp. Ira's early schooling was primarily conducted in Russian; he attended high school in the United States. When he was in the US, he primarily spoke Yiddish with his mother and step-father, and English outside the home. When his mother passed away in 1990, he mostly stopped using Yiddish, until joining the Yiddish club.

8.2.3 Eva

Ira's partner, Eva, is also a member of the Yiddish club, and was born in Germany in 1931. Her family moved to the United States, to Indiana, in 1938. She reported speaking

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[5] One map on Katz's Atlas of NEY puts Sarny just above,and in the NEY side of the dividing line between the two dialects (http://www.dovidkatz.net/WebAtlas/30_KharitonBerman.htm); however, Sarny is also shown as being below the transition zones between NEY and SEY, and thus in the SEY zone, on some of the other maps, see e.g., http://www.dovidkatz.net/WebAtlas/14_Quickly.htm

[6] During World War II, Russian factories related to the war effort in the west were relocated further east, so that they could continue to be functional. Although housing conditions for workers and their families were, as Ira put it, "non-ideal", they were not, at least for Ira's family, comparable to the situation in the gulags or German forced labor camps. Ira, for example, did not work, and received education here.

mostly English after that point, and has mostly lost her German. Eva lived in a number of places, including Bloomington, IN, Tuscon AZ, Chicago, IL, and Cleveland, before settling in Dayton in 1985. Eva has no Yiddish background, and stated that she attends the meetings to accompany Ira. Ira and Eva both live on the south side of town, which, as described in the previous chapter, only started having a sizeable Jewish population recently.

8.2.4   Sarah

Sarah was born in New York City in 1954, and grew up in the Bronx. She described her neighborhood as being heavily Jewish; at the time, there were many holocaust refugees in the area, along with first and second generation American Jews. As her family were secular Zionists, rather than attending religious Hebrew school, she attended a Yiddish school (Sholem Aleichem Folk Institute School) every day after school, starting in first grade through sixth grade, after which she attended a Yiddish high school after school program. It should be noted that Sarah is the only regular member of the club who had a formal Yiddish education, and who learned a standard variety of Yiddish (StY). Sarah lives on the north side of town, in the same general area as Joe.

8.2.5   Dottie

Dottie was born in Germany in 1928, to a Russian-born father, who spoke both Russian and Yiddish, and a German-speaking mother. They moved to the United States, to Dayton, in 1933, where Dottie has lived ever since. Her father mostly spoke German in Germany; however, when the family relocated to the states, and reunited with his family, who had moved there prior, he spoke Yiddish with his family. Dottie described herself essentially as a receptive bilingual in Yiddish, noting that "I didn't speak it very well, I still don't speak it that well, but I understand a lot of it".

Dottie's location history in Dayton roughly mirrors the Jewish population as a whole: as a child, she lived very close to downtown, and then moved to the northwest. At the

urging of her children (who considered the northwest to be becoming unsafe), she moved to a retirement home not far from where the Yiddish club meets, on the south side of town.

8.2.6   Other members

Other members of the club, although not interviewed individually, occasionally discussed their language background in the meetings. Larry K. was born in what is now Belarus (in the NEY dialect zone), and came to the United States, directly to Dayton, in 1960; Shepp and Larry B. described learning Yiddish as their *mame-loshn* 'mother-tongue, Yiddish' at home. At least two occasional members of the club came to the United States via Argentina; likewise, some occasional attendees came to the United States via Israel. One regular participant, Jonathan, as far as I could tell, was adopted, and not raised Jewish, but has since rediscovered his Jewish roots. He claimed (non-native) knowledge of German and French, and would occasionally attempt to speak Yiddish.

Despite these varied backgrounds, there are some commonalities. For the most part, the participants grew up in areas with large numbers of Yiddish speakers, either in Eastern Europe, or in neighborhoods in New York, Dayton, or elsewhere, with large immigrant populations. As they grew older, like other Jewish people in Dayton, many of them moved to areas with less dense immigrant populations–further to the northwest of Dayton and to the southern suburbs of Dayton. This movement means both that (1) these Yiddish speakers would have fewer opportunities to interact on a day-to-day basis (apart from Yiddish club meetings), and (2) they would have fewer day-to-day interactions with other, non-Yiddish speaking Jews in general, which might have effects both for how often they used Yiddish, and how often others would hear Yiddish influenced-English.

8.3 Use of Yiddish in the meetings

As described above, the participants strived to use Yiddish as much as possible during the meetings, given their language backgrounds; however, my presence in the meetings likely caused the members to monitor their Yiddish and English usage more strictly than usual. As there was turn-over in the non-core members of the group, as part of the consent process, I would explain at the start of each meeting that I was a researcher from Ohio State, interested in Yiddish, who would be recording the meetings. This led to, at the start of one meeting, after I had explained who I was, and what I was doing there, the leader saying that, since I was interested in Yiddish, they should make sure to speak Yiddish. It is likely, then that I heard the ceiling, or somewhat near the ceiling, of Yiddish use, in the club, as, despite these sorts of announcements, and occasional calls to *redt yidish!* 'Speak Yiddish!', members would still code-switch into English.

For the most part, I participated minimally in the meetings. If the meeting involved going around the table and having each participant speaking or telling a story, I would talk in Yiddish, but generally, I would not comment or involve myself in ongoing discussions. Some of the participants, particularly at the beginning or ends of meetings, would try to talk to me about linguistics. The group is a self-selecting one, and as such, many of the members are interested in both Yiddish linguistics and languages more broadly. One participant would frequently ask me about imposition effects he noticed in his own speech, and about the general difficulties of learning a new language. Others would tell me about, or ask if I knew about, some general linguistic topics like the origins of Ashkenazi last names, or the history of Yiddish. For the most part, I tried to give simple answers to these questions.

Participants were informed during the one-on-one interviews that I was interested in Yiddish intonation in particular, meaning that at some of the later meetings, participants were aware that I was interested in intonation. At the last meeting I recorded, because

many of the subjects expressed an interest in hearing about my work, I presented a basic explanation of my research to the subjects.

8.3.1 Age and Yiddish

In her dissertation, Avineri (2012) noted the salience of age among Yiddish speakers, with a general language ideology in the community of Yiddish being a language primarily spoken by older people[7]. Like Avineri described happening to her, my relative youth set me somewhat apart from the other Yiddish club members, and was occasionally a source of commentary. The most notable incident involved one meeting where the participants were collaboratively writing a fake "letter home" in Yiddish, and decided that one of the fictitious grandchildren should be named *Rokhele* (a diminutive of *Rokhl*, my name in Yiddish), who studied linguistics at university with a full stipend, and who they were very proud of. At another point, a member offered (some what jokingly) to set me up with a nice, Jewish boy[8].

8.3.2 Metalinguistic knowledge

Metalinguistic awareness of the different dialects of Yiddish, as well as, to a certain degree, language contact effects, was fairly high. Yiddish is a Germanic language, but has seen considerable influence from Slavic languages, as well as the ritual languages of Hebrew and Aramaic.

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[7] Avineri's work goes into more detail about the language attitudes about the Yiddish spoken by Hasidic Jews, which is undergoing intergenerational transmission, and certainly has plenty of younger speakers. This fact is often either ignored, or Hasidic Yiddish is dismissed as not being "real Yiddish".

[8] I am married, and wore my wedding and engagement rings throughout my field work. However, as my husband was, at the time, not Jewish, and has a first name that potentially marks him as such, I generally avoided mentioning him. Although attitudes are changing, interfaith marriages can be tricky grounds to navigate in some contexts in the Jewish community.

(2)

Dottie	What's the word for "attic"?
Larry K	/bey-/
Ira	/boy/dem
Larry K	beydem!
Tzippi	boydem
Larry K	boydem, beydem
Tzippi	::laughs::
Ira	Ir zig boydem, mir zig beydem ['You say boydem, we say beydem'] ::laughter::

Example (2)[9] shows an example of the negotiation of differences between the dialects. After somebody told a story about looking for their Passover dishes in the attic, Dottie asked for the Yiddish word for "attic", which was used in the story. Ira replies using the Standard Yiddish (which is also the SEY) pronunciation. Larry K. jumps in with the NEY pronunciation. Tzippi repeats the Standard Yiddish pronunciation; Ira then replies to both, acknowledging both pronunciations.

Example (3) shows metalinguistic awareness of the different "components" of Yiddish. Yiddish has a mainly Germanic lexicon, but shows significant influence from Slavic languages, as well as Hebrew and Aramaic. Some of the members, as non-Yiddish speakers, know many of these Hebrew terms (which are often also present in Jewish English), and will sometimes ask if a certain term is "Hebrew" or "Yiddish". Ira replied to one of those queries with (3).

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[9]The following transcription conventions will be used:

/ / marks overlapping speech
( ) marks inaudible words or speech
[" "] translation
[ ] IPA transcription of segment
[...] indicates a section of speech which has been left out for space or clarity
:: :: indicates non-speech actions or vocalizations
– indicates speech was cut off abruptly or by another speaker
- indicates a restart
text indicates speech in English
text Yiddish, or attempts at Yiddish
(?) indicates uncertainty about transcription and/or identification of speaker

(3) *L'dor va dor* ["from generation to generation"] is accepted Yiddish, even though it's Hebrew, it's accepted Yiddish.

As Avineri notes, there is also tension with Yiddish's relationship with German, with German being talked about as both an asset to beginning Yiddish learners, as well as a potential road-block. As noted above, one club member, Jonathan, is extremely enthusiastic about languages, and claimed some knowledge of German, French, and Italian; however, he readily admitted to having major issues with cross-linguistic interference (and would frequently ask me why this happens, and how to prevent it). Jonathan would occasionally attempt to speak in German instead of Yiddish, as in example (4).

(4)

1	Jonathan	I wrote this in English
2		And then I have to interpret it over to
3		*Hochdeutsch* ['High German'] and try and write it in Yiddish
4		But it comes up with writing
5		I *nik verstandey* ['I don't understand', St. Yiddish *Ikh farshtey dos nit*/ St. German *Ich verstehe nicht*]
6		So
7		It's just brief.
8		*Unser Haus war immer aktiv* ['Our house was always active']
9		*Und lebendik waren der* (?) ['And lively were the (?)']
10		*Meine Mutter* ['My mother']
11		*Arbeiten in einem Kofhaus* ['Worked in a department store']
12		*Am Samstag.* ['On Saturdays']
13		So–
14	Ira:	OK, wait, wait, take one sentence /at a time/
15	Sarah:	/Your mother worked in a/

16	Jonathan:	Well, I said our house was always lively and active during holiday periods
17		And I wanted to say *meine Mutter arbeitet in einem Kofhaus*
18		*Am Sams-*
19		*Sa[n]stag*
20	Ira:	*Mayn mame /hot gearbet auf shabes/* ['My mother worked on Saturdays']
21	Jonathan:	/She always worked in a–/ /In a department store on Saturdays/
22	Ira:	*/shabes/*
23	Sarah:	*/auf shabes/*
24	Jonathan:	*Sonnstag* ['Sunday', St. German]
25	Ira:	*zontig* ['Sunday', St. Yiddish]
26	Sarah:	*zontig*
27	Jonathan:	*War immer grose tag in unsere Hauser* ['Was a big day in our house']
28	Ira:	*In inzer shtib* ['In our house', SEY]
29	Sarah:	*In unzer shtib* ['In our house', StY/SEY]
30	Jonathan:	We always had a great day, or a big day.
31		Sunday.
32		*/Freindey und/* ['Friends and-']
33	Ira:	*/Zon-/* say it again, I'm sorry
34	Sarah:	Sunday was
35	Jonathan:	I was–
36	Ira:	*Zintig iz geveyn a groyse, freylekhe tog bay inz* ['Sunday was a big, happy day at our place', SEY]
37	Sarah:	*In shtib* ['In our house']

38	Ira:	*In shtib.*
39	Jonathan:	And then–
40	Ira:	Is that what you wanted to say?
41	Jonathan:	Saturday–uh, Sunday was always our big day for friends and so forth.
42		And then I go on to say
43		*Friendey und ser venig* ['Friends and very few'; St. German *Freunde und sehr wenige*]
44		Uh, *angel*–how do you pronounce this?
45	Sarah:	Why don't you in English, and we'll translate it
46	Jonathan:	OK
47	Ira:	Yeah, don't
48	Sarah:	Is not doing us any good.
49	Ira:	German doesn't manage
50	Jonathan:	OK

Jonathan, in his attempts to speak Yiddish, uses some very obvious Germanisms: the use of the simple past *war* 'was' instead of the Yiddish *iz geveyn* 'was', the word *Samstag* 'Saturday' instead of *shabes*, and *unsere Haus* instead of the Yiddish *bay unz*, all of which are quickly corrected by both Ira and Sarah[10]. The last two errors are particularly notable, as both constructions (calling Saturday *shabes*, and 'by us' meaning 'our place') are used in Jewish English. In the end, Sarah and Ira ask him to stop using German, as it's "not doing us any good". It should be noted that, although Jonathan's German contains many errors, including in pronunciation, it was not the case that Ira and Sarah could not understand the German, as can be seen by Sarah's (unprompted) translation in line 15. Also, at other

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[10] Another "mistake" which goes uncorrected is the use of *mayn mame* instead of *di mame*. The first is not technically incorrect, but the second is much more colloquial; however, I heard variations on the first form much more frequently during the meetings.

(5)

Joe:	Uh, *zi, zi* ['She, she'], how would you say "She studies the *mame-loshn*?" ['the mother tongue', i.e., Yiddish]
Ira:	OK, very good
Sarah:	*Zi hot gelernt–* ['She studied']
Rachel:	Uh, *sprakhvisnshaft* ['Linguistics']
	Shprakhvisnshaft. Lingvistk(e). ['Linguistics. Linguistics']
Joe:	Ok, we got the word.
Ira:	Shprakhvisnshaft?!
Rachel:	*Shprakhvisnshaft.*
Charlotte:	What's that?
Rachel:	Uh, linguistics.
	Speech science.
Sarah:	*Visnshaft.*
	Zi redt a poshete yidish ['She speaks a plain Yiddish']
	::general laughter::

points in time, members told stories in Modern Hebrew, which was allowed to continue, and was translated into English, despite it not being mutually intelligible with Yiddish. Additionally, neither Dottie nor Eva, both of whom were born in Germany, ever attempted to speak German in the Yiddish club meetings, or during their individual interviews. Both also claimed to have lost the language entirely, which may be a combination of some degree of natural language loss (as both emigrated to the United States relatively young), and a more active rejection of the language. All of these facts point to German being dispreferred in the meetings.

I had my own run-in with this ideology, during the writing of the letter noted previously, as shown in example (5). Joe wants to add in a sentence about what *Rokhele* was studying. Yiddish has two words for "linguistics", one Germanic in origin, *sprakhvisnshaft* (literally, 'speech science'), and the other, like in English, Romance, *lingvistik*. My use of the more Germanic term garnered a strong reaction from the group, and eventually, a semi-sarcastic comment works its way into the letter in response, with Sarah writing "She speaks a plain Yiddish".

Members of the group are also aware of the existence of "Yinglish", their general term

(6)

1	Ira:	/*Emetse veys im?*/ ['Somebody knows him?'; *veys*, 'to know (information)' later self-corrected to *ken*, 'to know (be acquainted with)']
2	Larry K.:	/*alemol-*/ *alemol* ['Usually, usually']
3	Ira:	[v]ait a minute, [v]ait a minute, wait a minute
4	?:	Did you–
5	Ira:	[v]ait a minute, lemme-
6	Joe:	vait, vait?
7	Sarah:	::laughs::
8	Larry B.	*vart a minute!* ['Wait a minute!']
9	Ira:	I'm gonna speak Yinglish!
10		::laughter::

for the mixing of Yiddish and English elements when speaking English. In one meeting, Ira encourages someone to tell a story "in Yinglish" after they claim they don't speak Yiddish. Another example of Yinglish, and commentaries on it, occurs in example (6).

Larry K. had been telling a story, and mentioned someone who was the grandfather of another member of the Dayton Jewish community. Ira tried to stop to confirm the person. Larry K, however, tried to continue the story. Ira stepped in, saying "Wait a minute", but instead of a [w], produced a [v]. Yiddish does not have a [w], and substituting a [v] for a [w] is a highly salient feature of Yiddish-influenced English, as will be touched on more in chapter 15. It should be noted that Ira doesn't usually produce a [v] for /w/ (and in fact, produces a [w] on his third "Wait a minute!"); the [v] in this instance might be due to his speaking Yiddish immediately before. Joe explicitly comments on his "vait" in line 6; Larry B. jumps in with a Yiddish translation of "Wait a minute" in line 8. Ira, realizing what has happened, laughs, and replies "I'm gonna speak Yinglish!"

All of the above examples first show that many of the language ideologies and metalinguistic narratives described by Avineri as existing in Yiddish clubs are active in the Dayton Yiddish club, meaning that the club is not unusual, and that the same dynamics that are in play in areas with larger Jewish populations (southern California, where Avineri did her

work) are in play in Dayton.

The above examples also give a feel for the dynamics of the meetings. Ira and Sarah are generally looked to as linguistic authorities in the meetings, giving translations when asked by the other members. Larry K. also occasionally jumps in with a word or two. Another group of members, including Dottie, usually start talking in Yiddish, but frequently stumble or have issues with lexical items. Joe occupies a middle group between these two groups: he can go for longer stretches in Yiddish, but does not often offer up translations of lexical items like Ira and Sarah do.

As such, we might expect some degree of differentiation between Ira, Sarah, and Joe, as more active and competent Yiddish speakers, and Dottie, who is somewhat less active, in how they make use of Yiddish intonation in both their Yiddish and their English. The following chapters explore how the intonation of these speakers compares to (1) other older, non-Yiddish-speaking Jews, (2) younger non-Yiddish-speaking Jews, and (3) older and younger non-Jewish participants from Dayton, in order to examine to what extent we can see the influence of Yiddish on Jewish English intonation, and how Jewish English has changed over time in Dayton.

Chapter 9

Sociolinguistic Interviews

In addition to the members from the Yiddish club mentioned above, other subjects were interviewed, in order to see to what extent (1) the intonation of Jewish English differs from local varieties, and (2) what, if any, of those differences might have their origins in Yiddish. Three older non-Yiddish-speaking Jewish subjects were recruited from a local synagogue in Columbus, Ohio. All three had grown up in the northwest area of Dayton, and attended synagogue and were involved in Jewish youth groups there, before moving to Columbus for work. Another older, non-Yiddish speaker (Joe's wife; like him, originally from Cincinnati) was interviewed, as was Eva (Ira's partner; described above).

One younger male subject was recruited through the Dayton Jewish Young Adults group; he grew up in Cleveland before moving to Dayton for work. Three other Jewish female subjects were recruited at Ohio State[1]. All three were actively involved in either the OSU Hillel or the Columbus Jewish Young Adults group; one was the granddaughter of one of the Yiddish club members. All three were raised in the wealthier suburbs on the south side of Dayton, but reported occasionally going to the northwest part town either to go to services or to visit relatives. As such, we see a split between the older Jewish subjects, who, like the Yiddish speakers, for the most part would have lived in an area with a higher proportion of Jews and Yiddish-speaking immigrants, compared to the younger Jewish subjects who lived in slightly wealthier areas, with fewer Jewish neighbors.

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[1] Two of these subjects were sisters, and I had several mutual friends with the older sister in the Columbus Jewish community; however, I had not met her before the interview, and she did not know of the purpose behind the study.

	Non-Jewish	Jewish
Younger ($<$40)	2 female, 2 male	3 female, 1 male
Older ($>$40)	2 female, 1 male	5 female (2 Yiddish-speaking)
		4 male (2 Yiddish-speaking)

Table 9.1: Summary of subjects interviews and analyzed

Seven non-Jewish subjects were recruited through personal connections. The older speakers included a husband and wife, and one of their neighbors. All three of these subjects lived in the suburbs in the northwest part of town, similar to the majority of the older Jews. The four younger subjects were roughly split, with two from wealthier suburbs in the southeastern part of town, and two from slightly more rural suburbs. Three of them, like the Jewish subjects, were currently attending or had recently graduated from, Ohio State; one was still living in the Dayton area.

Three other subjects were interviewed. Their interview data was transcribed, and some of their commentary on the Jewish community and Dayton in general is referred to throughout, but their data was not included in the formal analyses. One was the Israeli-born leader of the Dayton Young Adults Group; another was a member of the group, and actively involved in the Dayton Jewish community; however, she did not identify as Jewish. Another self-identified as being of Jewish heritage and had Jewish relatives; however, she, unlike the other Jewish subjects, did not actively participate in any Jewish communities of practice. Table 9.1 gives a summary of the broad social characteristics of the subjects.

Interviews were conducted either at the interviewee's house, or at a relatively quiet third location (a quiet corner of a restaurant or coffee house during off-peak hours, or a location on the OSU campus). The interviewees wore a unidirectional head-mounted Shure SM10A microphone. Most of the participants got used to, and started to ignore, the microphone over the course of the interview (in some cases, to the point of accidentally knocking the microphone). The interviews were recorded in WAV format on a Roland R-05 recorder, at a sample rate of 44.1 kHz. Due to interviewer error, the headphone was not plugged into

the recorder for one of the interviews; however, the internal microphone on the recorder was able to get a mostly useable recording of the interview.

The interview started with the "Presidents Task" (described in more detail in chapter 13), under the guise of getting the participant to warm up. 45 minutes to an hour of a general ethnographic interview followed. The participant first gave a basic biography, including their age, where their parents were from, and where they had lived, and for how long. For the Yiddish-speaking participants, a more detailed language history was elicited. General questions then followed about the participant's life in Dayton and elsewhere, and the Jewish community in Dayton. Questions were also asked about language ideologies about Dayton, Ohio, and Jewish speech, including "Do you think you could tell if a person was Jewish/from Ohio/from Dayton based on the way that they talked?" or "Has anyone ever told you that you had an accent?". If the participants answered "yes", they were asked for specific examples, or, in some cases, to provide imitations if they could.

Following this portion of the interview, the subjects were asked to "Tell a story about a time when something went wrong during a holiday celebration" ("Holiday Story task"). They were then asked to retell "Frog Where Are You?" (Mayer, 1969) ("Frog Story Task") and finally, to complete a Discourse Completion Task (DCT). Yiddish-speaking participants then performed these last three tasks in Yiddish, reading *A Boy, a Dog, and a Frog* (Mayer, 1971) instead of reading *Frog, Where are You?* a second time. The interviews were orthographically transcribed by two trained undergraduate research assistants using ELAN.

Chapter 10

Variation in the form of rise-falls

10.1   Introduction

As described in section 5.6, a particular rise-fall contour has been claimed to be a part
of the Jewish English repertoire. Remarks in Weinreich (1956) suggest that this rise-fall
was phonetically distinct, particularly in its pitch range, with the rise-fall being "flattened"
in "non-intimate" contexts. Burdin (under revision) more closely examined this rise-fall
in English as used by 11 non-Orthodox Jewish women from the metropolitan New York
City area. The distinctive rise-fall was determined to be the one ToBI annotated as L+H*
!H-L% in English. The rise-falls produced by the three women who spoke Yiddish were
phonetically distinct from the ones produced by women who did not speak Yiddish in three
ways. First, the peak height of the rise-fall was higher. Second, the range of the rise of the
rise-fall was larger. Finally, the Tonal Center of Gravity of their rise-falls was later.

Tonal Center of Gravity (TCoG) is a weighted measure of f0 across a contour, with
higher f0 material being "heavier" (Barnes et al., 2010); the equation for determining the
TCoG is given in (7). A later TCoG thus indicates that more higher f0 material occurs
later in the contour (or that more lower f0 material occurs earlier in the contour); a more
"scooped" rise will have a later TCoG compared to a domed rise.

(7) $T_{cog} = \frac{\sum_i f0_i t_i}{\sum_i f0_i}$

A later TCoG might explain the discrepancies in the description of the peak location
between Weinreich (1956) and the location described in Newman (2000), Benor (2012),

and Burdin (under revision), with the former describing the peak as following the stressed syllable, and the latter, as being in the stressed syllable. Barnes et al. (2010) found that contours with later TCoG were perceived as more like L*+H (canonically, a rising pitch accent with the high tone following the stressed syllable) than L+H* (a rising pitch accent where the high tone is associated with the stressed syllable). That is, a particularly scooped rise, with a later TCoG, and with a peak located at the end of the stressed syllable, can be perceived as having the peak in the following syllable, rather than at the end of the stressed syllable.

These studies all provide evidence for variation in the production of rise-falls within Jewish English, with more distinct rise-falls from speakers who were either more Orthodox or who have had more contact with Yiddish. However, it is not clear whether or to what extent the rise-falls from the other speakers were distinct from other, non-Jewish, speakers of English. Also, all of these studies focused on Jewish English speakers from the East Coast (Benor's and Burdin's work explicitly; Newman and Weinreich are/were both based around New York City), so it is not clear to what extent this distinctness can be found in Jewish English elsewhere. Finally, there has been no phonetic comparison between rise-falls in English, and rise-falls in Yiddish, to see to what extent the rise-fall in Yiddish does or doesn't appear similar to the one in Jewish English.

Finally, of particular interest are the younger Jewish English speakers interviewed for this study, all of whom, as described above, were raised in areas that were less densely Jewish, compared to the other Jewish speakers interviewed both for this study and Burdin (under revision). If there is distinctness in the form of the rise-fall, can it still be found in places where Jewish English speakers have had less contact with Yiddish speakers?

10.2 Methodology

10.2.1 Extracting Rise-Falls

This portion of the dissertation is concerned with variation in the phonetic realization of the rise-fall, rather than the meaning or function of the rise-fall in these contexts. As such, the closest analogy might be in a study of, e.g., the phonetic relation of /u/. Such a sociophonetic study may involve extracting all tokens of /u/ from a series of interviews. In this case, it is important to take context into account, as well as both linguistic and social factors (e.g., part of speech, whether the token was taken from a reading task or informal interview speech the age of the participant, etc.) that might affect the production of the sound in question. One could imagine a different kind of study with a different research question that would affect the number of /u/s extracted: for instance, examining if a person was more likely to say "man" instead of "dude" in a given context would have an impact the number of /u/s. Chapters 11 through 13 are more closely parallel to that second study, as I examine there contexts in which the participants do (or do not) make use of the rise-fall and its components; this section is more closely parallel to that first study, in examining variation in the phonetic realization of L+H* !H-L%.

The first task (just as in a study of phonetic variation in segments) is to extract tokens of L+H* !H-L%. Two undergraduate research assistants were trained in ToBI annotation (Beckman and Ayers Elam, 1997), and were taught to identify instances of L+H* !H-L%. The research assistants, as they orthographically transcribed the interviews, including the Holiday Stories, marked suspected L+H* !H-L%s, which were then reviewed in group research meetings. The assistants were told explicitly that false positives were better than false negatives; consequently a number of similar contours, including H* !H-L%, L*+H !H-L%, and L+H* L-L% were often mistakenly identified as the rise-fall of interest, and then discarded. The entirety of the Frog Stories were also ToBI annotated, primarily by one research assistant who went over the annotations with the author; all L+H* !H-L% were

extracted from these stories. A total of 229 rise-falls were extracted from the interviews, Holiday Stories, and Frog Stories.

Each L+H* !H-L% was extracted, and several phonetic landmarks were identified by the author as shown in figure 10.1, and in a similar manner to Burdin (under revision). In the figure below, the second tier shows the location of the stressed syllable associated with the pitch accent (indicated with an s). The third tier shows where the f0 measurements were extracted. The first point, L1 was the start of the rise. H indicates the peak, and L2, the end of the fall. The "elbows" marking the start and end of the rise were located by eye, as automatic methods have not been shown to significantly improve the location of the rises (Del Giudice et al., 2007).
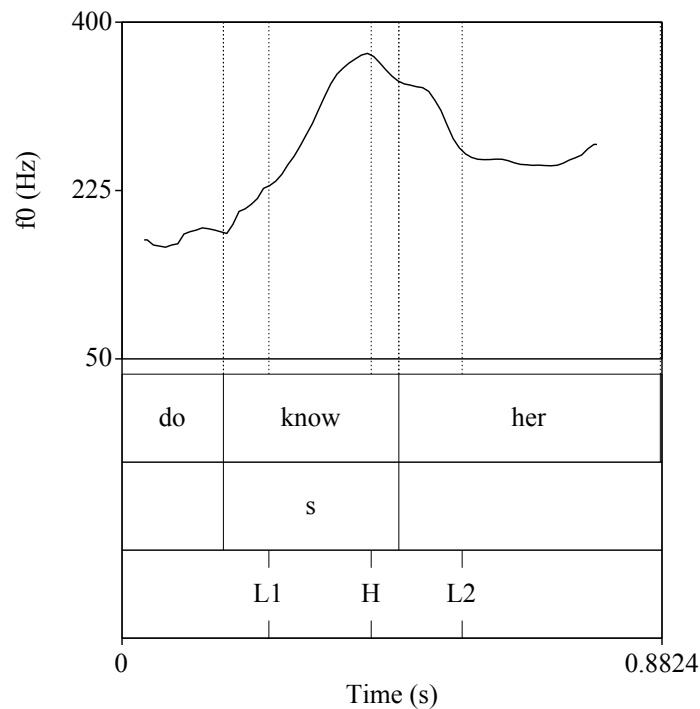
Figure 10.1: Identification of f0 landmarks in a L+H* !H-L%

As the majority of the speech was spontaneous, the f0 track as located by Praat (Boersma and Weenink, 2016) often had breaks in it, due to the presence of non-sonorant sounds. If

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the elbow of the rise could not be located, the start of the rise was taken to be the last visible f0 point before the non-sonorant sound. If the f0 track was disrupted during the peak, the peak was taken to be the higher f0 either immediately preceeding or following the break. Finally, the end of the fall was taken to be the last reliable f0 point before the end of the intonational phrase.

f0 measurements were then semi-automatically extracted using a script which allowed the user to confirm Praat was extracting a logical f0 measurement, and adjust the settings to correct for various errors. These errors mainly included pitch halving and doubling (in which Praat either takes two periods to be one, and thus gives an f0 measurement an octave too low, or incorrectly divides one period into two, and thus gives an f0 measurement an octave too high). Occasionally, other settings in the algorithm needed to be adjusted, including the thresholds for voicing, and weighting of cost for adjacent voiced/unvoiced points in the algorithm. In extreme cases, a "Pitch Object" was extracted from the original sound file, and appropriate candidates were hand-selected. This was often necessary for Joe, whose voice was extremely low; Praat frequently had difficulty extracting his lower utterances, which were often below 75Hz.

A final check was done on the data extracted by the scripts, with rise and fall span calculated based on the measurements given by the script, with rise span being defined as the difference between the f0 at the peak (H) and f0 at the start of the rise (L1), and fall span, the difference between the f0 at the peak (H), and the f0 at the bottom of the fall (L2). If either the rise or the fall as calculated above were negative, measurements were re-taken for that utterance. Rises and falls that were below 5Hz were also double checked.

To measure Tonal Center of Gravity, measurements were automatically extracted of f0 at 300 evenly spaced points between the points marked L1 and L2. This script[1] automatically estimated the f0 in any non-sonorous points using the Smooth and Extrapolate functions in Praat. The sum of the f0 at each time point multiplied by the time, in seconds, was divided

[1]Much thanks to Tuuli Morril for sharing this script.

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by the sum of the f0 at each point in seconds to give the location of the TCoG.

10.2.2 Statistical modeling

Based on previous work, it was expected that the rise-falls in Yiddish would have higher peaks (e.g., higher f0 as measured at point H), larger rise spans (e.g., a larger difference between the f0 at H and L1), later peak offsets (e.g., a larger difference between the time at point H and the onset of the stressed syllable associated with the pitch accent), and later Tonal Centers of Gravity (as calculated using the formula and procedure described above) compared to rise-falls in English, and that the rise-falls produced in English by the Jewish English speakers would also have higher peaks, larger rise-spans, later peak offsets, and later Tonal Centers of Gravity compared to non-Jewish English speakers.

Linear mixed-effects models were built using the lme4 (Bates et al., 2015) package for R (R Core Team et al., 2013) predicting (1) peak height, (2) rise span, (3) peak offset, and (4) Tonal Center of Gravity of the 229 rise-falls extracts from the interviews with all 20 speakers. For each variable, a full model was built predicting the variable including fixed effects for age (a binary split between older or younger), religion (Jewish or not), language status (Yiddish speaker or not), and gender (male or female), with up to two way interactions between the fixed effects, and random intercepts by subject. An automated program stepped down the full model using log-likelihood comparisons between the models to find the best model. All models used treatment contrasts for predictors that were coded as factors. The reference level for gender is female, language status is non-Yiddish speakers, age is younger, and religion is Jewish. All pitch measurements were modeled using f0; for the most part, models with the measurements converted to ERB were not different from models built predicting raw f0.

	Estimate	Std. Error	t value	Pr($>|\chi^2|$)
(Intercept)	247.09	14.13	17.483	
AgeOlder	-45.51	14.66	-3.104	0.0008347
GenderMale	-42.86	19.32	-2.218	
ReligionNotJewish	19.86	18.47	1.076	
LanguageStatusYiddish	21.15	22.44	0.943	
GenderMale:ReligionNotJewish	-51.72	30.72	-1.684	0.01319
GenderMale:LanguageStatusYiddish	-67.96	32.09	-2.117	0.04

Table 10.1: Model output for peak height

Peak height

The final model for peak height, summary shown in table 10.1, included age, gender, religion, language status, and an interaction between gender and religion, and between gender and language status as fixed effects, and random intercepts by subject. Significance was assessed using log-likelihood tests between models with and without the effect (with difference between the models shown in the last column of the table); for main effects which also appeared in interactions, effects with a t value greater than |2| were taken to be significant.

Unsurprisingly, given the past research on physiological effects on f0 detailed in section 3.1.1, older subjects had lower peaks than younger subjects, and men had lower peaks than women. There was an interaction between gender and religion, such that the difference between Jewish men and non-Jewish men was wider than between the women, as illustrated in figure 10.2. There was also an interaction between gender and language status, such that the difference between the Yiddish-speaking men and the non-Yiddish speaking men was greater than the difference between the two groups of women, as illustrated in figure 10.3.

These findings were unexpected. Previous work on the rise-fall predicts (1) higher peaks for the Yiddish speakers compared to the non-Yiddish speakers, and (2) higher peaks for the Jewish English speakers compared to the non-Jewish speakers. Where there were effects of language status and religion, they were present as interactions with gender, and the effects were in the opposite direction than expected, with the Jewish men and women lower higher

peaks than the non-Jewish men and women (with a greater difference between the men), and the Yiddish-speaking men having lower peaks than the non-Yiddish speaking men.
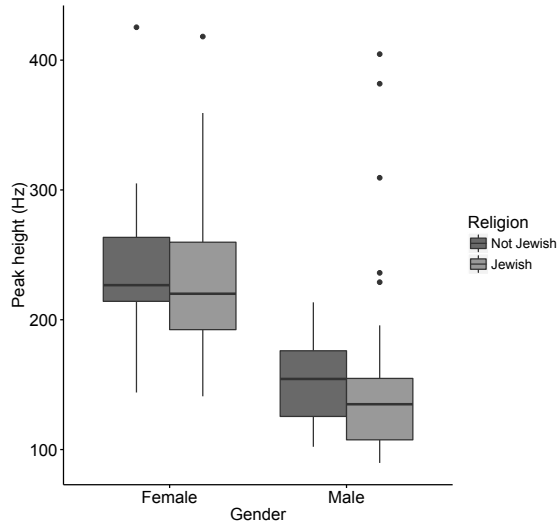
Figure 10.2: Peak height, by gender and religion
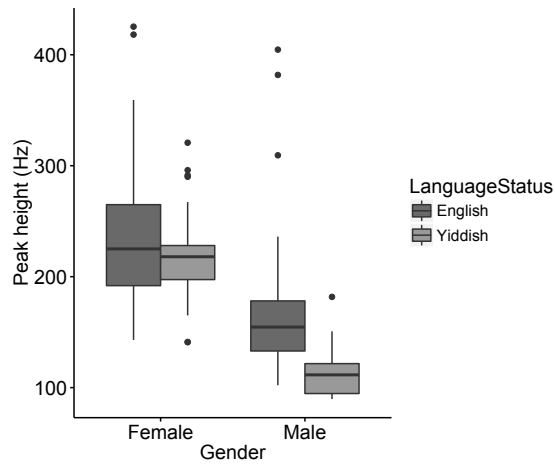
Figure 10.3: Peak height, by gender and language status

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
Intercept	71.081	4.297	16.541	
AgeOlder	-13.141	4.980	-2.639	0.02143
GenderMale	-28.396	4.889	-5.808	1.524e-05

Table 10.2: Model output for rise span

Rise span

The final model for rise span[2] included age and gender, with the model summary shown in table 10.2. Men had smaller rise spans than women, and older speakers had smaller rise spans than younger speakers.

Peak offset

Peak offset was calculated by subtracting the time of the syllable start from the time of the rise-fall peak. A larger number thus means a later peak. The times here are given in milliseconds. The final model for peak offset included an interaction between age and religion, and random intercepts by subject, with model output shown in table 10.3. Younger Jews had later peaks compared to younger non-Jews, but older non-Jews had later peaks than older Jews, as shown in figure 10.4. Or, to look at the interaction another way, there were not differences by age for the Jewish participants, but were for the non-Jewish participants. Unlike the other two models, there were no differences in gender for peak offset.

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[2]Note that to a certain extent, we expect rise span to correlate with peak height, with rises with higher peaks to have larger rise-spans. This correlation is expected first because the perception of f0 is logarithmic: the difference between, e.g., 60 and 65Hz will sound larger than the difference between 160 and 165Hz. However, as noted above, the models for rise-span with the f0 values covered to ERB to correct for this showed the same results. We might also expect this correlation if what the speakers are doing to manipulate rise-span is moving peak height (H), rather than the height of the preceding valley (L1).

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
Intercept	157.50	1.215	12.961	
AgeOlder	21.79	1.450	1.503	
ReligionNotJewish	-33.87	2.205	-1.536	
AgeOlder:ReligionNotJewish	90.11	3.124	2.884	0.003934

Table 10.3: Model output for peak offset
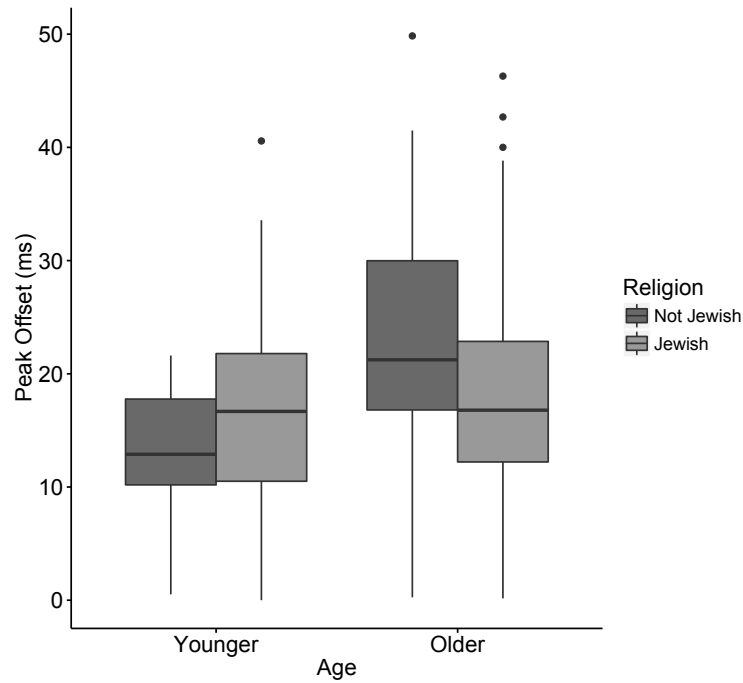
Figure 10.4: Peak offset by age and religion

	Estimate	Std. Error	t value	$Pr(>|\chi^2|)$
Intercept	16.8923	1.1230	14.923	
LanguageStatusYiddish	-2.2923	2.2056	-1.039	
GenderMale	0.1925	2.0494	0.094	
AgeOlder	0.9400	1.7965	0.523	
LanguageStatusYiddish:GenderMale	-8.1857	3.6609	-2.236	0.0234
GenderMale:AgeOlder	9.2627	3.3764	2.743	0.005906

Table 10.4: Model output for TCoG

Tonal Center of Gravity

The final model included an interaction between language status and gender, age, and random intercepts by subject. The model output is shown in table 10.7. Yiddish-speaking men had earlier TCoG compared to the non-Yiddish-speaking men, as shown in figure 10.5; this finding contradicts earlier work on rise-falls, which found later TCoG for Yiddish-speaking subjects in their English (Burdin, under revision). Older men had later TCoG compared to older women, as shown in figure 10.6.
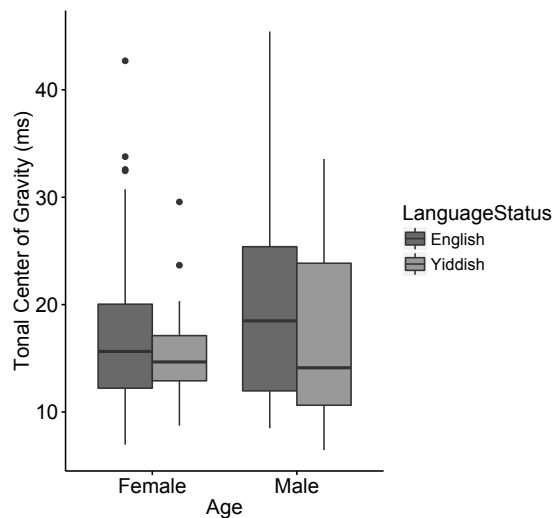
Figure 10.5: Tonal Center of Gravity, Language Status and Gender
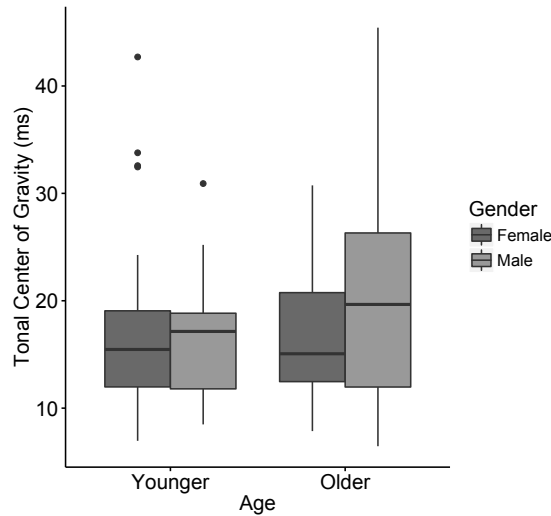
Figure 10.6: Tonal Center of Gravity, Age and Gender

10.2.3 Interim discussion

None of the models found a main effect for either language or religious status, on the production of the rise-falls in English, and some of the findings involving interactions went in the opposite direction as expected. However, looking more closely at the results suggests that there may be differences not being captured by the models. As noted above, there is an effect in the model for peak height, whereby the non-Jewish men had higher peaks than the Jewish men, as can be seen by the location of the medians on the box plot in figure 10.2 (151 Hz for the non-Jewish men, and 143 Hz for the Jewish men). Likewise, non-Jewish women had higher peaks than Jewish women, although the difference was smaller (239 Hz for the non-Jewish women, and 228 Hz for the Jewish women).

However, the box plot also shows that the Jewish participants have a much wider range of peak heights compared to the non-Jewish participants. For the women, although the height of the most extreme values is the same (around 400Hz), the Jewish women produced more tokens in the 275Hz to 375Hz range compared to the non-Jewish participants. The Jewish men likewise produced more rise-falls with extreme peaks (see the 5 outliers on the plot) compared to the non-Jewish men. It is possible that this is a matter of having

more data for the Jewish participants; however, it may be the case that these rise-falls with high peaks are socially meaningful, and this is why we see more of these from the Jewish participants.

However, it is hard to tell whether this is the case from the interviews. There was no clear one-to-one correlation between the use of these extreme peaks and talking about Jewish topics: some were produced during the holiday stories (which, for the Jewish subjects, did tend to be about Jewish holidays), as well as, in one case, discovering a mutual acquaintance in the Columbus Jewish community, however, several of the extreme values were from the narration of the wordless picture book, which was about frogs, and not meant to elicit particularly socially meaningful utterances [3]. And, likewise, Jewish participants produced utterances about Jewish topics with fairly low peaks. Despite this lack of a clear connection between Jewish topics and using rise-falls with higher peaks, further evidence will be given in the following section, as well as in the perception chapter, for higher f0 values, both in general and for these rise falls, being socially meaningful, and connected with Jewishness in some way.

10.3   Interlanguage, and intraspeaker, differences in rise-falls

Impressionistically, it sounded as though the Yiddish-speaking participants had more "extreme" rise-falls both in their Yiddish compared to their English, and in the Yiddish club compared to the interview settings. This finding would also be predicted by both Weinreich (1956) and Burdin (under revision). To see whether this was in fact the case, as in the previous section, rise-falls were extracted from the Yiddish sections of the interview from Ira, Joe, and Sarah. Dottie produced the least fluent Yiddish utterances in the Yiddish interview portions, and also did not speak enough in the Yiddish club meetings for comparisons

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[3]Despite this, it was the case that some of the Jewish participants might have been performing Jewishness in their tellings of the story. Two of the subjects, for example, ended up calling the boy "David", which is a somewhat common name for Jewish men.

to be made between the two situations.

These rise-falls were all phonetically similar to the English L+H* !H-L%, in that they consisted of a rise to a peak within the stressed syllable, and a fall to a plateau in the middle of the speaker's pitch range, as shown in figure 10.7[4]. 80 rise falls were extracted in all from the Yiddish portion of the interviews.
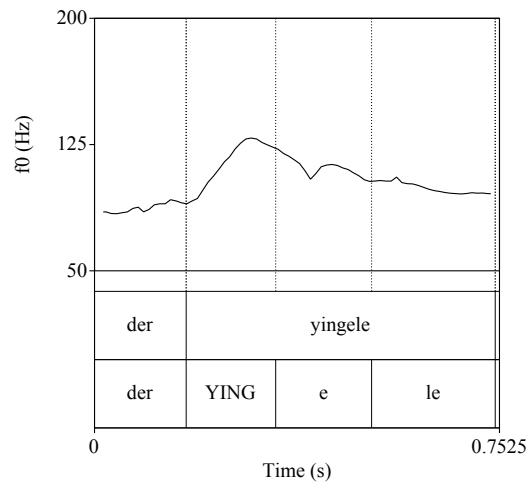
Figure 10.7: Rise-fall in Yiddish on *der yingele*, "The little boy"

This data was also supplemented from the speakers' utterances from a meeting of the Yiddish club. For Ira and Sarah, meetings in which they were leading in an official capacity were selected; for Ira this included a presentation on the Yiddish theatre, for Sarah, guiding the group through writing a letter in Yiddish. Joe's participation in the meetings mainly takes the form of singing, rather than giving a presentation; as such, a meeting was selected in which he talked more than usual. This was a meeting in which the participants shared their Passover experiences; Joe both told a story, and gave an impromptu commentary at the end of the meeting on "miracles". An additional 75 tokens of rise-falls were extracted from the Yiddish club meetings.

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[4]N.B. that diminutives like *yingele* are neuter in Standard Yiddish and should take *dos* as their definite article; however, Weinreich's dictionary notes that this word is sometimes masculine, likely because the referent here is male.

Based on prior work, we expect higher peaks, larger rise-spans, later peaks, and later Tonal Centers of Gravity. Phonetic measurements of peak height, rise span, peak offset, and Tonal Centers of Gravity, were extracted as described above, and linear mixed-effect models were built, predicting these variables. The initial models included fixed effects for language being spoken, the setting (interview or Yiddish club), random intercepts for speaker, and random slopes for language, setting, and an interaction between the two, by speaker. Models were stepped down using log-likelihood comparisons as described above.

10.3.1 Peak height

For peak height, the final model included language, setting, and an interaction between language and setting, with random intercepts by speaker. A summary of the model is given in table 10.5.

As predicted, peak heights were higher in Yiddish compared to English and in the Yiddish club compared to the interview. The difference between Yiddish and English was significantly smaller in the Yiddish club setting compared to the interview setting. As can be seen in figure 10.8, this effect was mainly driven by Joe and Sarah, and was a result of them shifting their English values closer to Yiddish norms in the Yiddish club setting; Ira more clearly maintained a distinction between his Yiddish and his English in both the interview and the Yiddish club settings (although he did produce a wider spread of values for his rise-fall peaks in Yiddish in the Yiddish club setting).

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
(Intercept)	140.759	39.293	3.582	
LanguageYiddish	37.911	7.885	4.808	
Setting YiddishClub	41.382	8.885	4.657	
LanguageYiddish:SettingYiddishClub	-24.173	11.084	-2.181	0.02907

Table 10.5: Model output for peak height, Yiddish vs. English
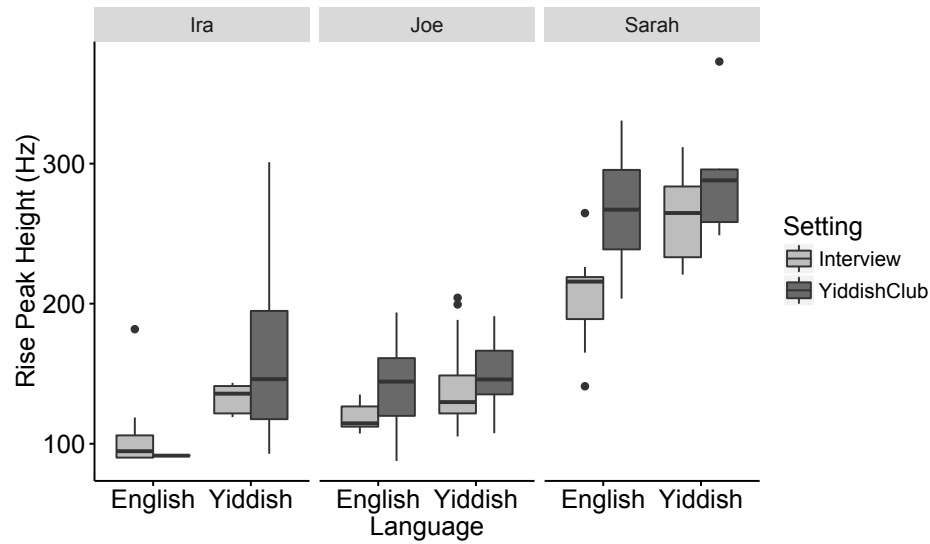
Figure 10.8: Peak height, by speaker, language and setting

10.3.2 Rise span

The final model included a main effect for language, and random intercepts by subject. The model output is shown in table 10.6. As predicted, rise spans were significantly larger in Yiddish compared to English, as can be seen in figure 10.9. Again, this effect can be seen for all three speakers.

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
(Intercept)	41.598	13.281	3.132	
LanguageYiddish	13.141	5.279	2.489	0.01207

Table 10.6: Model output for Rise Span
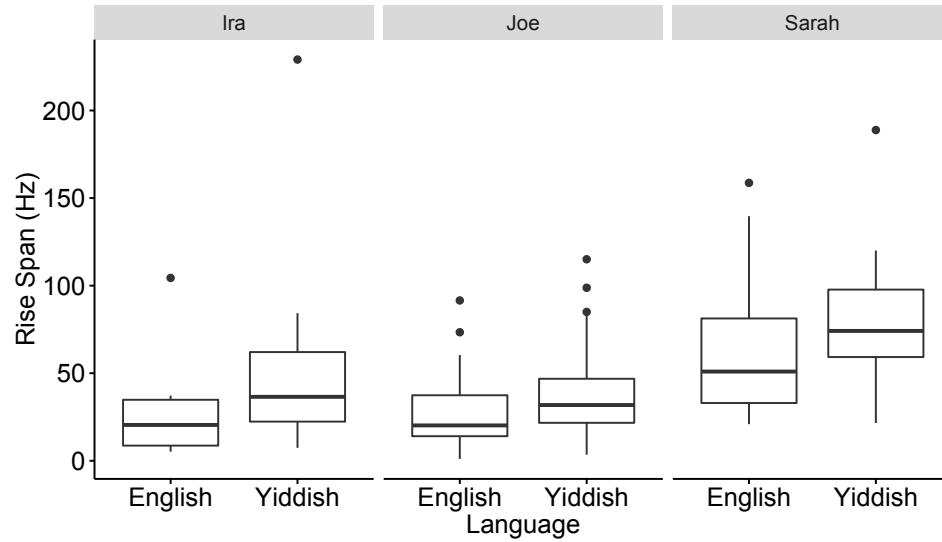
Figure 10.9: Rise span, by speaker and by language

10.3.3 Peak offset

Neither language nor setting was found to be significant for peak offset.

10.3.4 Tonal Center of Gravity

The final model is shown in Table 10.7, and includes language as a fixed effect, and random intercepts by subjects. As predicted, Tonal Center of Gravity was significantly later in Yiddish compared to English, occurring about 40 milliseconds later. Again, all three subjects show this effect, as can be seen in figure 10.10.

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
(Intercept)	158.72	16.65	9.532	
LanguageYiddish	38.04	10.43	3.901	0.005001

Table 10.7: Model output for TCoG, Yiddish vs. English
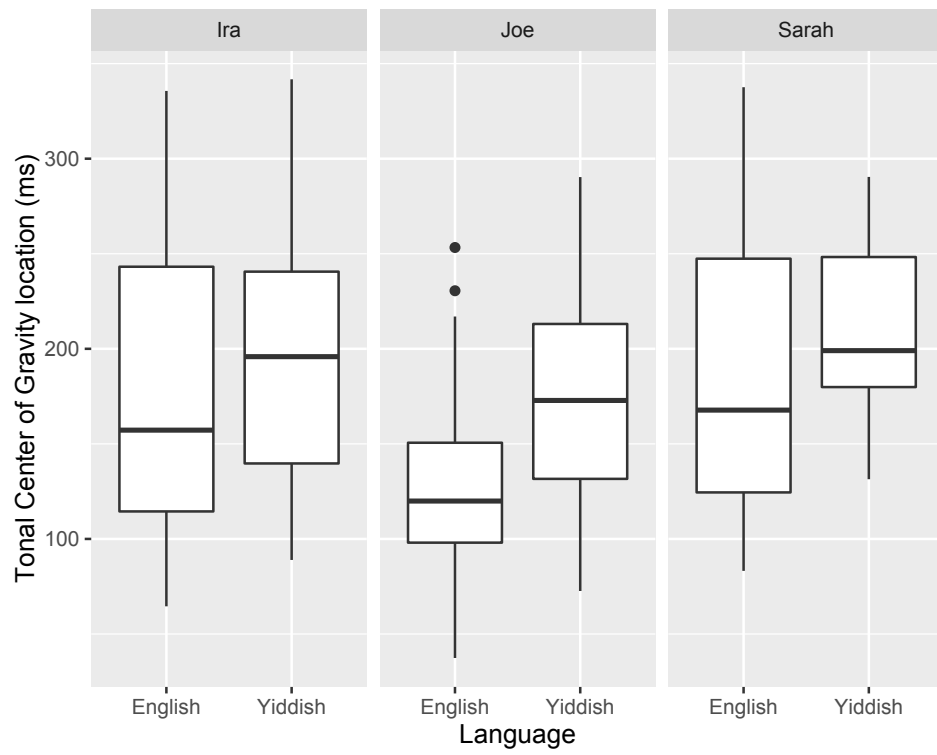
Figure 10.10: Tonal Center of Gravity, by speaker and by language

10.3.5 Interim summary

All three participants showed phonetic differences between the productions of their rise-falls in Yiddish and English. First, their peaks were higher in Yiddish compared to English, as shown in figure 10.8 above and summarized in table 10.8. Second, their rise-spans were larger in Yiddish compared to English, as shown in figure 10.9 above and summarized in table 10.9. Finally, their Tonal Centers of Gravity were later in Yiddish compared to English, as shown in figure 10.10 and summarized in table 10.10.

These findings first contradict general claims that prosody is particularly difficult to master in second languages (e.g., "[Intonation] is easy for adults to maintain and retain in the L1, yet difficult if not impossible for adults to learn in an L2" (Chun 2002, p.1)). Recall that none of these participants were simultaneous bilinguals: Joe and Sarah both started to learn Yiddish later in childhood, outside the home, and Ira started learning English in his teens. We thus might not expect complete mastery of the sound system in Yiddish for Joe and Sarah, or in English for Ira, due to both their relatively late starts, and for Joe and Sarah, the fact that both have primarily used English in most settings for most of their lives.

In fact, we can see evidence for Joe and Ira having problems, respectively, with Yiddish and English, in other parts of the sound system: for Joe's /r/ in Yiddish, and Ira's /w/ in English. Ira's productions of /r/ are as expected from other descriptions of Yiddish (see, e.g., Jacobs (2005), Chapter 4): impressionistically, he shows r-lessness post-vocalically, and produces a trilled uvular /r/ syllable initially. On the other hand, when Joe speaks

	Interview		Yiddish Club	
	English	Yiddish	English	Yiddish
Ira	119 Hz	138 Hz	143 Hz	150 Hz
Joe	106 Hz	132 Hz	91 Hz	166 Hz
Sarah	204 Hz	261 Hz	267 Hz	293 Hz

Table 10.8: Mean f0 for rise-fall peak height, by language and by setting

	English	Yiddish
Ira	28 Hz	52 Hz
Joe	26 Hz	36 Hz
Sarah	66 Hz	81 Hz

Table 10.9: Mean rise span, by language

	English	Yiddish
Ira	180 ms	199 ms
Joe	125 ms	172 ms
Sarah	186 ms	212 ms

Table 10.10: Location of Tonal Center of Gravity, by language

Yiddish, he is often r-full, and produces distinctly English-like /r/s syllable initially. Ira, as noted in example (6), occasionally produces a [v] for English /w/. Both Joe and Ira thus show imposition in the segmental system from their native language onto their non-native language; however, both are able to make differences between their native and non-native language in their production of the rise-fall, suggesting that for both of them, phonetic details of the prosodic system were easier to acquire in a second language compared to at least some segmental features.

These findings also contradict general findings of pitch range compression in L2 (see Zimmerer et al. (2014), and citations therein), with Sarah and Joe having wider pitch ranges in their L2 compared to their L1. While some of these studies that found L2 pitch range compression examined students in a university setting (e.g., Busá and Urbani (2011); Ullakonoja (2007)) and are thus not directly comparable to the subjects here, others have looked at more advanced, long-term language learners whose language profiles are somewhat more similar to these participants (e.g., Mennen (1998), which likely examined the same Greek/Dutch bilinguals described in section 4.2).

The social salience of the *form* of the rise-fall in particular may help explain both of these findings: if it is known, at least semi-consciously, that Yiddish intonation is different

from English intonation in this particular way (particularly in having higher peaks and a wider pitch range), the participants might have an easier time acquiring this particular feature (both in their Yiddish, for Joe and Sarah, and in their English, for Ira) compared to segmental features. This would also lead to larger pitch ranges in their L2 compared to their L1, for Joe and Sarah. Further evidence for the social salience of these higher peaks can be seen in the manipulation of English rise-falls, for Joe and Sarah in particular, in that they produce higher, and thus, more Yiddish-like peaks, in the Yiddish club setting. This shift towards higher peaks in what Weinreich might call a "more culturally intimate setting" suggests that these higher peaks are socially meaningful for these speakers.

10.4 The "Yiddish" rise-fall in Jewish English

Overall, there was little evidence for group level divergence based things other than physiological factors (gender or age) in the production of the rise-falls in English in the interview settings. Effects for religion and language background that were present were present only as interactions, and in some cases, were in the opposite direction than expected. However, it appeared that there were differences between the groups that were not being captured accurately in the model, in that the Jewish English speakers appeared to be producing a wider range of f0 values for the peaks of the rise-falls (although it was not clear that these were, e.g., produced only when talking about Jewish topics). In addition, some of the Jewish English speakers appeared to be style shifting, in producing higher peaks in the Yiddish club setting compared to the interview setting, again suggesting that these rise-falls with higher peaks might be socially meaningful.

Looking at the three most proficient Yiddish speakers first revealed differences in their rise-falls in Yiddish compared to their English. The rise-falls in Yiddish had higher peaks, larger rise-spans, and later TCoG compared to the rise-falls they produced in English. Most interestingly, these differences appeared to hold for all three of the Yiddish-speakers

observed, despite their divergent language histories. These Yiddish speakers, then, are all potentially like the speakers in Mennen's (2004) study who were able to maintain two distinct phonetic systems in both of their languages, at least in some situations[5]. Additionally, there was also evidence of shifting towards Yiddish norms in the Yiddish club setting, with higher peaks in their English rise-falls in these settings compared to their Yiddish, where a greater activation of the Yiddish phonetic system might lead to imposition from Yiddish into English. We already saw this shift in the segmental system in Chapter 8, where Ira produced a [v] instead of a [w] in his English during the meeting. Alternatively, the subjects might be shifting to a more intimate version of Jewish English, which shows more evidence of prior contact effects from Yiddish.

It does seem to be the case, then, that the Yiddish speakers do show influence (whether as the result of shifting to an already established version of Jewish English with higher peaks, or a more immediate case of greater activation of Yiddish) from Yiddish in their English, in some settings, by producing higher peaks. Younger Jewish English speakers would likely encounter these higher peaks when interacting with these speakers in particularly Jewish settings (if we assume that the participants use these features when interacting with other Jewish people in large groups, and not just in the Yiddish club), and thus, would, over time, come to associate those higher peaks with certain types of Jewish identities. This association would then mean that that intonational feature–higher peaks– was a part of the Jewish English repertoire.

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[5]One missing piece of the puzzle is, that while these participants have differences between their English and their Yiddish, it's not clear how much their Yiddish looks like Yiddish speakers who have not had exposure to English. Unfortunately, finding a monolingual Yiddish control group, matched in age and other social factors including level of Orthodoxy is nearly impossible to find, particularly in this area of Ohio. However, future work in this area may be possible, using the newly available archives of the AHEYM project, which has interviews with Yiddish speakers in Eastern Europe who are *not* bilingual in English. However, like almost all Yiddish speakers, they are multilingual; in this case, in Yiddish and in co-territorial languages like Ukrainian. Obviously, then, the new problem is introduced of how much their Yiddish has affected their Ukrainian, and vice versa. Although there has been ample discussion of Slavic influence on Yiddish, there have not been many studies on Yiddish's effects on co-territorial languages, or on the existence of varieties like "Jewish Polish" or "Jewish Ukrainian". Weinreich (1956) suggests that intonational patterns from Yiddish likely carried over to the co-territorial languages when Yiddish speakers spoke them, but does not go into further detail.

Chapter 11

Variation in the function of rise-falls in Yiddish and Jewish English

The previous chapter showed some distinctions in Jewish English in the form of rise-falls. Yiddish-speaking participants appeared to shift their English in the direction of Yiddish norms in terms of peak height in the Yiddish club meetings. There was also evidence that the Jewish participants may have a wider range of available f0 values for peak heights in these rise-falls compared to non-Jewish participants; however, this data was not clear cut. We return to more general facts about the form of intonation in later chapters; however, the next three chapters turn to exploring the function of the rise-fall in Yiddish, Jewish English, and non-Jewish English more generally.

The "principle of accountability", as described by Labov, states that in a study, "All occurrences of a given variant are noted, and where it has been possible to define the variable as a closed set of variants, all non-occurrences of the variant in the relevant circumstances." (Labov, 1982, p. 30). The first step, noting all occurrences, was carried in the previous chapter, in order to do the phonetic analysis. However, the second step is somewhat trickier for studying intonation in languages like English. The meaning of intonational tones and tunes is highly pragmatic, and thus, finding *non-occurences* using, e.g., informal interview data, would be equivalent to attempting to locate non-occurences of other highly pragmatic morphemes like German *doch* or English *so*.

The following three chapters try to solve this problem, by looking at the function of rise-falls in controlled situations. This first chapter uses a Discourse Completion Task (DCT). DCTs have been used to study both (inter- and intra-linguistic) variation in intonation

(e.g., in compiling the Interactive Atlas of Romance Intonation (Prieto et al., 2014) and studying Puerto Rican intonation (Armstrong, 2012)), although the general experimental design has its roots in the study of pragmatics (Blum-Kulka, 1981).

In the DCT as used here, the response to each prompt provides an opportunity for the subject to use a contour for a particular function (with function, again, being quite broadly defined), and thus, we can count, as in a traditional variationist study, the occurrence and non-occurrence of a particular contour, or its components. Using a DCT, we can see to what extent participants make use of the rise-falls in response to contexts designed to prompt things like incredulity, and look for differences in the proportion of the responses using the rise-fall contour and/or its components. If we see differences between the groups in their use of particular tones and tunes in these situations, this finding will point to differences in function of these tones or tunes: different contours may, for example, signal incredulity for different groups of speakers within a language, or cross-linguistically.

The second chapter (chapter 12) explores the function of the rise-fall using a narration task, in which the participants narrate a wordless picture book. The idea is similar to the DCT–have participants produce utterances in response to a similar situation, and record the contours used–however, the data set is both larger, and somewhat less controlled. But, again, any differences in the proportions of contours used in the narration task point to those contours having different functions: broadly, the idea is similar to a traditional variationist study, in that we will be comparing the proportional use of one particular form compared to another for the same or similar functions.

Finally, the third chapter (chapter 13) looks at list intonation. Again, in this chapter, participants produce utterances in response to similar prompts; more spontaneous list data is also looked at from the interviews. The contours used are examined, and difference in the proportions of different contour use are taken to indicate differences in function of those contours.

All three of these chapters are intended to elicit utterances in which the rise-fall contour

has been said to be used in Jewish English and Yiddish the past, with more details in each section about what the functions of the rise-fall in those particular contexts are, and how these functions do (or do not) appear to revolve around a core meaning or function of some sort.

11.1   Discourse Completion Task (DCT) design

A Discourse Completion Task (DCT) was designed to elicit the constructions, apart from lists, that have previously been noted to be produced with a rise-fall in both Yiddish and Jewish English (Weinreich, 1956; Newman, 2000): incredulous questions, echo questions, questioning vocatives, and "dramatic" transitions. All of these functions are examined separately, but a common meaning is proposed: all involve (1) a contrast in belief states and (2) indicate that the utterance is "forward-looking", in that it is to be interpreted with respect to a subsequent clause (either the next clause spoken by the speaker, as in the dramatic transitions, or the interlocutor's expected reply, as in the questions).

11.2   The rise-fall in questions

Weinreich (1956) described three types of questions which can be produced with a rise-fall: "incredulous" yes/no questions, "echo" questions, and "questioning vocatives". The first two question types are similar to those which have been previously described and defined in Standard English.

Hirschberg and Ward (1992) give the following examples (their examples 1 and 2; orthography reproduced as it is in the paper) for "uncertain" and "incredulous" questions, which are produced using the same nuclear contour, L*+H L-H%.

(8)   A: So, do you tend to come in pretty late then?

B: ELEVEN in the morning.

L*+H L-H%

(9) A: I'd like you here tomorrow morning at eleven.

B: !ELEVEN in the morning!

L*+H L-H%

According to Pierrehumbert and Hirschberg (1990), examples like (8) and (9) share a common meaning of conveying the speaker's attitudes about the choice of a scale or scalar value. In (8), it is at their own choice of a scalar value: B is not sure whether or not A considers 11am to fall on the "pretty late" end of the scale. However, in (9), B is expressing an opinion about the scale itself proposed by A's utterance: 11am is not, in B's mind, an appropriate time to come in to work at all. A similar example is given in Pierrehumbert and Hirschberg (1990), reproduced in (10).

(10) A: Did you take out the trash?

B: Sort of

L*+H L-H%

A: Sort of

L*+H L-H%

In (10), B's utterance uses a L*+H L-H% to express uncertainty about whether or not what they've done falls on the "take out the trash" end of a scale; in response, A uses a L*+H L-H% to express incredulity about the proposal that garbage removal is gradable at all.

Pierrehumbert and Hirschberg describe these "uncertain" and "incredulous" questions as sharing the core meaning of signaling the speaker's attitude about a scale or scalar values. These types of questions are both produced with the same contour in American

English, ToBI transcribed L*+H L-H%, with the difference in the contour being perceived as "uncertain" or "incredulous" resting in the pitch range and spectral tilt in the production of the contour. Pierrehumbert and Hirschberg (1990) propose that this core meaning is mainly carried by the L*+H pitch accent, rather than the entire contour, with the L-H% (particularly the H% boundary tone) serving to mark the utterance as "forward-looking"; that is, the utterance is to be interpreted with respect to the subsequent utterance (here, the response from the other speaker).

We can also connect the meaning of Hirschberg and Ward's (1992) L*+H L-H% contour with a set of examples given in Ladd (1981). Ladd (1981) describes near minimal pairs of "inner negation" and "outer negation" polar questions. He gives the following example for an "inner negation" question:

(11)   Bob: I'd like to take you guys out to dinner while I'm here–we'd have time to go somewhere around here before the evening session tonight, don't you think?
       Kathleen: I guess, but there's not really any place to go in Hyde park.
       Bob: Oh, really, **isn't there a vegetarian restaurant around here?**
       Kathleen: No, about all we can get is hamburgers and souvlaki.

Ladd describes these questions as resulting from a change in the speaker's knowledge state. In example (11), the speaker has previously believed a proposition p (that there is a vegetarian restaurant), and has received evidence for ¬p ("not p"; that there is not a vegetarian restaurant). The speaker is using the question, shown in bold, to confirm ¬p. We can recast the observations of Ward and Hirschberg in similar terms: in (9), the ¬p is that 11 o'clock is an acceptable time to come to work; in (10) the ¬p is that garbage removal is gradable. The meanings in all three cases are similar, and so is the intonation: Ladd notes that these "inner negation" questions are also produced with a nuclear rise-fall-rise contour.

Although Weinreich divides them into two categories, his "incredulous" and "echo" questions both seem to be quite similar in meaning to Pierrehumbert and Hirschberg's "incredulous" and "uncertain" questions, as well as Ladd's "inner negation" questions. Weinreich gives the following example for an echo question: *Efsher shloft er* (Literally, "Perhaps sleeps he", glossed as meaning 'He may be sleeping, did you say?' when produced with the rise-fall). He states that when produced with a rise-fall "The construction becomes an echo: the probable negation then refers not to the content of the construction but *to the fact of its having been uttered*" (emphasis mine). Here, then, the echo question is, like in (9) and (10), an expression of the speaker's attitudes about a proposed scale or scalar value. Similarly to (9), what is being questioned is the appropriateness of an activity at a given hour (in this case, sleeping), rather than actually asking if the person is sleeping. As such, we can collapse Weinreich's "incredulous" and "echo" questions as signaling a similar core meaning.

The following prompts were used in the DCT to elicit questions which, under Weinreich's analysis of the rise-fall, and Pierrehumbert and Hirschberg and Ladd's descriptions of English, should be all produced using the same or similar contour within each language, as they are expressing the same or similar meanings. In Yiddish, these questions could all be produced with a rise-fall; in English, a rise-fall-rise. In both Yiddish and English, the peak of the rise should follow the stressed syllable, based on Weinreich's descriptions of the contour in Yiddish, as well as Pierrehumbert and Hirschberg's annotation of L*+H. Prompt (a) is modeled after Weinreich's examples; prompts (b)-(e) are modeled after Armstrong (2012) (some following Ladd (1981)), which examined similar question types in Puerto Rican Spanish. Each had an English version as well as a Yiddish version. The Yiddish versions are meant to be similar, but not quite the same, as the English prompts, as the Yiddish speakers would have seen both over the course of the interview[1].

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[1] The translation of the majority of the prompts was checked by two other Yiddish speakers not from the community, one a native speaker, and both with linguistic training; both ensured that the prompts sounded natural, and while, in mostly Standard Yiddish, would not cause any significant problems for those without

(a) Holiday

Your alarm goes off, and you wake up. You start getting ready for the day. Your spouse
tells you to go back to sleep: today's a holiday, and you don't have to go to work! You
are surprised. Confirm with your spouse what they just said.

Today is a holiday?!

*Ayer khaver derzeylt aykh, az haynt iz a yontef. Vundert ir zikh, veyl zayt ir zikher
geven, az haynt iz nisht a yontef. Ir fregt:*

Haynt iz a yontef?!

("Your friend tells you that today is a holiday. You are surprised, because you were
sure that today is not a holiday. You ask:

Today is a holiday?!")

(b) Temperature

You're having dinner at a restaurant. It's very hot. Next to you, your son is shivering.
Surprised, you ask him if he's cold.

You're cold?!

*Ir zayt in shul. Es iz gor kalt. Lebn aykh, zitst ayer zun a farshvitster. Vundert ir zikh
un fregt im tsi s'iz im heys.*

Dir iz gor heys?! ("You are in synagogue. It's really cold. Next to you sits your son,
sweating. You are surprised, and ask him if he is hot.

Really? You're hot?!")

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formal education in the Standard. Three of the prompts–"Holiday", "Town", and the cooking one in the
section below–were added on afterwards, and were created with help from another, non-native, speaker of
Yiddish, and so there may be some differences of phrasing. Overall, the majority of the prompts were
successful in eliciting the desired responses: The prompts being written in the Standard did not seem to
pose significant issues for either Ira or Joe (N.B. that Sarah received training in the standard); Ira produced
phonetically SEY forms throughout the task; likewise, the participants did not have difficulty responding to
the "Holiday", "Town", or cooking prompts.

(c) Election/Purim

Your friend tells you that Marnie won the election. You can't believe it, and want to confirm.

Marnie?!

Ayer khaver derzeylt aykh, az ayer khaverte leah vet shpiln ester in der purim-shpil. Vundert ir zikh, un fregt:

Leah?!

("Your friend tells you that your friend Leah is going to play Esther in the Purimspiel. You are surprised, and ask:

Leah?!")

(d) Mayor/Poland

Your friend tells you that your friend Laurie is running for mayor. You can't believe it, and ask again.

Laurie is running for mayor?!

Ayer khaver derzeylt aykh, az ayer khaverte leah vet forn keyn poyln. Vundert ir zikh un fregt:

Leah vet forn keyn poyln?! ("Your friend tells you, that your friend Leah is going to move to Poland. You are surprised, and ask:

Leah is going to move to Poland?!")

(e) Town

You are visiting your friend in Cincinnati, and you're craving a good sandwich. You ask your friend if there are any delis around, and he says that there aren't any. You are surprised.

There aren't any delis around here?

Ir zayt an Tolito mit a khaverte. Ir hot lib far bikher, un fregt ayere khaverte tsi es iz

a gute bikherkrum derbay. Zi zogt neyn. Vundert ir zikh un fregt:

Emes? S'iz nisht keyn gute bikherkrum derbay?

("You are in Toledo with a friend. You love books, and ask your friend if there is a

good bookstore nearby. He says no. You are surprised, and ask:

Really? There's no good bookstore nearby?")

11.3   The rise-fall in vocatives

Weinreich (1956) also notes "questioning vocatives" as a context in which a rise-fall contour
can be used by some speakers. These are vocatives, he said, which can be glossed as "X, is
that you?". These questioning vocatives appear to share a core meaning with the questions
above, in that they are close to the "uncertain" questions described by Pierrehumbert and
Hirschberg: the speaker is checking to see if the person is in fact, the person they think they
are. Again, based on Weinreich's descriptions, we expect these questioning vocatives to be
produced with the same contour as the "incredulous" and "uncertain" questions in Yiddish
(a rise-fall). If the English speakers produce the contours within a single intonational phrase,
we would expect a rise-fall-rise (to indicate uncertainty); however, there is the possibility
that they might produce the two questions in two IPs, with canonical question rises on
each. Another possibility is that, for non-questioning vocatives, English can use what Ladd
(1978) calls a "stylized fall", which would be ToBI transcribed as H* !H-L%, but only in
"ritualized situations" (e.g., a greeting that's not really a greeting). Otherwise, a plain fall
is used.

The following prompts were used to elicit these constructions in Yiddish and English

(a) Vocative

You are home alone, and you hear somebody come in the front door. You think it is your daughter Marnie, but you're not sure. You say:

Marnie? Is that you?

Ir geyt oyf der gas un derzet emetzn. Ir meynt, az dos iz ayer khaverte leah, ober ir zayt nisht zikher. Fregt ir:

Leah, dos bistu?

("You're walking down the street, and you see someone. You think that it's your friend Leah, but you're not sure. You say:

Leah? Is that you? ")

11.4 The rise-fall in "dramatic transitions"

Weinreich (1956) and Newman (2000) note that the rise-fall can be used in "dramatic transitions". One example Newman gives is the rise-fall's use in *a fortiori* arguments. An *a fortiori* argument is an "argument from strength", where, e.g., a prohibition against something in a "weaker" situation is also necessarily held in a "stronger" situation. For example, if somebody is incapable of boiling water, it is likely that they cannot prepare an elaborate meal. These types of arguments often show up in Talmudic discourse, in e.g., determining what sorts of actions are permissible on days with more or less stringent prohibitions on activities.

Two *a fortiori* constructions were elicited. In English, the first prompt was as follows:

(a) Snow

It has been snowing all day. You live at the bottom of a steep hill, and saw your neighbor try- and fail- to drive his big Jeep Wrangler up the hill. Your spouse asks you if you think it's possible to drive to the store. You don't think so, because Norman has a bigger car, and wasn't able to do so. Tell your spouse.

If Norman couldn't make it in his Wrangler, you couldn't make it in your sedan.

Here, the "argument from strength" is that since Norman has the more powerful car and wasn't able to make it up the hill, a less powerful car would not be able to, either. In this utterance, "Norman", "you", "Wrangler", and "sedan" are all also in focus, as "Norman" is explicitly contrasted with "you", and "Wrangler" with "sedan", under the definition of focus given in Rooth (1992). We expect, in Mainstream American English, that first, these focused words should be produced with rising pitch accents (Ladd, 2008; Burdin et al., 2015), and second, the two clauses should be linked by a rising edge tone, signaling that the first phrase should be interpreted with respect to the second.

The second prompt is as follows:

(a) Memorial Day

It's Memorial Day, and you're having a cookout. You run out of hamburger buns. Your friend asks you if you think that the corner store would be open today. You don't think it will be open, because they're normally closed on Mondays, and today is also a holiday. Tell your friend that you don't think they're open.

If they aren't open on normal Mondays, they wouldn't be today.

The "argument from strength" here parallels the types of Talmudic discourses described in Newman (2000). *Shabes* 'Shabbat, Sabbath' has the most restrictive prohibitions against activities which can be performed. Various *yontoyvim* 'major holidays' also have restrictions; however, they tend to be less stringent than those for Shabbat. This means that, if an activity is prohibited on a *yontef*, it will also be prohibited on Shabbat. Newman thus gives example (12) for an *a fortiori* argument.

(12) Oyb men tor nit af yontef, iz zikher tor men nit af shabes

"If one may not on a holiday, then certainly one may not on Saturday"

In the prompts above, it is assumed that any store that is usually closed on Mondays will certainly be closed on Mondays that are also holidays. Again, we have items which are in focus ("normal Mondays" contrasted with "today"), and thus, in English, we expect rising pitch accents, as well as a high edge tone linking the two clauses, showing that that first clause is to be interpreted with respect to the second clause.

The Yiddish versions of the prompts were as follows; (b) is partially modeled after an example in Newman (2000):

(a) *Ayer khaverte Soroh iz a shreklekhe kekhne- ir kneydleykh zayn hart, un moes. Rifke*
    fregt ir, tsi soroh ken beygl makhn. Ir sogt:
    Az zi ken nisht a kneydl makhn, ir zikher ken zi nisht a beygl makhn.
    ("Your friend Sarah is a bad cook: her matzah balls are hard, and disgusting. Rifke asks you if Sarah can make bagels. You say:
    If she can't make a matzah ball, it's certain that she can't make a bagel.")

(b) *Ir kent a porfolk, noah un soroh. Zey tuen alts tsuzamen. Ir un ayer man veln makhn*
    a simkhe. Derzet ir noah un fregt im, tsi ir vet kumen oyf dayn simkhe. Zogt ir az jo.
    Az ir iz shoyn avek, khapt ir zikh, az ir hot fargesn tsu fregn, tsi soroh vet oykh kumen.
    Fregt aykh ayer man, tsi ir meynt, az soroh vet kumen. Zogt ir:

    Az er kumt, iz zikher kumt zi.
    ("You know a couple, Noah and Sarah. They do everything together. You and your husband are going to have a party. You see Noah, and ask him, if he's coming to the party. He says yes. After you've left, you realize that you forgot to ask if Sarah is also

coming. Your husband asks you if you think that Sarah will come. You say:

If he's coming, it's certain that she will. ")

The third prompt was a "counter-factual" if/then statement somewhat modeled after Newman (2000), p. 312.

(a) Your favorite restaurant rotates between two pie flavors: lemon, and lime. You only have dessert when they have lemon, since you hate lime. You go out to lunch there with your friend. You ask the waitress what the pie of the day is, and she says it's lime. Your friend asks if you're having dessert or not. Tell your friend that you're not having dessert, since the pie of the day is lime, and not lemon.

If they had had lemon, I would've eaten it.

In Yiddish, the prompt was as follows, with the response again modeled after Newman (2000).

(a) *Ir kokh a fleyshike vetshere, un khapt zikh, az ir hot nisht keyn pareve margarin. Az ir derlangt dos esn zum tish, fregt aykh ayer man, far vos du gibt nisht keyn margarin mitn broyt. Zogt ir:*

Oyb di margarin volt geven pareve, volt ikh es dir gegebn mit fleysh.
("You make a fleyshig[2] dinner, and realize that you don't have any pareve margarine. When you put the meal on the table, your husband asks why you didn't bring any margarine with the bread. You say:

If the margarine were pareve, I could give it to you with the meat")

[2]Jewish dietary laws prohibit eating dairy and meat together; a fleyshig meal is one in which meat is served. Pareve items are those which are neither dairy nor meat, and so, can be eaten with both.

Again, for these utterances, in English, we expect a rising pitch accent on the word "lemon", as it is the item in focus here (contrasting with other potential flavors of pie), and some sort of rising edge tone linking the two clauses, and indicating that the first clause is to be interpreted with respect to the following clause. For the Yiddish utterances, we expect a rise-fall instead, based on Newman's (2000) descriptions. The distinctive part of the Yiddish rise-fall here, again, is in what happens at the phrase edge.

These "dramatic transitions" share some similarities with the incredulous questions described above, if we take Ladd's (1981) description of the questions as happening when the speaker has believed p, but recently received evidence for ¬p. All of the prompts involve the speaker providing the listener with evidence that should change the listener's belief state: the car cannot make it up the hill because Norman failed; the store won't be open, because it's Monday and a holiday; I won't be eating desert because there's no lemon pie. This change in belief state is also evident in Weinreich's example (25), where he states that the rise-fall adds the meaning provided in the brackets. The key "dramatic" thing that the rise-fall adds is not just the contrast, but the change in belief state of the subject of the clause. For both the questions, and the dramatic transitions, we are dealing with shifts in belief states.

(13) Az   s'iz gevorn tog, hot er dezen dem khurbn   arum   zikh
      When it.is become day had he saw   the devastation around him
      "[All night he wasn't aware of a thing but] when day broke [*then*] he saw the
      devastation around him."; Lit. "When the day broke, he saw the devastation around
      him"

We thus see similar meanings across the functions noted for the rise-fall for Weinreich and Newman in Yiddish. All first involve a change in belief state, as well as a "forward-looking" function, in that the utterances with the rise-fall are to be completed by a subsequent utterance (either an answer to the question, or the next clause).

These meaning, to a certain extent, align with descriptions of the meaning of rise-fall-rise contours in English. We expect, then, to find rise-falls used in Yiddish, and rise-fall-rises in English, in the subjects' responses to these prompts, as well as, possibly, rise-falls used in Jewish English.

11.5 Methodology

The DCT was the last part of the interview. The interview was structured to move from most spontaneous (the interview) to least spontaneous speech, as it was hoped that the participants would feel somewhat more relaxed by the time they got to the more formal parts of the interviews. For the Yiddish speakers, the sequence at the end of the interview was as follows: first, in English, they told their holiday story, read *Frog, Where are You?* and then completed the English DCT. They then switched into Yiddish, and told their holiday story, read through *A Boy, a Dog, and a Frog*, and then completed the DCT in Yiddish. The Yiddish tasks were done second to reduce any priming effects in the first task, meaning that any Yiddish-like features in their English were likely those that were present in their day-to-day speech, and not the result of speaking Yiddish immediately prior.

The prompts for the English DCT were printed on index cards, and given in a semi-random order to the participants: care was taken to give a relatively simple scenario first, to get the participant comfortable with the task. The prompt was read to the subject, and then the card was passed to the subject. A suggested response was given, in italics, to the subject, on the card. Participants were told that they could either use the suggested prompt (but were encouraged to "sound natural", and to "say as if you were actually in that situation") but were also told that they could respond using a different utterance if they'd like. For the most part, participants produced either the utterance on the card, or something close to it; however, others went a bit farther afield (particularly Ira and Joe,

which caused some issues for analysis; see below for examples)[3].

There were varying degrees of comfort with the task: those with acting or arts experience appeared to enjoy the task and produce fairly natural-sounding utterances. If participants sounded too much like they were reading, they were reminded to "sound natural" and to "say it as if they were really in that situation", and then prompted to try again. However, a few of the participants sounded a bit stilted throughout, and one of the subjects would, despite repeated prompts, report indirect speech ("Well, I would probably tell my friend that they should"); both of the female Yiddish speakers fell into these categories. Another subject (one of the older Jewish subjects) frequently would question the premise of the cards (e.g., would claim that it would be unlikely for her to be a situation where she didn't realize that it was a holiday) and, occasionally presented reported speech. These types of utterances were excluded from the analysis.

For the Yiddish examples, participants were given the option of seeing the prompts in either Hebrew or Roman orthography, and read the prompts themselves, rather than having me read them to them, to prevent them from accommodating to my (non-native accented) Yiddish speech. Like in English, the Yiddish speakers would sometimes produce reported speech, in which case they were prompted to revise their response.

The results from the DCT were orthographically transcribed, and ToBI annotated by the author.

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[3]Other versions of the DCT, as used for intonation do not explicitly give subjects a suggested prompt (although there may be target prompts that the instructors expect the speakers to use). A suggested prompt was used in order to get more consistent data from the participants. As noted above many of the participants did not read directly from the card, but still produced responses that were somewhat similar to the suggested one.

11.6 Results

11.6.1 Incredulous questions in English

The utterances were ToBI annotated, and annotations were extracted. For the incredulous questions prompts, only utterances that were determined to be questions were included. These included, first, utterances that exactly matched the suggested prompt (e.g., responding with "Marnie" to the Election prompt), and secondly, utterances that did not match the prompt, but did have other, non-prosodic, markers of questionhood (e.g., subject-auxillary inversion or use of an initial wh-word). This gave a total of 87 utterances, out of a possible 100 (5 x 20).

36 of these, or about 40% were produced with a L*+H L-H%, the main contour predicted by Pierrehumbert and Hirschberg (1990), on a question somewhere in the utterance. Both Jewish (Yiddish-speaking and not) and non-Jewish subjects produced L*+H L-H% in these contexts, as can be seen in table 11.1, and in fact, the Yiddish-speaking participants were using rise-fall-rises at about the same rates as the non-Jewish participants.

Out of the remaining utterances, about half included a L*+H pitch accent somewhere in the utterance; recall that Pierrehumbert and Hirschberg (1990) state that it is the L*+H in particular which carries the "incredulous" meaning. A third of the remaining utterances (17/51) had some sort of final rise consisting of a L* H- (either L* H-H%, or L* H-L%), which is a canonical question type in English; the L* H-H% in particular has also been noted as being used on incredulous questions in English (Pierrehumbert and Hirschberg, 1990). Again, both L*+H and rises were used by all groups, as shown in table 11.2 and 11.3, with Yiddish speakers using proportionally more (but this number is likely skewed by having a much smaller sample size, with the Yiddish speakers producing only half as many utterances as both groups of non-Yiddish speakers, who were somewhat similar to each other in the use of rises– 72% and 65%).

Rise-falls were produced in response to these prompts. However, these rise-falls were not

Contour	non-Rise-fall-rise	Rise-fall-rise	Total
Jewish subjects	28 (53%)	25 (47%)	53
English	18 (47%)	20 (53%)	38
Yiddish	10 (67%)	5 (33%)	15
Non-Jewish subjects	23 (68%)	11(32%)	34
Total	51	36	87

Table 11.1: Use of L*+H L-H% in incredulous questions

Contour	Not L*+H	L*+H	Total
Jewish subjects	16 (57%)	12 (43%)	28
English	11 (61%)	7 (39%)	18
Yiddish	5 (50%)	5 (50%)	10
Non-Jewish subjects	10 (43%)	13 (57%)	23
Grand Total	26	25	51

Table 11.2: Use of L*+H in incredulous questions that were not produced with a L*+H L-H% contour

Contour	Not Rise	Rise	Total
Jewish subjects	6 (21%)	22 (79%)	28
English	5 (28%)	13 (72%)	18
Yiddish	1 (10%)	9 (90%)	10
Non-Jewish subjects	8 (35%)	15 (65%)	23
Grand Total	14	37	51

Table 11.3: Use of rises in incredulous questions that were not produced with a rise-fall-rise contour

unexpected based on general descriptions of English intonation, as they occurred on wh-questions, which have been described as having falling, rather than rising, boundary tones (see, e.g., Cruttenden (1981)), and the use of a L*+H is also not unexpected; as noted above, it is the L*+H, rather than the rising edge tone, which primarily conveys incredulity or surprise. For example, one (non-Jewish) participant responded with (14), with a rise-fall (L*+H L-L%):

(14)   What holiday IS this?

From this data, we see that all three groups of participants–Yiddish speakers, monolingual Jewish English speakers, and non-Jewish English speakers–made use of the tones and tunes noted for English incredulous questions; namely, L*+H L-H%, L* H-H%, and L*+H. There was not any evidence for use of a Yiddish influenced rise-fall in English by either the Yiddish speakers or the Jewish English speakers as a group.

11.6.2   Incredulous questions in Yiddish

Turning to the Yiddish data, Ira, Sarah, and Joe[4] produced rise-falls in responses to the prompts, but these were similar to (14) in that they also occurred on the wh-questions given in examples (15) through (17) and shown in figures 11.1 though 11.3[5].

(15)   Vos   far a yontef   iz haynt?
       What for a holiday is today?
       "What sort of holiday is today?"

(16)   Vos   far a yontef   iz dos?
       What for a holiday is this?

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[4]Dottie had some issues with the DCT, and won't be discussed here

[5]The TextGrids for each figure show, in order, (1) the Yiddish word boundaries, (2) Yiddish syllable boundaries for key words (if necessary; i.e., if the words are not one syllable each), and (3) the English gloss for each word (except for proper names).

"What sort of holiday is this?"

(17) Vos   meynst du, haynt iz a yontef?
      What mean   you, today is a holiday?

      "What do you mean, today is a holiday?"
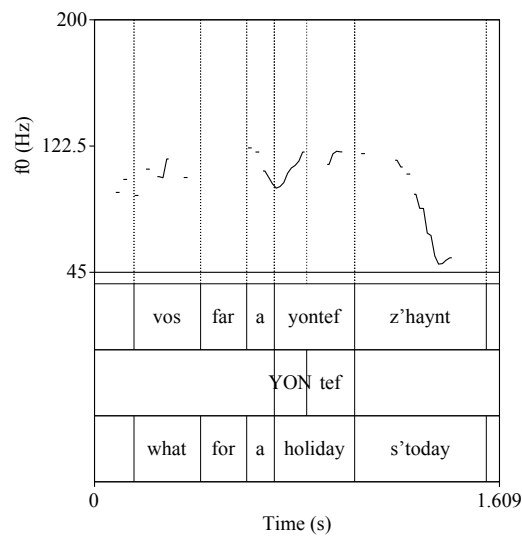
Figure 11.1: *Vos far a yontef iz haynt?* "What sort of holiday is today?"

The main difference between these utterances and the English ones is that the peak of the rise occurs within the stressed syllable (phonetically equivalent to a L+H*), rather than following, as in an English L*+H, as can be seen in the figures. However, the fall at the end of the utterance is similar to the wh-questions produced in English, in that it reached to the bottom of the speaker's pitch range.

However, one subject, Ira, also produced a rise-fall immediately before he said (15), on a polar question, shown in example (18); parallel to the example in Weinriech (1956), with f0 track shown in 11.4.
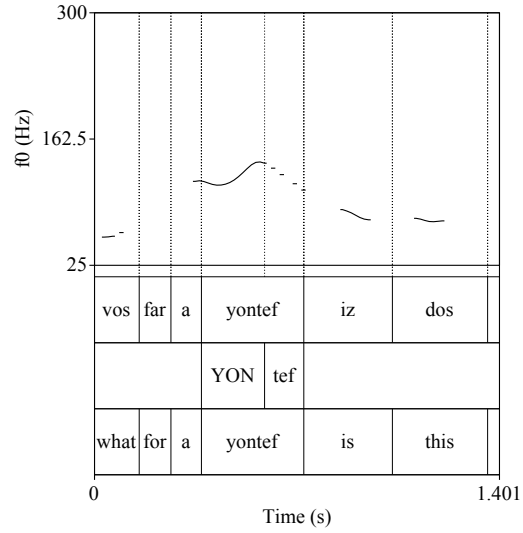
Figure 11.2: *Vos far a yontef iz dos?*; "What sort of holiday is this?"
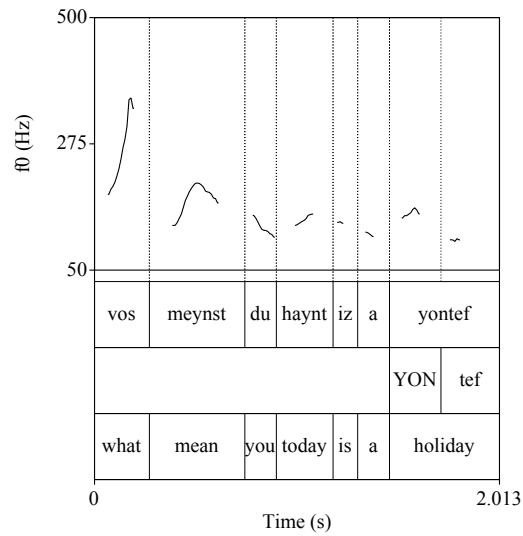
Figure 11.3: *Vos meynst du, haynt iz a yontef?* "What do you mean, today is a holiday?"

(18)   Haynt iz a yontef?
       Today is a holiday

       "Today is a holiday?"
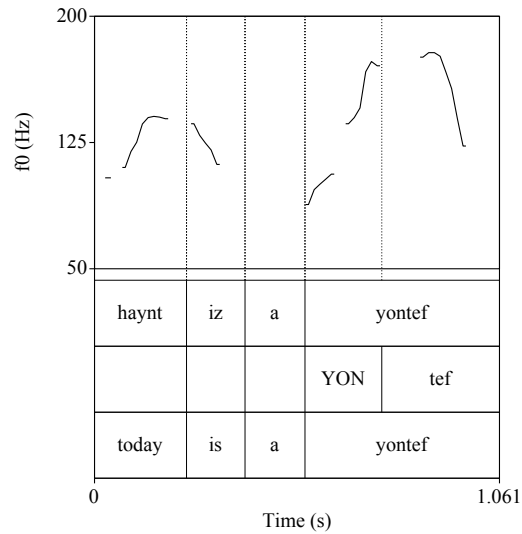
Figure 11.4: Rise-fall on an incredulous question; *Haynt iz a yontif?* "Today is a holiday?"

Ira also produced a rise-fall in response to the Purim prompt, (19), shown in figure 11.5.

(19)   Leah geyt   sphiln? Z'iz   a gute   shpilern?
       Leah going act.inf She's a good.fem.sg.nom performer

       Leah's going to act? She's a good performer?

And in response to the Town prompt, (20), shown in figure 11.6.

(20)   In der   gantser   shtot?
       In the.fem.sg.dat whole.fem.sg.dat city?

       "In the whole city?"
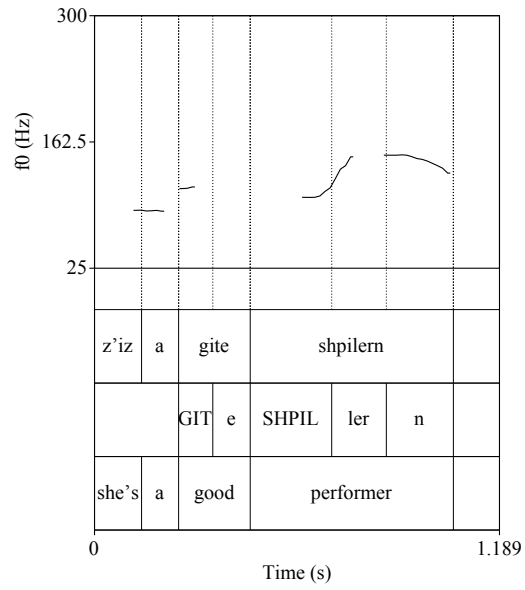
Figure 11.5: Rise fall on "shpilern"
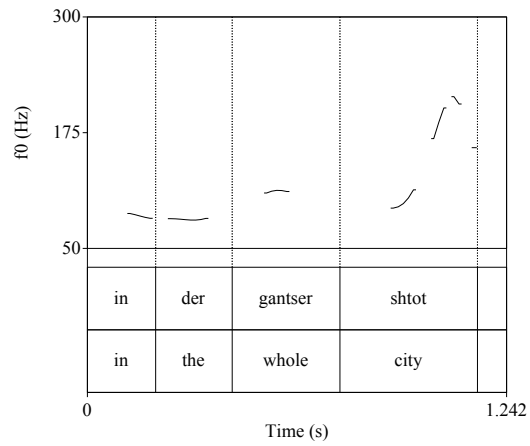
Figure 11.6: Rise-fall on "shtot"; *In der gantser shtot?*; "In the whole city?"

In (18), the peak is located within the stressed syllable; in (19), just after. In (20), as the word is monosyllabic, we can't make judgements about the peak's relationship to the stressed syllable, but the peak does appear to be quite late. Ira thus appears to make use of the rise-fall noted by Weinreich (with some variation regarding the exact location of the peak) on these incredulous questions, but, again, only in his Yiddish: he did not produce similar rise-falls on non-wh questions in his English, instead producing rise-fall-rises, and rises.

The other two participants, Joe and Sarah, produced rises on these types of questions in their Yiddish, as can be seen in figures 11.7 and 11.8. This appears to be a split then, between Ira (who had Yiddish as his L1) and these two (who learned Yiddish slightly later in life), at least for these question types. Whereas Joe and Sarah were able to acquire some phonetic aspects of rise-falls in Yiddish, as described in chapter 10, they do not seem to have acquired all of the functions of these rise-falls.
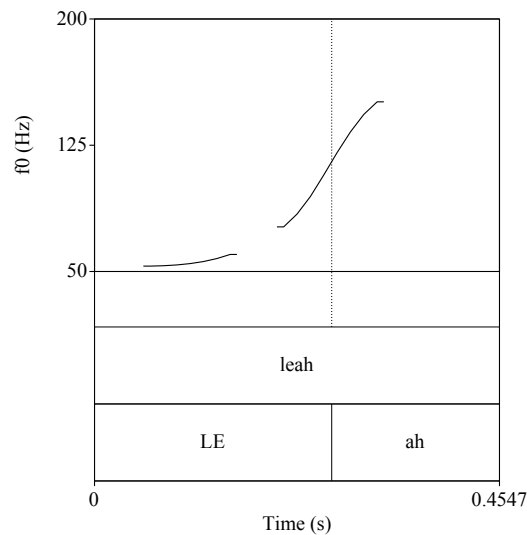
Figure 11.7: Joe's rise on "Leah"
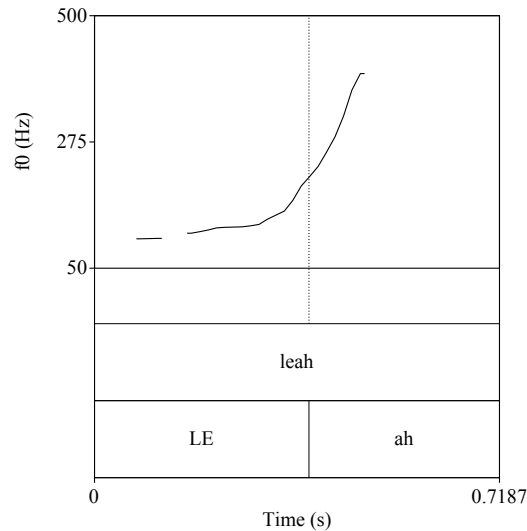
Figure 11.8: Sarah's rise on "Leah"

11.6.3 English vocatives

A summary of the contours used in reposes to the vocative prompt is shown in table 11.4. The participants tended to produce the utterance in two IPs, with one for "Marnie", and the other for "Is that you?". Two participants produced the utterance in one IP; their data is shown in the second column (and hence the count of 18 for the first column). One produced a rise-fall-rise (L*+H L-H%), using the words given in the prompt; another produced a fall, but on a wh-question ("Who's coming in the front door?").

For the most part, when speaking English, participants used a rise both on the first IP ("Marnie") (with most of those rises, 7/12, being a L* L-H% low rise) and the second IP ("Is that you?") (with most of those, 10/16, being a L* H-H%) high rise. Most of the falls (4/5 for the first IP and 2/4 for the second) involved either a !H- or a !H-L%, as predicted by Ladd's (1978) description of stylized calling contours. In sum, the participants from all groups tended to produce either canonical question rises or the "stylized falls" noted by Ladd. No L+H* !H-L% contours were produced in response to this prompt.

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First IP ("Marnie")		Second IP ("Is that you?")	
Rise	Fall	Rise	Fall
12/18 (67%)	5/18 (28%)	16/20 (80%)	4/20 (20%)

<div align="center">Table 11.4: Contours on vocatives</div>

11.6.4 Yiddish vocatives

In response to the Yiddish prompt, Ira produced a rise-fall fully contained on "Leah", as shown in figure 11.9, followed by a rise. The full context is given in (21).

(21) Leah, kh'hot dir nisht gekant!
      Leah, I.had   you not   known

      "Leah, I didn't recognize you!"
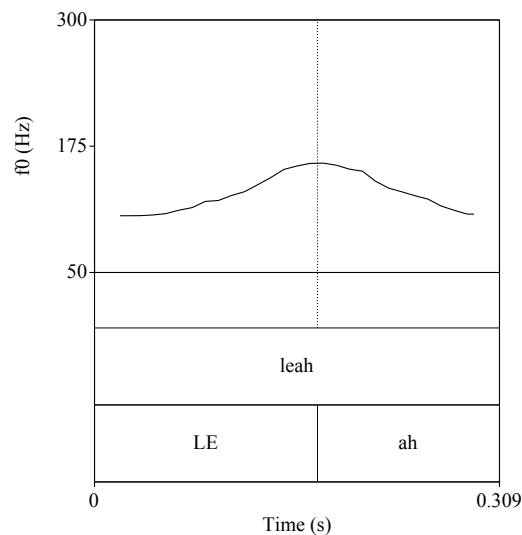
<div align="center">Figure 11.9: Rise fall on "Leah" in a vocative context</div>

It should be noted that Ira reacted to the prompt slightly differently: he has gone slightly further in the imagined scenario in which the unknown person has been confirmed

to be Leah, and he is talking to her; as such, this vocative is not quite parallel to the ones described by Weinreich (1956).

He used a similar rise-fall, again on the word "Leah", in his response to the Poland prompt in (22), with the f0 track shown figure 11.10.

(22) Leah, du geyts forn   zu polan?   Ikh bin geboyrn gevoyrn do!
      Leah, you going to.move to poland? I   am become born   there
      Leah, you're moving to Poland? I was born there!
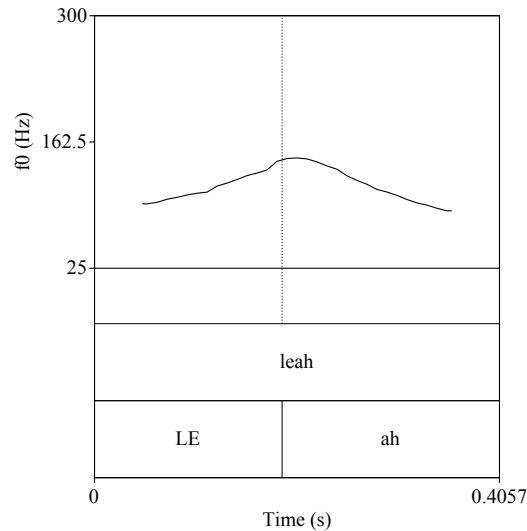
Figure 11.10: Rise-fall on "Leah"

Using a rise-fall contour in this context would not be out of the ordinary in English, however it would likely not have as steep a rise, or fall, and would likely be H* !H-L% as noted above; these rise-falls seem closer, phonetically, to a L*+H L-L%, with a sharp rise to the syllable following the stressed syllable, followed by a fall to the bottom of the speaker's pitch range.

Joe did not produce a rise-fall in Yiddish in response to this specific vocative prompt, or the Poland prompt; however, he did spontaneously produce a similar rise-fall, in Yiddish,

during a Yiddish club meeting, as shown in figure 11.11. Again, the peak of the rise is located after the stressed syllable, followed by a fall to the bottom of the speaker's pitch range. Note that "Yehudah", although a name that theoretically could be either Yiddish or English, does appear to be the locus of a code-switch here. He had previously in the exchange referred to "Yehudah" by her English name; the full context is given in (23).
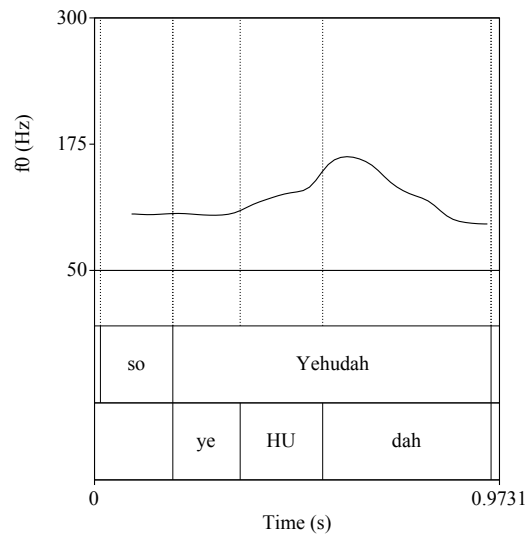
Figure 11.11: Rise-fall on "Yehudah"

(23)   It's a great melody, called *malkele*.
       And how did that work its way into the *peysakh* ["Passover"] seder?
       So, *Yehudah*?
       Zogs- zog mir. ["Tell- tell me"]

These three rise-falls seem to line up, at least in form, with those described by Weinreich, particularly in the location of the peak (following, rather than on, the stressed syllable). These are in contrast to the rise-falls observed on most of the incredulous questions, where the peak was on the stressed syllable.

It appears, then that Ira has a rise-fall in vocatives in his Yiddish, if not quite the same vocatives described by Weinreich: these are vocatives used to directly address a person, rather than the "questioning" vocatives described by Weinreich, which are used to confirm the identity of the addressee. Joe likewise uses these vocative rise-falls in Yiddish, as shown by the example above pulled from the Yiddish club recording, although he did not produce them during the interview. However, Sarah did not produce any rise-falls in vocative contexts, either in the interviews or the Yiddish club contexts. Here, we see a split between Sarah, and Ira and Joe, in the use of this contour in Yiddish.

11.6.5 English "Dramatic transitions"

As above, some of the participants used the suggested prompts; others went off script, and produced their own utterances. In order to better compare across participants, the presence or absence and type of pitch accent on the focused (contrastive) elements in each clause, as well as the presence and type of edge tone between the two clauses were coded. The list below summarizes which items were coded for which prompt. If the participant did not produce an appropriate utterance, the item (or part of the item) was ignored. For example, a response like "Absolutely not" to the Snow prompt had nothing coded; a response like "I don't think we can get up there" had the pitch accent (or in this case, lack thereof) on "we" coded for (but not the edge tone between the clauses, as it was produced in a single ip/IP). A total of 60 utterances were collected; 3 were excluded for being reported speech; the numbers in the following results sections represent the appropriate subsets for each item.

- Pitch accent on "Norman" or equivalent NP (e.g., "he")

- Pitch accent on "Wrangler" or equivalent NP (e.g., "his car")

- Pitch accent on "you" or equivalent NP (e.g., "we")

- Pitch accent on "sedan" or equivalent NP (e.g., "your car")

- Edge tone between phrase talking about Norman's lack of success and phrase talking about their probable lack of success

- Pitch accent on "normal Mondays" or equivalent NP

- Edge tone between phrase talking about the store usually being closed and the store being closed in this specific instance

- Pitch accent on "today" or equivalent NP (e.g., "holiday Mondays"; *yontef*)

- Pitch accent on "lemon" or equivalent NP (e.g., "favorite type of pie")

- Edge tone between phrase describing hypothetical and hypothetical action

The Yiddish equivalents were as follows:

- Movement of f0 on "er" or equivalent NP (e.g., "Noah")

- Movement of f0 "zi" or equivalent NP (e.g., "Soroh")

- Movement of f0 between phrase describing Noah's likely attendance and Soroh's likely attendance

- Movement of f0 on "beygl makhn"

- Movement of f0 on "kneydl makhn"

- Movement of f0 between phrase describing inability to make bagels, and phrase describing inability to make kneydleykh.

- Movement of f0 on "pareve"

- Movement of f0 between phrase describing hypothetical (existence of pareve margarine) and hypothetical action (serving the margarine)

Pitch accents

As a reminder, for the English items, we expect (1) rising pitch accents on the focused items and (2) some sort of high edge tone to link the two clauses. Tables 11.5 and 11.6 summarize the results[6].

The first thing to note is that none of the groups consistently marks focused items with rising pitch accents (or, necessarily even pitch accented focused items at all), paralleling other findings of naturalistic focus data in English (Burdin et al., 2015). For items in the first clause, the Jewish participants used more rising pitch accents than the non-Jewish participants, with 12 out of 25 (48%) having a rising pitch accent (L+H* or L*+H). For the non-Jewish subjects, around 32% (6 out of 19) had rising pitch accents. For items in the second clause, for the non-Jewish subjects, 13/19 (42%) had rising pitch accents, compared to 5/28 (18%) for the Jewish subjects. We thus see more rising pitch accents for the Jewish subjects compared to the non-Jewish subjects on the first clause, but fewer for the second clause. The relative lack of data from the Yiddish subjects (only 4 items were produced that matched the prompt from the speakers) makes comparisons across languages difficult, and will not be elaborated on here.

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[6]For these and similar tables, percentages may not sum to 100 due to rounding.

Pitch accent	!H*	H*	H+!H*	L*+H	L+H*	no accent	Grand Total
Jewish	5 (20%)	6 (24%)	1 (4%)	6 (24%)	6 (24%)	1 (4%)	25
English	4 (19%)	5 (24%)	1 (5%)	6 (29%)	5 (24%)	0	21
Yiddish	1 (25%)	1 (25%)	0	0	1 (25%)	1 (25%)	4
Non-Jewish							
English	2 (11%)	10 (53%)	1 (4%)	3 (16%)	3 (16%)	0	19
Grand Total	7	16	2	9	9	1	44

Table 11.5: Pitch accent, items in first clause

Pitch accent	!H*	H*	L*	L*+H	L+H*	no accent	Grand Total
Jewish	2 (7%)	12 (43%)	0	4 (14%)	1 (4%)	9 (32%)	28
English	2 (9%)	10 (45%)	0	4 (18%)	0	6 (27%)	22
Yiddish	0	2 (33%)	0	0	1 (17%)	3 (50%)	6
Non-Jewish							
English	0	17 (26%)	1 (5%)	8 (21%)	5 (21%)	14 (26%)	19
Grand Total	2	17	1	8	5	14	44

Table 11.6: Pitch accent, items in second clause

Edge tones

Looking at the edge tones, for the Jewish subjects, 21 out of the 29 (72%) boundaries were some sort of fall (!H-, !H-L%, L-L%, or L-), and only two were rises, with neither of these two being produced by the Yiddish speakers. The remaining 6 were plateaus. For the non-Jewish subjects, 10 out of the 19 boundaries were a fall (52%), and 5 out of the 19 were rises. The remaining 4 were plateaus (H- or H-L%). There were only 9 boundaries total which matched the criteria from the Yiddish participants; however, none of them were rises. Overall, it appears both the Jewish and non-Jewish participants showed a preference for falls, but this preference was much more pronounced for the Jewish English speakers. However, again, the data set here is relatively small, and it is difficult to make firm conclusions.

11.6.6 Yiddish "Dramatic transitions"

The Yiddish results were remarkably consistent, compared to the English results, particularly for the f0 movement on the focused items. For the Yiddish examples, the participants all (1) had rising f0 on all of the focused items, when the items were produced, and (2) mostly produced falls or plateaus between the phrases (5 falls and 1 plateau, with the other 3 items produced with rises). Figures 11.12 through 11.14 show the rise-falls, which were produced by all three speakers.. And, unlike the questions, where we saw variation across the three speakers, we see consistent use of the rise-fall described by Weinreich by all three speakers in this context.

11.7 Summary and Conclusions

The DCT did not provide any evidence for the rise-fall's use on non-wh-questions in English. However, two subjects, Ira and Joe, did produce rise-falls on non-wh-questions in Yiddish, with Ira doing so more than Joe. Sarah, on the other hand, did not produce any rise-falls
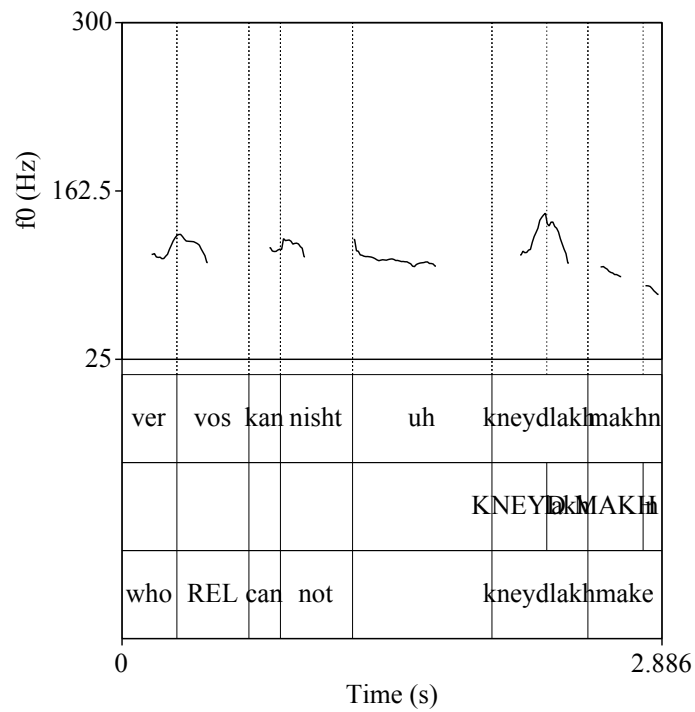
Figure 11.12: Rise-fall on first clause, Ira; *Ver vos kan nisht a kneydlakh makhn*; "Whoever can not make a good matzo ball"
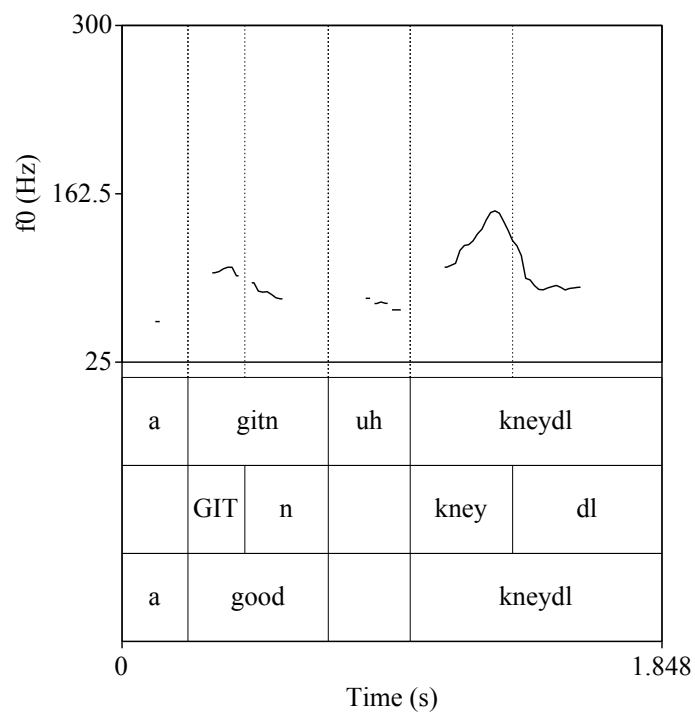
Figure 11.13: Rise-fall in response to "if/then" prompt, Joe; *a gite kneydl*, "A good matzo ball"
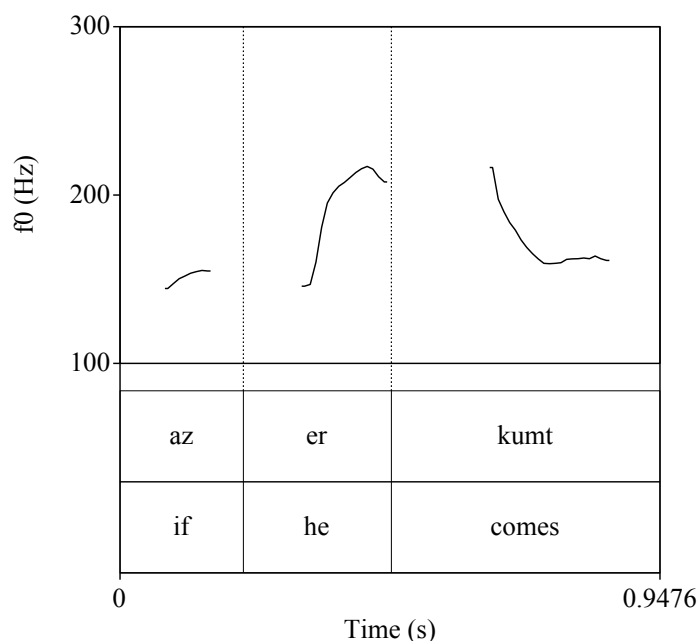
Figure 11.14: Rise-fall in response to "if/then" prompt, Sarah, *Az er kumt*, "If he comes"

on non-wh-questions in her Yiddish. This finding is not surprising, in light of how these three different subjects acquired Yiddish: Ira, naturalistically from birth, Joe somewhat naturalistically a little later, and Sarah, formally later in life. Here then, we first see a potential split between form and function: whereas all three had similar differences between their English rise-falls and Yiddish rise-falls in form, there are differences in how the three have acquired the functions of the rise-fall in questions.

However, Sarah, Joe, and Ira all produced rise-falls in the "dramatic transition" prompts in Yiddish. This finding suggests a further split between the rise-falls in questions, and the rise-falls in the "dramatic transitions". This split is potentially due to whether or not we see rise-falls used in these contexts in English. While we saw no rise-falls on questions in English, the English participants, including non-Jewish participants, did make use of rise-falls on the "dramatic transition" prompts, if not quite as often as we saw in the Yiddish data: for example, one of the non-Jewish younger men produced (24) with a L+H* !H-L%.

(24)   If they had had LEMON

      L+H* !H-L%

3 out of the 57 utterances produced in response to these prompts, or 7%, included a L+H* !H-L% in the part of the utterance being coded for. Thus, the rise-fall is available for use in these contexts in English, even if it is not frequently used. With similar rise-falls at least available (if not that common) for use in similar situations in English, a more English-dominant speaker, like Sarah, learning Yiddish can make an interlingual identification between the rise-falls present in English and the rise-falls used in Yiddish in the dramatized transitions, and thus successfully acquire them in Yiddish. Likewise, a Yiddish speaker learning English like Ira can continue to use their Yiddish-like rise-falls in these contexts in English.

The rise-falls on questions, however, are more unusual compared to the dramatic transitions: none of the participants here produced a rise-fall on a non-wh question in English. Weinreich (1956) also noted that in some cases, the rise-fall is a particularly distinct feature, and might have been the cause of some anti-Semitic remarks about Yiddish being "sing-song-y". The use of rise-falls on non-wh questions potentially represents a greater divergence between Yiddish and English–we saw no instances of English speakers producing rise-falls on non-wh responses to the question prompts–and thus, the rise-fall being used on questions might have stood out more.

A Yiddish learner like Sarah thus might have had both linguistic and social issues in acquiring these rise-falls: they would be quite divergent from her English patterns, and might have been avoided in some cases, to avoid stereotypes. Sarah also admitted having issues with "phrasing", which might have made it even harder for her to acquire a new, potentially stigmatized intonational pattern. On the other hand, Joe, who has had musical training, might have been able to overcome these linguistic issues more readily (although the social issues would remain), and acquire the rise-falls in questions in Yiddish.

Finally, this negative social pressure would also explain why Ira did not make use of rise-falls in English questions: as a particularly marked form in these contexts, there would have been more pressure to acquire a more English-like rise instead of a rise-fall, and the social pressures might have outweighed the linguistic issues. Note also that Yiddish does in fact, have rises on other types of questions, presenting a potential area for interlingual identification. However, these linguistic and social pressures would have been lower for the rise-falls in the dramatic transitions, as there were similar contours already in use in English (even if they aren't preferred in these contexts), and as such, we see Ira and the other two Yiddish speakers making use of rise-falls in these contexts in both Yiddish and in English.

We can thus imagine the following scenario for the introduction and maintenance of the rise-fall in Jewish English in dramatic transitions:

A Yiddish speaker, learning English, makes an interlingual identification between their native rise-fall in dramatic transition-type contexts, and a similar rise-fall which is available in English. This rise-fall is somewhat rarer in these contexts, but is still acceptable in English. This may then lead to Yiddish speakers using a form which is somewhat rare in English in greater proportions than other English speakers. The rise-fall in non-wh-questions, however, is avoided: there is no English rise-fall available in these contexts to make an inter-lingual identification, and the rise-fall would sound more marked and non-native, giving the speaker more reason to try to use an English-like rise.

Jewish English speakers likewise can choose between the different contours available in English for dramatic transitions. Most of them have some sort of rising pitch accent; however, some have rising edge tones, and others, falling edge tones; however, the rise-fall (rising pitch accent + falling edge tone) is associated with Jewishness (due to its more frequent use by native Yiddish speakers). The feature thus is maintained, and becomes a part of the Jewish English repertoire. The Jewish English speakers then use slightly more falling edge tones than non-Jewish English speakers.

Unfortunately, the numbers here are too small to use inferential statistics to see if these

differences in, e.g., the use of falling vs. rising edge tones by the Jewish English speakers are significant. We can turn now to a larger data set, the Frog Stories, to see if these patterns hold out: do Yiddish, and Jewish English speakers, in fact, use the rise-falls, and its components (rising pitch accents, and falling edge tones) in contexts similar to the dramatic transitions more than non-Jewish English speakers?

Chapter 12

The components of the rise-fall in *Frog, Where are You?*

Participants were asked to narrate a wordless picture book (*Frog, Where are You?*) in order to look at the use of rise-falls, and its components, in narration. The data gives further evidence for the greater use of rise-falls, and (!)H-L% contours instead of rises among Yiddish and Jewish English speakers compared to non-Jewish English speakers in situations similar to the "dramatic transitions" described in the previous chapter.

12.1   "Dramatic transitions" in the Frog Story

There are several moments in the Frog Stories which look similar to the "dramatic transitions" described in the previous chapter, in that they involve some sort of change in belief state on the part of the main character. The first example occurs at the beginning of the story [1]. While the boy and his dog are sleeping, the frog escapes from the jar; when they wake up, they find him missing. We have a contrast between what the boy thought (the frog is there), and what has actually happened (the frog is not there). Thus, we expect some utterances like in example to be produced (25) with a rise-fall (Yiddish-like) or rise-fall-rise (Standard English-like) on the bolded part.

(25)   When the boy and dog were sleeping, the frog snuck out. When the boy and the
        dog **wake up**, they discover the frog is missing.

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[1] And actually is a direct parallel to Weinreich's example of "When the day broke, he saw the destruction around him", in that it involves something happening during the night, and then discovered the next morning.

There are also three instances in the story where the boy is surprised by the appearance of an animal. The first is when the boy sticks his head in a hole in the ground, and a gopher[2] pops out and bites him on the nose; the second is when the boy sticks his head in the hollow of a tree, and is surprised by an owl. In both of these cases, the boy's previous expectation, that his frog is in the hole, is shown to be false (with a different animal being in the hole). The last case is when the boy goes up a rock, and balances himself against what he (probably) assumes are tree branches. However, the next panels shows the "branches" to be the antlers of a deer[3]. Again, in all three cases, we see a contrast between what the boy believes is true (there's a frog in the hole) and the actual situation (there's a different animal in the hole). Like in the questions and dramatic transitions described in the previous chapter, we have a change in belief state. The function of the rise-falls and rise-fall-rises, if they are used in these situations, would be similar to those in the previous chapter, in that they would be signaling (1) a change in belief state and (2) that the clause was "forward-looking" (as in a narrative context, we expect clauses to be linked together, and interpreted sequentially).

We can thus examine what contours the participants use in describing these situations, as well as the rest of the story, to see if there are differences between the groups in how (1) they use rise-falls, (2) rising pitch accents, and (3) falling and rising edge tones in these contexts, and in narratives more generally.

12.2   Methodology

For this task, speakers were asked to narrate a wordless picture book, *Frog, Where are You?* (FWAY) in English. Participants were given time to page through the book to get an idea

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[2]This is what an official transcript from UNC (https://www.med.unc.edu/ahs/clds/resources/early-childhood-resources-1/teacher-resources/Frog%20Where%20Are%20You%20Script.doc/view) describes the animal as. As can be seen in the following examples, the animal is variously referred to as a gopher, a groundhog, a mole, and a weasel.

[3]Again, we see that the animal identification widely varied across the participants, with the animal also described as an elk, a stag, and a moose.

of the general structure of the story, and then were asked to retell the story, going page by page. The way I was positioned during the interview ensured that I could not see the pages, which was intended to prompt the participants to be more descriptive with their narrations.

The book was intended to elicit fairly similar, but still relatively natural and spontaneous, narratives across the participants, which worked for the most part. Some of the participants clearly had more practice reading out loud to children, but most seemed to enjoy the task. The Yiddish speakers also narrated a second story, *A Boy, a Dog, and a Frog* in Yiddish; however, these data are not analyzed here.

12.2.1   "Dramatic transitions" in FWAY

As described above, several events in the story were predicted to show surprisal, or change in belief state on the part of the boy. The following examples show that this was in fact the case, with participants making explicit reference to the boy being surprised (26) and shocked (27); descriptions of disbelief (28 and 29); and describing a sudden change of events (30).

(26)   A mole

      I guess it's a mole

      Jumps out of the hole

      The boy is a bit surprised

(27)   And then in the next scene

      There's this gopher that pops out of the, the hole

      The boy's shocked, like

      Like "ah!"

      And he has his hands to his face

(28)   They wake up

Uh, and they see

That the jar

That, uh, the, the, uh sealed jar

Uh, is open

And the window is open and somehow the frog must have escaped

And they can't believe it

(29)   He gets hooked up with him

Even a reindeer, would you believe

(30)   And then the little boy climbs on top of this rock

To call for the dog, I think

The dog is down here at the bottom

And suddenly, out comes a moose

From all sets of participants, we expect a greater use of rising pitch accents in these contexts. In all of the cases, we're seeing a "correction or contrast" between two elements: what is expected to be there (the frog or nothing) and what's actually present (nothing, a gopher, an owl, and a deer); this causes a change in belief state on the part of the boy. Under Pierrehumbert and Hirschberg's (1990) analysis of English, we would also expect rising edge tones in general, to link sections of the narration together. As such, we expect more rising edge tones, rather than falling ones. However, under descriptions of Yiddish, and from the findings in the previous chapter, we might expect more falling edge tones from the Yiddish and Jewish English speakers in their narratives.

12.2.2 Data analysis

The stories were orthographically transcribed by the author. The stories were then ToBI annotated, primarily by one research assistant, with another research assistant annotating one of the stories, and the author annotating two. ToBI annotations done by the research assistants were reviewed in project meetings; annotations for which the research assistants were unsure were discussed until a consensus was reached. The stories were segmented in intonational phrases, and the ToBI annotation for each IP was extracted, and obvious errors in annotation (e.g., typos) were hand-corrected.

Utterances in which the participant was laughing were removed. IPs that only consisted of fillers (e.g., "Um", "Uh", "Y'know", as well as "and") were also removed from the analysis. Utterances with small disfluencies (e.g., restarts, or utterances in which the annotator had indicated a boundary of 2) were retained. An example of a portion of the narrative is given below in example (31).

(31)   THEN he GOES to SLEEP

   L+H* H- L*+H H* !H-L%

   And SO does the DOG

   L*+H H* !H-L%

   And the LITTLE FROG SNEAKS out

   L* L* L* L-H%

Here, we have three separate IPs; the pitch accented words are in bold. The nuclear contour in the first and the second is H* !H-L%; the third is L* L-H%. The third IP had level 2 breaks between "little", "frog", and "sneaks"; however, the IP was retained. The following analysis is concerned with the nuclear contours–that is, the final pitch accent, phrase accent, and boundary tone– of the IPs. There were a total of 1424 IPs produced, for an average of about 71 IPs per subject; however, there was considerable variation, with

the shortest narrative being 1:29 minutes in length, and containing 47 IPs long; the longest was 6:14 minutes in length, and had 171 IPs.

12.3   Results

12.3.1   Basic contour shape

Table 12.1 shows a breakdown by general contour type by religion and language background. Overall, the Jewish and non-Jewish subjects look fairly similar. Within the Jewish subjects, we see more rise-falls (10% vs. 5%), fewer rises (14% vs. 24%), and more plateau contours (34% vs. 25%) from the Yiddish speakers.

Table 12.2 shows a breakdown by general contour type by religion and gender. For the most part, the groups look similar overall, with more variation by gender: for example, in both groups, the men use more plateaus.

Logistic mixed-effects models were built looking at the use of rises and rise-fall contours. For each model, a full model was built with fixed effects for age, religion, language status, gender, and event status of the clause (i.e., whether or not it was a narration of one of the events described above), with up to two-way interactions between effects, random intercepts for subject, and random slopes for subject by event status. If models failed to converge, first random slopes were removed, and then interactions if necessary. Log-likelihood comparisons were then conducted to step the models down.

Contour type	Fall	Plateau	Rise	Rise-fall	Rise-fall-rise	Other	Grand Total
Jewish subjects	252 (31%)	227 (28%)	165 (21%)	55 (7%)	13 (2%)	90 (11%)	802
English	166 (31%)	134 (25%)	127 (24%)	29 (5%)	7 (1%)	67 (13%)	530
Yiddish	86 (32%)	93 (34%)	38 (14%)	26 (10%)	6 (2%)	23 (8%)	272
Non-Jewish subjects	181 (29%)	172 (28%)	158 (25%)	25 (4%)	11 (2%)	75 (12%)	622
Grand Total	433	399	323	80	24	165	1424

Table 12.1: Contours in *Frog, Where are you?*, broken down by religion and language status

Contour type	Fall	Plateau	Rise	Rise-fall	Rise-fall-rise	Other	Grand Total
Jewish subjects	252 (31%)	227 (28%)	165 (21%)	55 (7%)	13 (2%)	90 (11%)	802
Female	122 (25%)	121 (24%)	120 (24%)	36 (7%)	11 (2%)	84 (17%)	494
Male	130 (42%)	106 (34%)	45 (15%)	19 (6%)	2 (1%)	6 (2%)	308
Non-Jewish subjects	181 (29%)	172 (28%)	158 (25%)	25 (4%)	11 (2%)	75 (12%)	622
Female	128 (33%)	85 (22%)	100 (26%)	20 (5%)	9 (2%)	50 (13%)	392
Male	53 (23%)	87 (38%)	58 (25%)	5 (2%)	2 (1%)	25 (11%)	230
Grand Total	433	399	323	80	24	165	1424

Table 12.2: Contours in *Frog, Where are you?*, broken down by religion and gender

	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	-0.8718	0.3380	-2.579	
AgeOlder	-0.4335	0.4650	-0.932	0.35119
GenderMale	-1.1522	0.5704	-2.020	0.04338
LanguageStatusYiddish	-1.1478	0.5203	-2.206	0.02738
AgeOlder:GenderMale	1.9318	0.7612	2.538	0.0115

Table 12.3: Model output for rising contours

	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	-3.2050	0.2309	-13.88	
LanguageStatusYiddish	0.8552	0.4296	1.99	0.0465

Table 12.4: Model output for rise-fall contours

The final model for rises included language, and an interaction between age and gender. The final model output is shown in 12.3. Unsurprisingly, given the literature on uptalk, men produced fewer rises than women. Yiddish speakers produced fewer rises than non-Yiddish speakers (14%, compared to 24% for the other Jewish subjects, and 25% for the non-Jewish subjects). There was an interaction by age and gender, whereby the difference between the older men and women was less pronounced than the differences between the younger men and women.

As there were relatively few rise-fall tokens (around 70), the initial model was built as above but without interactions between the fixed effects. The final model included a fixed effect for language status, and random intercepts by subject. The Yiddish-speaking participants used more rise-falls compared to the non-Yiddish-speaking participants (10%, compared to 5% from the other Jewish subjects, and 4% for the non-Jewish subjects).

Overall, then, we see fewer rises, and more rise-falls from the Yiddish speakers in their narration of these stories. The next two sections look more closely at the edge tones used.

12.3.2 Edge tones

The use of phrase accent and boundary tone combinations by religion and gender is shown in Table 12.5. During the frog stories, the Jewish participants made greater use of H-L% (32% vs. 25%) and !H-L% (22% vs. 15%) compared to the non-Jewish speakers. They also appeared to use fewer L-H% compared to the non-Jewish speakers (19% vs. 28%). However, there was also considerable variation in gender within the groups, with women in both groups using more L-H%, and !H-L%, and men, more H-L%.

Table 12.6 shows the use of phrase accent/boundary tone combinations broken down by language and gender. The Yiddish-speaking participants used fewer L-H% contours (12% vs. 26%), more H-L% (35% vs. 27%) and more !H-L% contours (25% vs. 17%), compared to the English participants.

As above, logistic mixed-effects models were built to look at the use of the !H-L% to see if these differences were significant. The final model included an interaction between gender and religion, and random intercepts by subject; the model output is shown in table 12.7. There was a significant effect of religion for the men, with the Jewish men using more !H-L% compared to the non-Jewish men (27% vs. 10%), while the women were about equal in amount of !H-L% used (18% and 17%).

	!H-H%	!H-L%	H-H%	H-L%	L-H%	L-L%	Grand Total
Jewish	8 (1%)	173 (22%)	58 (7%)	253 (32%)	151 (19%)	159 (20%)	802
Female	7 (1%)	90 (18%)	40 (8%)	150 (30%)	132 (27%)	75 (15%)	494
Male	1 (0%)	83 (27%)	18 (6%)	103 (33%)	19 (6%)	84 (27%)	308
Non-Jewish	2 (0%)	92 (15%)	42 (7%)	157 (25%)	175 (28%)	154 (25%)	622
Female	2 (0%)	68 (17%)	14 (4%)	71 (18%)	127 (32%)	110 (28%)	392
Male	0	24 (10%)	28 (12%)	86 (37%)	48 (21%)	44 (19%)	230
Grand Total	10	265	100	410	326	313	1424

Table 12.5: Phrase accent/boundary tone combinations in *Frog, Where are you?*, broken down by religion and gender

	!H-H%	!H-L%	H-H%	H-L%	L-H%	L-L%	Grand Total
English	6 (1%)	197 (17%)	84 (7%)	315 (27%)	294 (26%)	256 (22%)	782
Female	5 (1%)	128 (16%)	50 (6%)	185 (24%)	240 (31%)	174 (22%)	370
Male	1 (0%)	69 (17%)	34 (9%)	130 (35%)	54 (14%)	82 (22%)	370
Yiddish	4 (1%)	68 (25%)	16 (6%)	95 (35%)	32 (12%)	57 (21%)	272
Female	4 (4%)	30 (29%)	4 (4%)	36 (35%)	19 (18%)	11 (11%)	392
Male	0	38 (23%)	12 (7%)	59 (35%)	13 (8%)	46 (27%)	230
Grand Total	10	265	100	410	326	313	1424

Table 12.6: Phrase accent/boundary tone combinations in *Frog, Where are you?*, broken down by language and gender

	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	-1.61867	0.2372	-6.956	
GenderMale	0.53690	0.38447	1.396	0.1626
ReligionNotJewish	0.06416	0.38803	0.165	0.8687
GenderMale:ReligionNotJewish	-1.26599	0.63336	-1.999	0.0456

Table 12.7: Model output for !H-L%

	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	-0.879827	0.292484	-3.008	
AgeOlder	0.094421	0.356063	0.265	0.79087
ReligionNotJewish	-0.001196	0.408041	-0.003	0.99766
AgeOlder:ReligionNotJewish	-1.315774	0.584072	-2.253	0.0247

Table 12.8: Model output for H-L% accents

A model was also built as above for the use of H-L%. The final model included an interaction between age and religion. The final model output is show in table 12.8. There was a large difference in H-L% use between the older Jews and the older non-Jews (32% vs. 12%), with the younger participants being more similar to each other (30% vs. 32%).

12.3.3 Pitch accents

Table 12.9 shows the use of pitch accents in the Frog stories. The Jewish and Yiddish participants produced more rising pitch accents, particularly L*+H, which made up less than 1% of the pitch accents produced by the non-Jewish speakers, but 3% of the Jewish participants' pitch accents.

Pitch Accent	!H*	H*	H+!H	L*	L*+H	L+H*	Total
Jewish subjects	88 (11%)	467 (58%)	28 (3%)	129 (16%)	25 (3%)	65 (8%)	802
English	68 (13%)	291 (55%)	23 (4%)	97 (18%)	14 (2%)	14 (7%)	530
Yiddish	20 (7%)	176 (65%)	5 (2%)	32 (12%)	11 (4%)	11 (10%)	272
Non-Jewish subjects	64 (10%)	343 (55%)	13 (2%)	159 (26%)	6 (1%)	37 (6%)	621
Grand Total	152	810	41	288	31	102	1424

Table 12.9: Pitch accents in *Frog, Where are you?*, broken down by religion and language status

	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	-2.3676	0.2003	-12.652	
EventYes	0.3784	0.2039	1.856	0.0635

Table 12.10: Model output for pitch accents

As above, a model was built looking at the type of pitch accents used in the stories. None of the effects were found to be significant; however, there was a non-significant trend (β = 0.3786, p = 0.0635) for more rising pitch accents in IPs narrating the "dramatic events", as shown in table 12.10.

12.4 Discussion

The Yiddish speakers used more rise-falls and fewer rises compared to the non-Yiddish speakers. Looking more closely at the phrase accent/boundary tones used, there were differences based on religion, with older Jews using more H-L% contours than younger Jews, and Jewish men using more !H-L% than non-Jewish men. However, there were not any statistically significant differences in the use of rising pitch accents.

These findings provide partial support for the findings in the last chapter, which saw more rise-falls and fewer rises produced by the Yiddish speakers, and a preference for falling (!H-L%) and plateau (H-L%) contours, for some speakers of Jewish English in their responses to the "dramatic transition" prompts. These findings also suggests some degree of divergence in what sort of edge tones can be used to link phrases together in narratives in general. Based on descriptions of English intonation, as well as the contours produced by the non-Jewish speakers, rising contours (e.g., L-H%, H-) are preferred for linking both the phrases of the responses to the DCT prompts, and the phrases in narrative contexts. However, in Yiddish, and in some varieties of Jewish English, there seems to be a greater preference for falls (!H-L%) and plateaus (H-L%) in these contexts, with the former showing up in the rise-fall contour (L+H* !H-L%).

For both the DCT and the Frog Stories, then, we see that some groups of Jewish English speakers show greater use of non-rising edge tones to indicate that a clause is "forward-looking" (e.g., linking the two clauses of the dramatic transition together, linking phrases together in a narrative). We can see these differences in action, by looking at two narrative sequences, the first, example (32) produced by an older, Jewish-English, Yiddish-speaking man, and the second, example (33) by a younger, non-Jewish English woman. Both are narrating the same section of the story.

(32) And the dog started jumping at a beehive (H* !H-L%)

And a (H-L%)

Mole came out and (H-L%)

And bit him on the nose, y'know (L+H* !H-L%)

Y'know, and so they run in to all kinds of obstacles (L-L%)

Um, the dog was shaking the tree (L+H* !H-L%)

And the trees- the beehive fell down (H-L%)

And- but then they started attacking the dog. ((L+)H* !H-L%)

(33) Um, and while the boy has (L-H%)

Has climbed a tree and is looking inside um the little hollow (L-H%)

And out of that hollow flies (H-L%)

An owl (H* !H-L%)

And the boy falls down out of the tree (H-H%)

And the bees (H-L%)

Chased the dog (L-H%)

Very aggressively, I would say. (L-H%)

For the first speaker, 7 out of his 8 IPs end with either a !H-L% or a H-L%, compared

to 3 out of the 8 for the second speaker. The first speaker also produces 2 L+H* !H-L% (with the final IP annotated as a H* !H-L% by the annotator, with a L+H* as a potential alternate; for this utterance and similar, this was counted as a H*). These differences suggest a different in function for (!)H-L%, for the first speaker compared to the second. For the first speaker, an older Yiddish-speaking man, they can function more readily as "forward-looking" and link the clauses together; the second speaker makes use of more rising edge tones (H-H% and L-H%) for these functions instead. We also see the increased use of rise-falls by the Yiddish speaker here, for these moments of surprisal (when the mole appeared; when the bees started attacking the dog); we don't see this use by this non-Jewish, non-Yiddish speaking subject here.

The next chapter provides further evidence for differences in functions for rise-falls, rises and the (!)H-L% contours in Jewish English compared to non-Jewish English, looking specifically at a place in which plateaus and rises have been said to contrast in English: list intonation.

Chapter 13

List intonation

Although there are frequent references to list intonation in the literature (usually as something to be avoided in elicitation tasks[1]), formal work on list intonation is limited. In some work, we see division posited between, on the one hand, "open", or non-exhaustive, lists in which the complete list is not named, and "closed", or exhaustive, lists, in which the entire list of items is named: Pierrehumbert and Hirschberg (1990), for example, claim that a rising medial phrase accent is used to signal that a list is exhaustive. Handbooks of English grammar focus on the presence or absence of a final fall at the end of the list, with closed lists having a final fall, and open, no final fall (Schubiger, 1958; Couper-Kuhlen, 1986).

Ladd (1978) draws a distinction between "informative" lists, in which a rise is produced on each item, and "non-informative" lists, which contain a "stylized-rise" (a rise to a steady plateau) on each item. Ladd gives the example of school closings to distinguish between the two types of lists. When listing specific schools that are closed due to snow, the names of the schools can be produced with a rise, as the name of each individual school is informative. However, if the snow is so bad all or nearly all of the schools are closed, the names of the schools can be produced with a plateau, as the name of each school is not informative: the point of the utterance is that "all of the schools are closed", rather than any particular school being closed.

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[1]See, e.g., "These utterances were produced in pairs, avoiding list intonation" (van der Zande et al., 2014, p. 40); "The linguist who supplied the stimuli produced each word several times, avoiding list intonation and keeping duration approximately equivalent for all words within a row" (O'Brien, 2012, p. 49); "Talkers read words from this list, having been trained to avoid list intonation, leaving a short pause between items" (Lecumberri et al., 2013, p. 2807); "Participants were instructed to read the list at a comfortable pace, inserting at least 1 second between words, and to avoid using list intonation" (Holliday and Kong, 2011, p. 879), *inter alia*; many thanks to various friends on Facebook for providing these and other examples

Tyler and Burdin (2016) explored the issue of list intonation in more depth in a perception study, and found that, in both an open-ended metalinguistic task, and when they were given a forced choice, participants associated plateau contours with non-informative lists (here, where the listener is assumed to know all of the items in the list already) and rises with informative lists (where the listener is not assumed to know all of the items in the list already).

In a study of 11 Jewish women from the metropolitan NYC area, Burdin (2014) found differences in the intonation of spontaneously produced lists in English. Bilingual Yiddish-English speakers used fewer H* H-L% contours, more L+H* L-L% contours, and more rising pitch accents in lists compared to non-bilinguals, pointing to a potential difference in list intonation. However, the uncontrolled nature of the utterances made it impossible to tell if this difference was due to actual differences in the meaning of the list intonation, or merely due to the participants tending to produce different types of lists (which would then be produced with different intonational patterns).

The above studies suggest that (1) intonation, including a distinction between rises and plateaus, plays a role in distinguishing list types, and (2) there may be differences in how this works in Jewish English. These differences also potentially connect with the differences in function for (!)H-L% contours proposed in the previous chapters, in how they function as "forward-looking" contours or not. As discussed above, there is a proposed difference in how plateau and rise contours function in signaling different list types, and that these differences might have to do with to what degree the list is a cohesive, whole unit. Rises are used to signal that the list is somewhat more cohesive compared to lists with plateaus. These differences may be related to, again the degree of "forward-looking"ness, with rises signaling that each item in the list is to be interpreted with the one after it. If there are differences in how rises or plateaus are interpreted and used in signaling that a clause is "forward-looking" between Jewish English and non-Jewish English, we thus might expect to see differences in list intonation.

In order to explore the production of list intonation in general, as well as to investigate further differences in the use of rises, plateaus, and rise-falls in Jewish English suggested by the previous two chapters, two controlled elicitation tasks were used in the current study.

13.1 Methodology

13.1.1 List elicitation and extraction

As noted in the introduction, the listing task was the first task of the interview. Participants were first asked to "Just name some presidents for me; doesn't matter which", in order to elicit an open or non-informative list, as the participants were explicitly told that the individual items were not particularly important. Participants were then asked to "Name the last five presidents in order", in order to elicit a closed, or informative list. Here, there was explicit instruction that the individual items do matter, as I asked for five specific presidents. These prompts were chosen for several reasons. It was desired the lists should be produced semi-spontaneously, and not read, which meant the list items needed to be something that all of the participants would know. However, a limited lexical set was desired, in order to at least partially control for both the segmental string, to make phonetic comparisons across the participants possible, as well as to keep the pragmatic context as similar as possible between the participants. Also, the items needed to be something which could plausibly be involved in both an open list and a closed list. For the most part, participants did well on the task; most, however, had issues remembering the fifth most recent president[2]. The lexical set was also fairly limited for the open list; most participants named either more notable or recent presidents (e.g., Washington, Lincoln, Roosevelt, Bush, Clinton, and Obama). The items were recorded, and ToBI annotated by the author.

Spontaneous lists were also extracted from the interviews. As in Burdin (2014), lists were defined as a sequence of syntactically parallel utterances. These parallelisms could not

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[2]The full list is Barack Obama, George W. Bush, Bill Clinton, George H. W. Bush, Ronald Reagan.

only be a sequence of noun phrases as in (34) (cf. the "berries" example in Beckman and Pierrehumbert (1986)), but also, following Ladd (1978) and other descriptions of lists in general descriptions of English grammar, sequences of verb phrases, or full sentences. For these items, other parallelism was required, e.g., having nearly identical syntactic structure throughout, as in (35) (with the repeated "It's X" structure), or (36) (With the repeated "We went"). Lists were also required to have at least three items; however, this third item, following Selting (2007), could be a "list completer" like in (37) where the list is finished with "whatever you see". (For each example below, the list was taken as starting after the material in parentheses.)

(34)   (After I was in Spain I backpacked for three weeks through)

Italy

France

And England

(35)   It's kindness

It's holding the door for people

It's smiling at strangers

It's not having crazy accents

(36)   (I know) we went to Haifa

We went to Tel Aviv

We went to Jerusalem

We went to Eilat

And we went to the desert of course

(37)   (I'm not a big person for) the big Jewish stars

Or the bling

Or whatever you see

Lists were identified by two trained undergraduate assistants as they orthographically transcribed the interviews. All identified lists were reviewed in group project meetings. The identified lists were then extracted from the interviews, and ToBI annotated by the author. As in Burdin (2014), participants often did not use the same intonational contours throughout the list; as such, the nuclear contours (i.e., last pitch accent, phrase accent, and boundary tone) of the individual IPs, rather than the full lists, are the point of analysis below. Only list items that were produced in their own IP (rather than, e.g., as a sequence of !H* pitch accents within an IP) were considered. In addition, the overall f0 range of the IP was measured for the data from the Presidents Task, where participants had a more limited lexical set, thus reducing segmental effects on f0, to explore differences in global pitch range.

13.2   Results

13.2.1   Presidents Task

Table 13.1 shows the break down of nuclear pitch accents used in the Presidents Task. The Jewish participants appeared to use more rising pitch accents (L+H* and L*+H) compared to the non-Jewish subjects (13% compared to 7%), and fewer plain H* accents (61% vs. 73%).

Table 13.2 shows the utterances broken down by general nuclear contour shape. The Yiddish-speaking participants appeared to make use of more rising contours (40% vs. 33%) and fewer plateau contours (40% vs 47%) compared to the English-speaking participants. There were also differences in both groups between the closed and open lists, with more

Pitch Accent	!H*	H*	L*	L*+H	L+H*	Grand Total
Jewish subjects	4 (4%)	69 (61%)	25 (22%)	4 (4%)	11 (9%)	113
Younger	2 (6%)	20 (56%)	5 (14%)	3 (8%)	6 (17%)	36
Older	2 (3%)	49 (64%)	20 (26%)	1 (1%)	5 (6%)	77
Non-Jewish subjects	0	72 (73%)	19 (19%)	1 (1%)	6 (6%)	98
Younger	0	44 (85%)	7 (13%)	0	1 (2%)	52
Older	0	28 (61%)	12 (26%)	1 (2%)	5 (10%)	46
Grand Total	4	141	44	5	17	211

Table 13.1: Pitch accents, Presidents task

	Flat	Rise-Fall	Rising	Other	Grand Total
English	83 (47%)	9 (5%)	58 (33%)	26 (15%)	176
Closed	22 (37%)	6 (10%)	21 (36%)	10 (17%)	59
Open	61 (52%)	3 (3%)	37(32%)	16 (14%)	117
Yiddish	14 (40%)	1 (3%)	14 (40%)	6 (17%)	35
Closed	3 (19%)	0	10 (63%)	3 (19%)	16
Open	11 (58%)	1 (5%)	4 (21%)	3 (16%)	19
Total	97	10	72	32	221

Table 13.2: Contours

plateaus being produced in the open lists, and, for the Yiddish speakers, more rises in the closed lists.

To see if any of these differences were significant, logistic mixed-effects models were built predicting contour (plateau or not; rise vs. not), and rising vs. non-rising pitch accents. Age, gender, religion, language status, list type (closed/informative or open/non-informative) and two-way interactions between the fixed effects, were included as fixed effects, along with random intercepts by subject. The models were stepped down as described above.

	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	-0.2462	0.5337	-0.461	0.64453
AgeOlder	-2.1421	0.8795	-2.436	0.01486*
ReligionNotJewish	-2.9721	1.1241	-2.644	0.00819**
LanguageStatusYiddish	-0.3499	1.2962	-0.270	0.78721
ListTypeOpen	-1.5128	0.5771	-2.716	0.00662**
AgeOlder:ReligionNotJewish	4.3302	1.4507	2.985	0.00284**
LanguageStatusJewish:ListTypeOpen	2.5479	1.3372	1.905	0.05673.

Table 13.3: Model output for pitch accents

13.2.2 Pitch accents

The final model for pitch accents included an interaction between religion and age, and language and prompt, and random intercepts by subject. The final model output is shown in table 13.3. Older subjects used fewer rising pitch accents than younger subjects. Non-Jewish subjects used fewer rising pitch accents than Jewish subjects, as shown in figure 13.1. There were fewer rising pitch accents in the non-exhaustive lists. There was an interaction between age and religion, whereby the above religion effect was mainly driven by the younger Jews (who had 25% of their pitch accents being rising, compared to the non-Jews, who had only 2%), and the older Jews actually using fewer rising pitch accents compared to the older non-Jews (9% vs. 13%), which was somewhat unexpected. However, there was a non-significant trend of Yiddish speakers (who were all older) using more rising pitch accents in the open/non-informative lists, so the previous interaction may actually depend on list-type (but due to the relatively small amount of data, it is difficult to tell if this is the case or not).

13.2.3 Plateaus

The final model included age, list type, language background, interactions between age and list type, and list type and language status, and random intercepts by subject. The model output is shown in table 13.4. There was a significant effect of prompt, with fewer
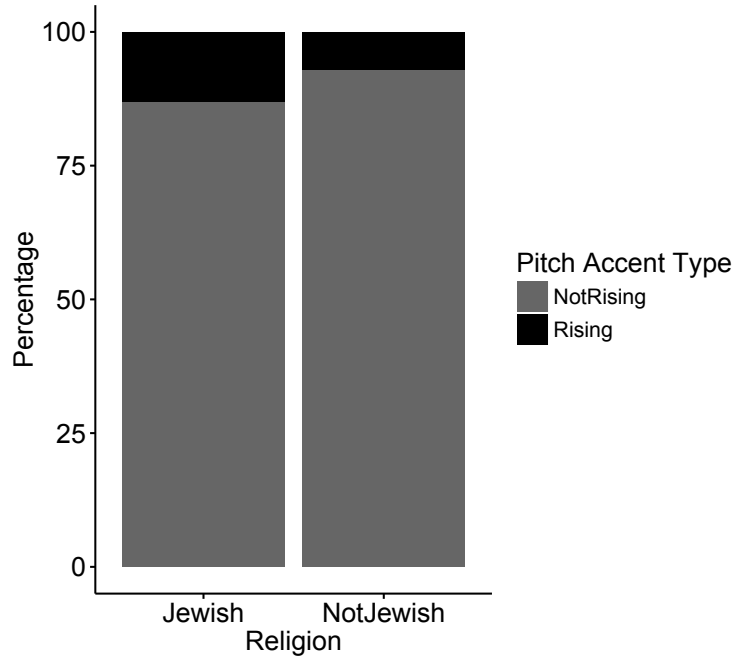
Figure 13.1: Pitch accent use in Presidents task, by religion

plateaus produced in the closed/informative lists compared to the open/non-informative lists, as expected, given Ladd (1978), and Tyler and Burdin (2016). Yiddish speakers used fewer plateaus in closed/informative lists compared to the English speakers. There was a non-significant trend of older participants using more plateaus in the open/non-informative lists.

	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	0.9340	0.6518	1.433	0.15189
AgeOlder	-0.3091	0.9108	-0.339	0.73435
ListTypeOpen	-1.4161	0.5394	-2.625	0.00866**
LanguageStatusYiddish	1.5443	1.2491	1.236	0.21633
AgeOlder:ListTypeOpen	1.4069	0.7633	1.843	0.06529.
ListTypeOpen:LanguageStatusYiddish	-2.8841	1.2488	-2.309	0.02091*

Table 13.4: Model output for plateaus

	Estimate	Std. Error	z value	Pr(>|z|)
Intercept	-0.6492	0.4558	-1.424	0.1544
LanguageStatusYiddish	1.3560	1.0203	1.329	0.1838
ListTypeOpen	-0.3025	0.3930	-0.770	0.4415
ListTypeOpen:LanguageStatusYiddish	-2.3661	1.0314	-2.294	0.0218*

Table 13.5: Model output for rises

13.2.4 Rises

The final model included language status and list type, and random intercepts by subject. There was a significant interaction between language background and list type, with Yiddish speakers using more rises in closed/informative lists. The differences in the use of rises and plateaus by list type and by language background are shown in figures 13.2 and 13.3.
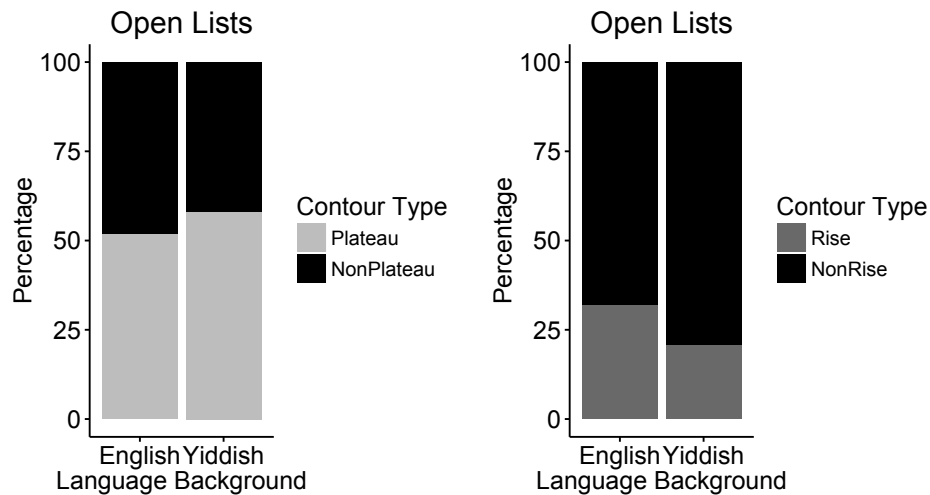
Figure 13.2: Contours used in open/non-informative lists, by language status

13.2.5 Pitch range

A linear mixed-effects model was built to examine pitch range. The final model included age, religion, gender, and contour (plateau or not) as main effects, as well as an interaction between age and religion, and random intercepts by speaker. The final model output is
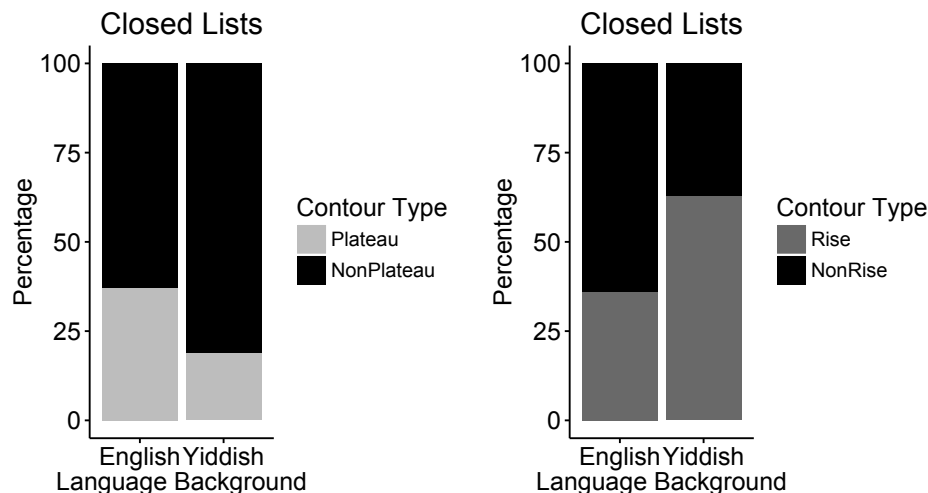
Figure 13.3: Contours used in closed/informative lists, by language status

	Estimate	Std. Error	t value	$Pr(>|\chi^2|)$
Intercept	59.315	7.033	8.434	
AgeOlder	-35.035	7.165	-4.890	
ReligionNotJewish	-29.222	7.830	-3.732	
GenderMale	-23.400	5.063	-4.622	p <0.0001
ContourNonPlateau	30.546	5.119	5.967	p <0.0001
AgeOlder:ReligionNotJewish	46.936	10.247	4.580	p <0.0001

Table 13.6: Model output for pitch range

given in table 13.6. Unsurprisingly, given the physiological differences described previously, older speakers and male speakers had smaller f0 ranges compared to younger speakers and female speakers. Plateaus had smaller f0 ranges compared to non-plateaus. The non-Jewish subjects had smaller pitch ranges compared to the Jewish subjects; however, this effect was primarily driven by the younger female speakers, as seen in the interaction between age and religion, and in figure 13.4.

13.2.6 Rise-falls

As there were only 10 rise falls produced, no models were built; however, 7 of these were produced by Jewish speakers.
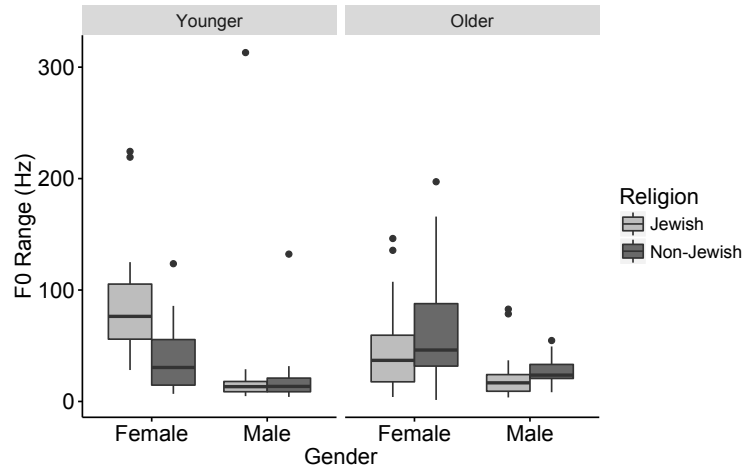
Figure 13.4: Pitch range used in Presidents task, by religion and age

Contour	Plateau	Rise-Fall	Rising	Other	Grand Total
Jewish	81 (29%)	21 (7%)	86 (31%)	88 (32%)	276
Non-Jewish	90 (40%)	3 (1%)	48 (21%)	83 (37%)	224
Grand Total	171	24	134	171	500

Table 13.7: Contours used in interview lists, by religion

13.3   Interview lists

Tables 13.7 and 13.8 show the general contours used in the spontaneously produced lists in the interviews, broken down by religion, age, and gender. In general, Jewish participants appeared to use fewer plateaus (29% vs. 40%), and more rises (31% vs. 21%) and rise-falls (7% vs. 1%) compared to the non-Jewish participants. However, both gender and age also appeared to be relevant. Women used fewer plateaus (30% vs. 44%) and more rises (29% vs. 19%) compared to men; however, younger women used more plateaus (40% vs. 16%) and fewer rises (21% vs. 40%) compared to older women, and younger men, more plateaus than older men (50% vs. 33%).

Table 13.9 below shows pitch accents used, broken down by religious background and gender. Again, the Jewish participants appeared to use more rising pitch accents than the

Contour	Plateau	Rise-Fall	Rising	Other	Total
Female	95 (30%)	20 (6%)	92 (29%)	110 (35%)	317
Younger	74 (40%)	8 (4%)	39 (21%)	64 (35%)	185
Older	21 (16%)	12 (9%)	53 (40%)	46 (35%)	132
Male	103 (44%)	10 (4%)	45 (19%)	78 (33%)	236
Younger	73 (50%)	3 (2%)	25 (17%)	45 (31%)	146
Older	30 (33%)	7 (8%)	20 (22%)	33 (37%)	90
Grand Total	198	30	137	188	553

Table 13.8: Contours used in interview lists, by gender and age

non-Jewish participants (24% vs. 6%), and fewer H* (61% vs. 78%) pitch accents.

Pitch Accent	!H*	!H+H*	H*	H+!H*	L*	L*+H	L+H*	Total
Jewish	2 (1%)	1 (0%)	169 (61%)	15 (5%)	24 (9%)	36 (13%)	29 (11%)	276
Younger	0	0	76 (68%)	9 (8%)	11 (10%)	7 (6%)	9 (8%)	112
Older	2 (1%)	1 (1%)	93 (57%)	6 (4%)	13 (8%)	29 (18%)	20 (12%)	164
Non-Jewish	4 (2%)	3 (1%)	175 (78%)	7 (3%)	20 (9%)	12 (5%)	3 (1%)	224
Younger	4 (2%)	3 (2%)	138 (83%)	5 (3%)	13 (8%)	3 (2%)	0	166
Older	0	0	37 (64%)	2 (3%)	7 (12%)	9 (2%)	3 (5%)	58
Grand Total	6	4	344	22	44	48	32	500

Table 13.9: Pitch accents in interview lists, by religion and age

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-0.6866	0.3120	-2.200	0.02777*
AgeOlder	-1.0408	0.3756	-2.771	0.00558**
GenderMale	0.8123	0.3666	2.216	0.02673*

Table 13.10: Model output for plateaus

13.3.1 Modeling

Logistic mixed-effects models were built to test, again, contour type (rise vs. non-rise, plateau vs. not, rise-fall vs. not) and pitch accent type (rising vs. non-rising), with age, gender, religion, and language background and up to two-way interactions between them as fixed effects, and random intercepts by subject.

Plateaus

The final model included age and gender, and random intercepts for subjects. The final model output is shown in 13.10. Men were more likely to use plateaus compared to women, and older subjects used fewer plateaus than younger subjects. A model with an interaction between gender and religion showed a non-significant trend of non-Jewish men using fewer plateaus than Jewish men; however, this interaction did not significantly improve the model.

Rises

None of the effects were shown to be significant.

Rising pitch accents

The model for pitch accents included religion and age, and random intercepts by subject. The final model is shown in table 13.11. Older subjects were more likely to use rising pitch accents compared to younger subjects, and non-Jewish subjects were less likely to use rising pitch accents compared to Jewish subjects, as shown in figure 13.5.

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-2.3715	0.5845	-4.057	4.97e-05***
AgeOlder	1.5011	0.6395	2.347	0.0189**
ReligionNotJewish	-1.3330	0.3666	2.216	0.0457*

Table 13.11: Model output for pitch accents, interview lists
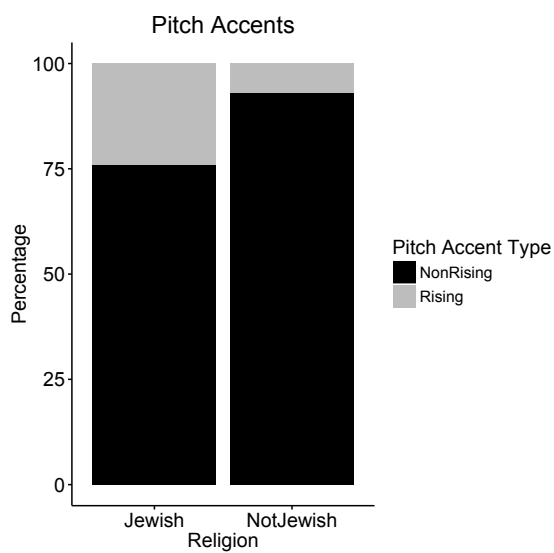
Figure 13.5: Use of rising pitch accents in lists, by religion

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-2.7142	0.3885	-6.986	2.82e-12***
Religion	-1.75933	0.75999	-2.315	0.0206 *

Table 13.12: Model output for rise-falls, interview lists

Rise-falls

The model for rise-fall contours included religion and random intercepts for subjects. The final model output is shown in table 13.12. Non-Jewish subjects used fewer rise-falls compared to the Jewish subjects, as can be seen in figure 13.6.
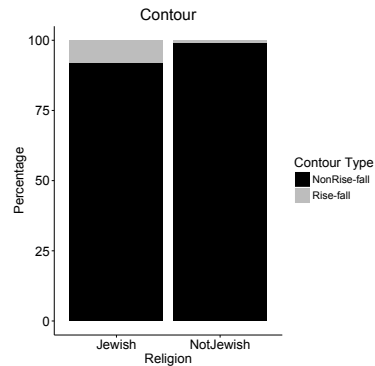
Figure 13.6: Rise-falls in the interview lists, by religion

13.4   Discussion

Table 13.13 shows a summary of the findings from the list tasks.

	Jewish subjects compared to non-Jewish subjects	
	Presidents Task	Interviews
Plateaus	Fewer for Yiddish speakers in closed lists	n.s.
Rises	n.s; More for Yiddish speakers in closed lists	n.s
Rise-falls	More (no model built)	More (p<0.05)
Rising Pitch Accents	More (p <0.01)	More (p<0.05)

Table 13.13: Summary of list results

Overall, the Jewish subjects used more rise-falls, and more rising pitch accents in both of the tasks, compared to the non-Jewish subjects. Younger Jewish participants also had larger average pitch ranges compared to the younger non-Jewish participants. The Yiddish-speaking participants used more rises, and fewer plateaus, in closed lists compared to the non-Yiddish-speaking participants.

These results add to the findings in Burdin (2014), by first showing differences between Yiddish-speaking and non-Yiddish-speaking subjects. It also shows that there are differences between Jewish English speakers and non-Jewish English speakers in list intonation more generally. Overall, there appears to be a greater degree of macro-rhythm in Jewish English compared to non-Jewish English in list intonation, with the use of more rises, more rising pitch accents, a larger pitch range, and in some cases, fewer plateaus.

However, the picture looks slightly more complex when we look at the difference between the Yiddish speakers and non-Yiddish speakers. Specifically, the Yiddish speakers, on the surface, look more like the English speakers should than the English speakers, in that they use more rises in the closed lists (where we expect them, following Ladd (1978)). Also, these results suggest a slightly different finding from the Frog stories and the DCT, with more rises, and fewer plateaus from the Yiddish speakers, instead of fewer rises and more plateaus and falls. Why this might be the case is discussed more in the following chapter

Chapter 14

Interim summary: Production data

In summary, we see the following differences in Jewish English intonation. The Jewish English speakers, as a whole, used statistically more rise-falls in the listing tasks, along with more rising pitch accents. The younger Jewish English speakers also had wider pitch ranges for the Presidents task. There was also some evidence for some differences in the production of the rise-falls (more rise falls with higher peaks), and a greater use of falling edge tones (!H-L%, L-L%, !H-, L-), instead of rises, for the "dramatic transitions" prompts in the DCT. We also saw more !H-L% used by Jewish men, and more H-L% from the older Jewish speakers, compared to the non-Jewish men and older non-Jewish English speakers, in the Frog Stories.

The Yiddish speakers showed differences in the production of rise-falls in English and in Yiddish, with the Yiddish rise-falls having higher peaks, larger rise-spans, and later TCoG compared to their English rise-falls. Interestingly, we also saw a split in the acquisition of intonational form and intonational function by Joe and Sarah. While both were able to produce distinctive rise-falls in their Yiddish, they don't use the rise-fall for as many functions as Ira (specifically, Sarah does not use the rise-fall in any question contexts; Joe uses it for vocatives, but not incredulous questions). An equivalence might be drawn between a second-language learner, acquiring a native-German like pronunciation of a highly pragmatic morpheme like *doch*, but still having trouble using it in an entirely native-like way.

The Yiddish speakers also used higher peaks in their English rise-falls in the Yiddish club setting compared to the interview setting, suggesting some degree of shifting based on

context. Some of the Yiddish speakers made use of rise-falls in Yiddish questions, as well as in the "dramatic transitions" prompts. The Yiddish speakers also used more rise-falls in their English in the Frog stories, and fewer plateaus in closed lists, compared to the other subjects. The Yiddish speakers used more rises in the closed lists, but fewer rises in the Frog Stories compared to the other subjects.

The bulk of these findings points to a greater degree of macro-rhythm in Yiddish and Jewish English, and particularly in the Jewish English spoken by Yiddish speakers, with more rise-falls, more rising pitch accents, and a wider pitch range.

These findings also suggest different meanings for the (!)H-L% contours in some varieties of Jewish English, and for similar contours in Yiddish compared to non-Jewish English. Overall, it looks like there is a higher use of these contours among Yiddish and Jewish English speakers: we saw them in the "dramatic transitions" in the Yiddish DCT, and potential echoes of them in the increased use of falls instead of rises in the responses to the DCT by Jewish English speakers. Jewish men used more !H-L% in the Frog stories, and older Jewish subjects, more H-L% contours compared to the older non-Jewish subjects. These all point towards these contours being used for a "forward looking" function, as these contours are used to link clauses together (in the DCT), as well as in sequences of events (in narrating the Frog Stories); this is in contrast to both the production data collected from non-Jewish English speakers (who, proportionally, preferred rises for these functions), as well as descriptions of MAE intonation as in Pierrehumbert and Hirschberg (1990).

Finally, we also can see evidence of this difference in meaning for the (!)H-L% contours in the rises used by the Yiddish speakers in the closed lists. Table 14.1 gives a break down of the contours used at the ends of nuclear rises in the Presidents Task. Although the numbers are small, we see that the Yiddish speakers used proportionally more rises ending in a H-L% (40% vs. around 20% for the English speakers) in this context.

What appears to be happening is that there is a difference in function for the (!)H-L% contour in both Yiddish and some varieties of Jewish English, in that it can more readily

Language	H-H%	H-L%	L-H%	Total
English	5	4	12	21
Yiddish	0	4	6	10

Table 14.1: Phrase accent/boundary tones on rises inclosed lists

serve as a "forward-looking" contour in contexts like the "dramatic transitions", the Frog Stories, and the listing contexts. Depending on whether or not the contour is downstepped (i.e., is a !H-L%, especially one proceeded by a rising pitch accent, creating a rise-fall), and the preceding pitch accent, this increased use will either lead to a greater degree of macro-rhythm in context (if the H-L% is preceded by a L* or L*+H) or a lesser degree of macro-rhythm (say, if the H-L% is preceded by a H*, leading to a flat H* H-L% contour).

The data in table 14.1 shows that the increased use of H-L% does not necessarily lead to a decrease in the number of rises in the President's Task, with the Yiddish speakers using more rises, and those rises end in H-L%. We also saw that the Yiddish speakers used more H-L% and !H-L% in their telling of the Frog Stories compared to the non-Yiddish speakers; although these differences in did not end being statistically significant [1], the increased use of !H-L% is potentially reflected in their statistically significant greater use of rise-fall. Thus, for the Yiddish speakers, increased use of H-L% and !H-L% did not result in, overall, a lower degree of macro-rhythm, and in fact, may have increased it.

Age also seems to matter in the use of macro-rhythm, but not in the expected direction, with, in some cases, the younger Jewish English speakers showing distinctness in more situations than those in their parent's and grandparent's generation, specifically, by making use of wider pitch range in more contexts. But, overall, the younger Jewish English speakers looked similar to the older Jewish English speakers, and the Yiddish speakers. Therefore, we can tentatively say that growing up in a place like Oakwood, with fewer Jews, and fewer Yiddish speakers, instead of a place like Dayton View 60 years ago, does not necessarily

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[1] Although two of Yiddish speakers are men, and thus used statistically more !H-L%, and all three were older, meaning that they statistically used more H-L% than the older non-Jewish speakers

Subject	Vowel	F1	F2	Euclidean distance
Jewish	/ɑ/	812.4 Hz	1327.73 Hz	
	/ɔ/	710.25 Hz	1115.10 Hz	235.91 Hz
Non-Jewish	/ɑ/	808.93 Hz	1288.43 Hz	
	/ɔ/	773.04 Hz	1148.07 Hz	144.88 Hz

Table 14.2: Means for F1 and F1 for /ɔ/ and /ɑ/ for two speakers

mean complete linguistic assimilation. This finding should perhaps not be surprising, if we consider intonational phonology to be like segmental phonology, and intonational meaning like morphemic meaning, with communities maintaining distinctive features in both of these areas long past the original point of contact. And, in fact, we can see maintenance of both distinctive differences in segments and morphology in Jewish English in Dayton.

Other work has found distinctiveness of the vowel system, as well as the use of distinctive words and morphemes, in Jewish communities across the United States (Knack (1991); Benor (2011b)). Maintenance of the *cot/ caught* contrast has been said to be a feature of Jewish speech, perhaps due to network and ideological connections to New York City, where the contrast has been maintained. Although a full acoustic study of the vowel systems of the participants is beyond the scope of this project, we can see hints of this in our participants. Figure 14.1 shows vowel plots for /ɑ/ and /ɔ/ for two of the younger female speakers extracted from FWAY, one Jewish, and the other not, who were both born and raised in suburbs of Dayton, and who currently live in the Columbus area. Although there has not, to my knowledge, been a systematic study of the merger in Dayton, the Atlas of North American English states that the two vowels are "close in production" in Dayton (Labov et al., 2006), and the merger is nearing completion in Columbus, OH (Durian, 2012). Table 14.2 shows the mean F1 and F2 of these two speakers, as well as the Euclidean distance between the means for both vowels; the Jewish subject has greater separation between the two categories than the non-Jewish subject.

The younger subjects also, throughout the interviews, made use of Jewish English lexical
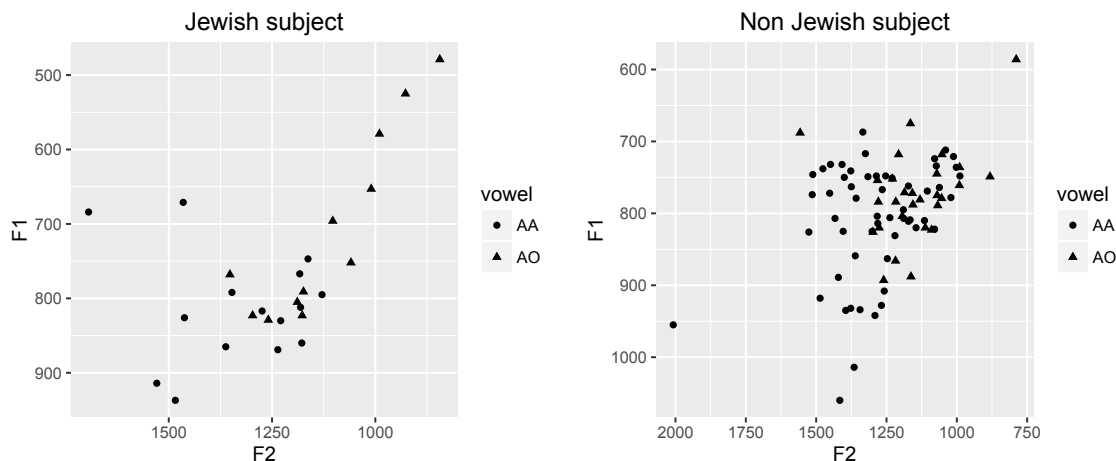
Figure 14.1: Vowel plots; AA = /ɑ/; AO = /ɔ/

items, including, but not limited to, the names of holidays (e.g., *Shabbat, shabes, Passover*), foods (*matzah* 'unleavened bread eaten during Passover'), locations (*shul, kibbutz*), religious items (*tefilln* 'phylacteries, ritual item worn during prayer'), and the names of various Jewish organizations (AEPi, a Jewish fraternity, and NFTY, 'North American Federation of Temple Youth', a youth organization for reform Jews).

Just as the younger Jewish participants continue to make use of distinctive Jewish English features in other parts of their phonetics, phonology, and their morphology despite living in a community with fewer Jews and fewer Yiddish speakers, they also continue to make use of distinctive Jewish English features in the form and function of intonation. That is not to say that there isn't variation based on language status, and also more or less intimate contact with Yiddish, with the Yiddish speakers making use of more distinctive features in intonation (just as they do for lexical items), but it appears to be case that, fundamentally, intonation behaves in much the same way as other aspects of the linguistic system in how contact-induced changes linger (or don't) within the speech of a community.

We can thus theorize the following pathway for this change. Jewish English-speakers who also speak Yiddish carry over some aspects of the form and function of their Yiddish intonation into their English via imposition, including, but probably not limited to, rise-

falls with higher peaks, more rise-falls, more rising pitch accents, and more (!)H-L%-like contours. Note here that macro-rhythm is an emergent feature: this collection of more rise-falls, rise-falls with higher peaks (leading to more salient alternations between L and H), more rising pitch accents all together lead to more regular, and more salient, alternations of L and H, creating a greater degree of macro-rhythm. As such, it is not macro-rhythm itself being imposed, but this collection of features.

Some of these features become associated with a Jewish identity, including rising pitch accents, a wider pitch range, and more (!)H-L% contours, and become available for use in Jewish English; other features, like the use of rise-fall in incredulous questions, and some differences in list intonation, do not. This selection is probably not entirely random: things that have equivalents in Standard English intonation might be more likely to survive (e.g., the rise-fall in "dramatic transitions"). The difference here is not in using an entirely new contour for a particular function, but simply using a somewhat rarer one in greater proportions. On the other hand, something like the rise-fall in incredulous questions is much more marked: recall that we saw no participants using the rise-fall in non-wh questions in English. While in some contact situations this might be a reason *to* select this feature (by creating a greater distance between the contact variety and the source), in this case, negative attitudes about the "sing-song" nature of Jewish intonation might have produced enough pressure for this particular feature to not be selected.

All of these features would contribute to a greater degree of macro-rhythm in Jewish English compared to non-Jewish English. The next two chapters argue that it is this global feature, rather than the particular contours, which has become a marker of some types of Jewish speech.

Chapter 15

Macro-rhythm in performances of Jewish English

The previous chapters showed various differences in the production of English intonation, both between Jewish and non-Jewish participants, and, among the Jewish participants, between those who spoke Yiddish and those who did not. Many of these differences suggest a greater degree of macro-rhythm is a marker of some types of Jewish speech.

While these differences exist, it is not clear to what extent they are socially meaningful: that is, to what extent a greater degree of macro-rhythm is being used to signal Jewish identity. While the style-shifting behavior of the Yiddish speakers-in which they made use of rise-falls with higher peaks in the Yiddish club setting compared to the interview setting– suggests that, for these speakers, greater macro-rhythm may be connected with Jewish identity, there may be other explanations. Perhaps the speakers are simply more relaxed and animated in the Yiddish club setting, and similar style-shifting patterns towards a greater degree of macro-rhythm could be observed among the other Jewish English speakers, or among the non-Jewish English speakers.

However, as the following two chapters show, there is additional evidence that a greater degree of macro-rhythm is, in fact, highly salient and socially meaningful, both within the Jewish community and in the greater North American context. I provide evidence for the connection between a greater degree of macro-rhythm and a particular type of Jewish identity–older, with ties to the Yiddish-speaking community– both from performances of certain types of Jewish speech, as well as through a perceptual experiment. Evidence is also provided that both the ability to effectively use intonation in comedic performances and to

glean a fuller social meaning of the intonational patterns is predicated on experience with Yiddish speakers.

In addition, I show that there have been changes over time in these performances. While there has been consistency in the use of Yiddish intonation, and Yiddish-influenced English more generally, in the telling of jokes about, and in the performances of, immigrant parents, as these immigrant parents, and, importantly, their children, have aged, the telling of jokes about and performances of older, immigrant Jews have themselves become markers of an older variety of Jewish English. Evidence from the perceptual experiment also shows some differences in the judgements of Jewish speech based on the listener's age, giving more evidence for a change in social meaning for these aspects of intonation.

15.1 Performances of Jewish Speech in Dayton

As part of the sociolinguistic interview, participants were asked if they thought if you could tell a person was Jewish based on the way that they talked. Many of the participants responded with some hesitation, and tended to make reference to Yiddish accents in general, or particular names, as in example (38). Note that here, the participant is even reluctant to describe particular names as Jewish, as seen by his use of the word "quote".

(38) Not unless they had an Eastern European– if, if I would talk to a Ginsberg with an Eastern European accent, I mean, that would be easy [...]if it's a Jewish quote, Jewish name.

However, a few participants did make reference to the "texture" or "lilt" of Jewish speech, and two did attempt a "Jewish" accent when prompted. The first participant is a younger man, who grew up in a suburb on the west side of Dayton. The subject admitted not having much experience with Jews, or Jewish speech. However, he worked in the theatre industry, assisting local high schools with their theatrical productions, and mentioned that one school had put on *Fiddler on the Roof*. I asked if he tried to get the students to do

any particular types of accents in the performance. He said yes, but "It's really hard to get people to talk Yiddish". When pressed for a demonstration of "talking Yiddish", he produced example (39), with the f0 track shown in figure 15.1.

(39)   They talk a little up?[...]It always sounds like you're questioning? Even when you're not? [...] Like, if you're talkin' like this?
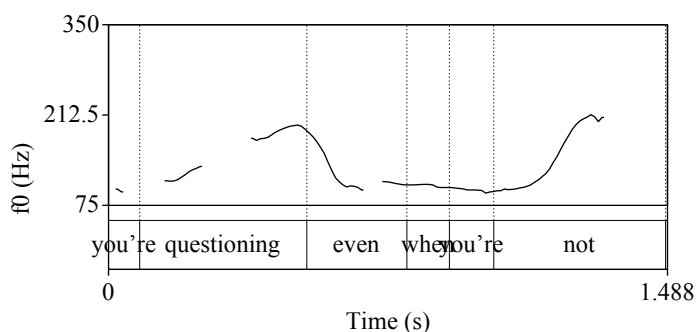
Figure 15.1: First macro-rhythm demonstration

As can be seen in the f0 track in figure (15.1), this participant produced a sequence of rises on this utterance; the participant also produced some New York-like vowels, particularly in "talk", and a released /t/ in "not", suggesting that these aspects of Jewish English were salient for him. The participant however, did qualify his statement, adding "But then, there are tons of like, Yiddish ways of speaking", suggesting that this way of speaking was only one version.

The next example comes from a participant who is also not Jewish; however, at the time of the interview, she was actively involved with various parts of the Jewish community in Dayton[1]. She was dating the young adult activities coordinator for the federation, and had taught at both the Dayton Jewish Community Center preschool and Hebrew School at one of the local synagogues. She was learning some Hebrew from her boyfriend, and described

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[1]N.B.: She was one of the participants whose data was not analyzed elsewhere in the dissertation

some differences between English and Hebrew intonation, again making references to rises. When pushed about differences in Jewish English, she replied with example (40).

(40)   Rachel: Do you ever notice that in Jewish speech, even in their English?

Participant: They kinda lilt a little bit. There, there's a little bit more of a a nu-uh-uh-uh to the way that they speak than with us, you could almost like, put a beat to it and just rock your head back and forth like, oh, okay.
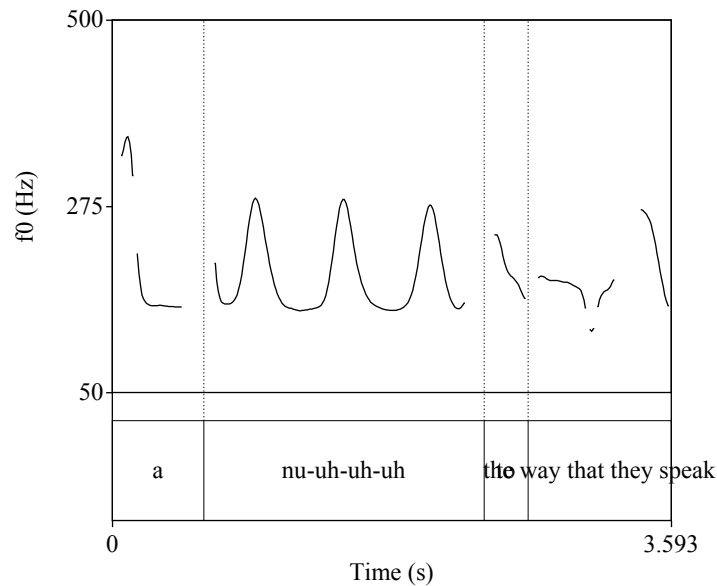
Figure 15.2: Second macro-rhythm demonstration

Here the subject makes reference to a "lilt", and performs a series of rise-falls, as shown in figure 15.2. She also gives evidence for the "rhythm" part of "macro-rhythm", in saying that "you could almost like, put a beat to it". Like the other participant, however, she did qualify her remarks, adding that this wasn't the case with all Jews, as "I've run into some that don't at all, and who get a little monotone", but that "there are a lot of them that have that lilt".

Both of these subjects' remarks make it clear that intonation is a salient feature of at least some types of Jewish speech in the Dayton area. More specifically, their remarks point to the salience of macro-rhythm. The use of rises by one, and rise-falls from the other, suggests that it is a more global feature of Jewish English– an overall greater degree of macro-rhythm– that they are attuning to, rather than one particular contour.

These two subjects also both make reference to variation within the community. Although neither of them qualified who exactly would be using these features, the following section examines a range of comedic performances of Jewish speech, and shows that it is older, Yiddish-speaking Jews in particular who are stereotyped as having a greater degree of macro-rhythm.

15.2 Comedic performances of Jewish Speech

In his description of the rise-fall, Weinreich (1956) notes that "The rise-fall is now widely understood in American English, although it is still slangy and humorous (not so in Yiddish) [...] Radio and television comedians, many of whom have Jewish backgrounds, may have been influential intermediaries" (p. 642). Weinreich's description obliquely refers to the change that Shandler would call post-vernacularization: rather than being used for the particular linguistic functions that Weinreich outlined, the rise-fall was being used more for its social functions, of making something sound funny. As the next section shows, the use of Yiddish-influenced intonation in English in comedy is not restricted to the rise-fall, and has a long history after Weinreich's comments.

15.2.1 Earlier performances of Jewish speech

Dorson (1960) collected a series of what he called "Jewish Dialect Jokes" from colleagues in Indiana, not long after Weinreich wrote his article. In his analysis, Dorson notes at several points the importance of using a convincing Yiddish accent in telling the jokes, and makes

reference to intonation, though not any particular features. The accent is important enough that Dorson stresses the importance of making audio recordings of the jokes in order to get their full effect. These recordings were acquired from archives at Indiana University.

The audio recordings confirm Dorson's general claims. The joke teller, along with using segmental features of Yiddish in his performed Yiddish accents, including [v] instead of [w], and a uvular /r/, makes use of a wide range of intonational features.

A rise-fall shows up in a vocative, as shown in figure 15.3[2]. Recall from the previous chapters that this rise-fall was not used by any of the Yiddish speakers in their English, and by only two out of the three more fluent Yiddish speakers in their Yiddish. Thus, while the rise-fall in English was prominent enough for Dorson's joke-teller to make use of it, in English, 50 years ago, it has disappeared from English, at least in the Dayton community (and possibly beyond, Benor (p.c.)), showing the loss of this particular feature.
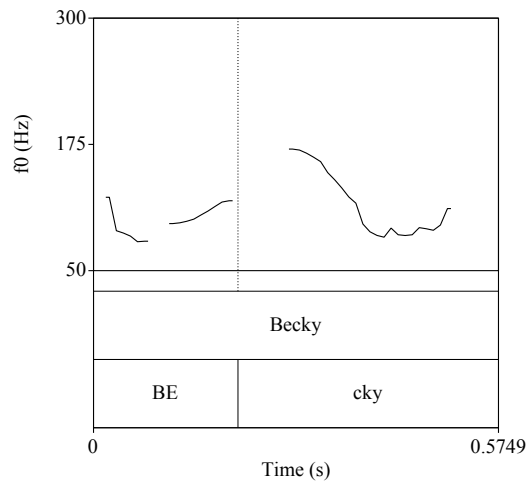
Figure 15.3: Rise-fall on a vocative from Dorston(1960)

The speaker also used a higher pitch range for his Jewish accents. This does not appear to simply be a function of him wanting to change his pitch range for an accent: on the

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[2]Although, again, this vocative was slightly different from both Weinreich's vocative–which was used to confirm a person's identity; here, again, the vocative is used in direct address to a known person.

recordings the speaker also performs African American English, and Texan English, for which he lowers the pitch of his voice. This link between high pitch and Jewishness can most clearly be seen in the following joke, example (41).

(41)   This Jew is traveling across Texas on this train, and he's in a sleeper. The bed's all made up, and he's sitting in his chair, and all of sudden, this big Texan comes in and slams the door. He's got on a ten-gallon hat, very fancy embroidered shirt. He's got on these great big boots and a pair of six shooters at the hips. And he slams the door behind him, and he says, "Are there any Jews in here?" And the little Jew just cringes down in his seat. And he says, "I said, are there any Jews in here?" The Jew is just shaking. He says, "I wanna know if there's any Jews in this car!"

Finally, the little Jew figures, well, he shouldn't be ashamed of it, he should own up and take whatever's coming to him, so he says "Pardon me, mister, I'm a Jew." The Texan looks at him and says, "*Kimt areyn, makht a minyen*" ['Come here, make a *minyen*'].[3]

For his Texan accent, the speaker makes use of salient segmental features of Southern English, including a monophthongal [aj] in "I", and r-lessness in "there", "here", and "car". He uses r-lessness in his Jewish accent (but no [aj] monophthongization), but more significantly, he also alters his pitch, as shown in table 15.1. His utterances as the Texan, before the joke's reveal, have a mean f0 of 159Hz, with a minimum of 82Hz, and a maximum of 268Hz. For his Jewish accent, his mean f0 is higher, and the range is larger, with a mean of 308Hz, a minimum of 72 Hz, and a maximum of 395Hz. Finally, when the Texan is revealed to be Jewish, he switches to Yiddish, and his f0 changes again: it's higher than it was when the Texan was speaking English (although not as high as the original Jew's), with a mean of 186Hz, a minimum of 96Hz, and a maximum of 267Hz. There may be some degree of

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[3]A *minyen* is a quorum for prayer; 10 adult (in some cases, male) Jews are required. The act of asking passers-by if they are Jewish in order to make a minyen is a standard practice in some heavily Jewish areas.

Character	Mean f0	Min f0	Max f0
"Little Jew"	308Hz	72Hz	395Hz
Texan (Pre-reveal)	159Hz	82Hz	268Hz
Texan (Post-reveal)	186Hz	96HZ	267Hz

Table 15.1: f0 Measurements in the "Texas" Joke

sound symbolism here (with the larger Texan having a deeper voice, and the "little Jew", a higher one); however, the shift on the part of the large Texan from his English to his Yiddish, and the fact that this higher voice shows up in the speaker's performances of Jews throughout the recording, suggests that this is not the sole explanation.

Another feature of the jokes on this recording is that the Jewish characters performed are not necessarily elderly. The "Becky" example above is from a joke about a married couple with an active sex life; several of the jokes feature priests and rabbis; another joke features a father and a son. All of these characters may, in fact, be older, but their age is not crucial to the telling of the joke, except for perhaps the last one. In this joke, we can see a certain degree of generational divide. The set up of the joke is that a Jewish father has sent his son to a Catholic school in the hopes of getting him to behave, which amazingly, the son does. The punchline of the joke is shown in (42).

(42)   [The father] says, but tell me, tell me, [v]at did you do [d]ere, [v]at happened in [d]is school, he says. He says, [v]hy don't you misbehave, he says.
He says, Papa, I'm too smart for [d]ere, I– for [d]em, I go in [d]ere the first day, and I see [d]ere's only [v]un other Jew [d]ey got in the school, and he's nailed to the [v]all!

Both the father and the son show aspects of Yiddish influence in their segmental phonology, particularly *dh* stopping and substituting, as above, [v] for [w]. However, the father's intonation is slightly more distinct than the son's, with a maximum f0 of 366Hz, compared to 332Hz for the son, perhaps as a way to signal a slightly heavier Yiddish accent for the father compared to the son.

For this joke teller, then, the intonation is most strongly associated with Jews, mostly immigrants, who are not quite comfortable in American society yet. This is, overall, regardless of age of the immigrant, except for, as the last joke shows, a child might be seen as having a slightly weaker accent compared to his father.

Brandes, writing 30 years later (1983) sees these jokes primarily as a way for the children of immigrants to distance themselves from their parents. Again, in his analysis, we see that the Yiddish accent, and intonation, is not necessarily associated with being elderly, *per se*, but with being an immigrant, or a parent. Brandes also stressed the importance of being able to perform a convincing Yiddish accent to make the jokes succeed. The jokes, Brandes claims, when told by non-Jews, "rarely came off well" (p. 234), not primarily due to a feeling of anti-Semitism but rather because "there was an unauthentic Anglicized accent superimposed on the Yiddish accent upon which the funniness of the story depended". In describing the Yiddish accents in the jokes, Brandes makes reference to the use of lexical features, including *Oy vey!* ['oh woe'] and *bracha* ['blessing'], a few segmental features (word final devoicing, and substituting [v] for [w]), as well as, vaguely, "intonation" (p. 239).

But, at this point in time, there is some evidence for a shift from intonation not just signaling that someone was a parent or an immigrant, but, more crucially, that they were older. In the movie *Spaceballs*, Mel Brooks, who was 60 at the time of the film's release in 1987, plays the character of Yogurt, who is meant to be a parody of Yoda, from *Star Wars*. Yogurt, like Yoda, is old–he walks bent over, and has pronounced wrinkles and grey hair. Yogurt is also clearly meant to be a caricature of an old Jewish man, with his catchphrase being *May the Schwartz be with you!* (a recognizably Ashkenazi last name), and using some salient segmental features from Yiddish and New York English, including *dh* stopping, pronouncing *merchandising* as *m[ɔɪ]chendising*. His first line, when he was introduced, includes the use of a rise-fall on an incredulous question, as shown in figure 15.4. As the main characters enter his lair, and recognize him, he says "You heard of me?", pleasantly surprised to be recognized. Here, the rise-fall on an incredulous question, like other aspects

of Yiddish-influenced English, is part of a general stereotype of an old Jewish man.
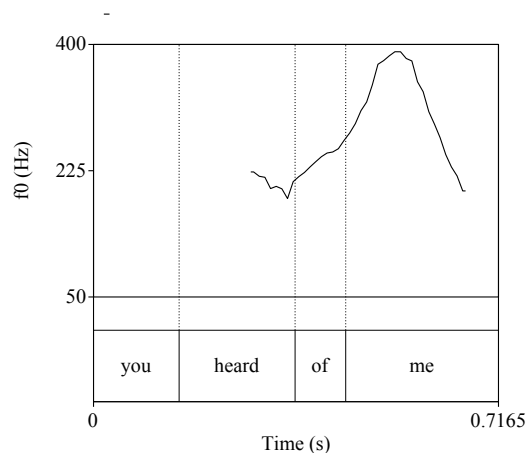
Figure 15.4: Rise-fall on an incredulous question from *Spaceball*

However, by the early 2000s, who was telling these jokes, and to whom, seems to have shifted somewhat. Many of the same jokes in Dorson's records, and in Brandes' analysis, appear in a web series (and subsequent Broadway show) entitled "Old Jews Telling Jokes" (Hoffman et al., 2016). With the title of this series, we see that there is now another layer to the social meanings of the jokes. Thirty to fifty years ago, these jokes were told by younger or middle-aged children gently (and not so gently) mocking the accents of their Yiddish-speaking parents. Now, however, as the joke tellers themselves have aged, the joke teller's children and grandchildren now see both the act of telling these jokes, and the performance of a Yiddish accent, as some part of a lovable, elderly, Jewish identity.

Others have noticed the intonation in the telling of the jokes from "Old Jews Telling Jokes", and both the jokes, and the accents used in them, are looked on with some degree of nostalgia. A *New York Times* review of the show (Zinoman, 2012) ends with "The borscht belt may be gone, but it's cadence is stronger than ever", suggesting some degree of awareness of the importance of the prosody in the telling of these jokes, and the title of the piece is an incredulous question ("Such a tradition of humor, and this is only a review?"),

which may be meant to invoke the rise-fall contour[4]. It appears that now, knowing enough about immigrants, and particularly, Yiddish speech, in order to tell these sorts of jokes is becoming associated with an older Jewish identity, though not exclusively, as the next section will show.

15.2.2 Comedic performances of Jewish speech, present day

The following example comes from an episode of *Wait, Wait, Don't Tell Me!* a comedic radio quiz show produced by National Public Radio. The host, Peter Sagal, is Jewish (Nathan-Kazis, 2015), and often discusses his Jewish identity on the program and across NPR platforms (see, for example, an advertisement, a recording of which unfortunately could not be located, heard during a spring 2016 pledge drive, which included him and Nina Totenberg (another NPR reporter) discussing the differences between their experience with, respectively, "Jewish Guilt" and "Catholic Guilt").

A portion of each week's show includes an interview with a celebrity. In an episode that aired in late 2011[5], Henry Winkler, who is also Jewish, was that week's guest (and brought up his Jewish identity during the interview, saying at one point, "And I, as a very short Jew, that is the same experience" [sic]). Sagal and Winkler were discussing the infamous moment in *Happy Days*, where Winkler's character, the Fonz, jumps over a shark on waterskis. Sagal imagined the following conversation between Winkler and his parents, where Winkler's parents are urging him to tell the show's producers about his waterskiing skills, in example (43).

(43) And they were like, but maybe, he could get a little more money if [d]ey know he could– maybe he could make a success of himself if he could just [v]aterski!

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[4]Weinreich (1956) also suggests that incredulous questions in *New York Times* articles as an attempt to signal the rise-fall (p. 643, n. 34).

[5]Transcript and audio recording available at http://www.npr.org/2011/09/10/140333623/actor-henry-winkler-plays-not-my-job
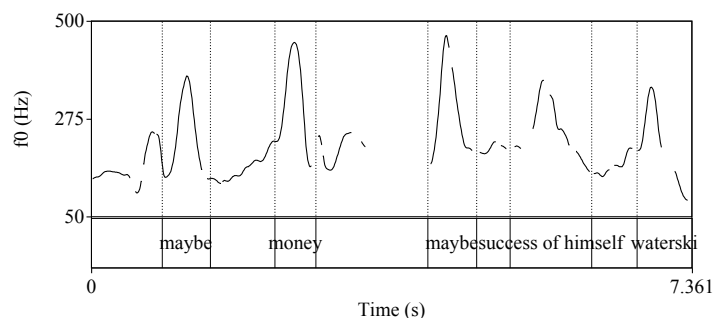
Figure 15.5: Rise-falls produced by Peter Sagal

In his impression, Sagal produces "waterski" with a [v], a salient feature of Yiddish-accented English, as noted above, along with *dh* stopping in "they". "Waterski" is also r-less. And, the entire utterance, as can be seen in Figure 15.5, is performed with a series of rise-fall contours. Sagal also touches on stereotypes of Jews and Jewish parents in this excerpt; namely, a general concern with both financial and professional success on the part of the children. Sagal is here reproducing a link between Yiddish-influenced English, including intonation, and stereotypes about Jewish parenthood. Winkler's parents were in fact, immigrants and the right age to be in a cohort that had a good number of Yiddish speakers (although they were from Germany, and were thus likely actually not Yiddish speakers themselves); however, we see these types of performances even when the speaker's parents are, based on their age, likely to not be immigrants or Yiddish speakers.

Cards Against Humanity is a card game, developed by a group of eight college friends all in their 20s and, according to an online interview given in 2013 on Reddit [6] , from Jewish families. The creators of the card game are much younger than Sagal, and therefore, their parents are not likely to be immigrants, or Yiddish speakers; however, a video released by the creators make use of intonation in similar ways.

The game runs a special holiday promotion each year, in which customers receive a

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[6] "We make the game Cards Against Humanity. Ask us anything" at https://www.reddit.com/r/IAmA/comments/1qjg3s/we_make_the_game_cards_against_humanity_ask_us/; reformatted and consolidated at http://interviewly.com/i/cards-against-humanity-nov-2013-reddit

sequence of surprise gifts. For the 2015 Holiday season, the promotion was entitled "Eight Sensible Gifts for Hannukah". The name, and the gifts themselves– including 4 pairs of socks, a $1 US Treasury bond, membership to WBEZ, the Chicago NPR station, and letters containing "unsolicited advice from one of our Jewish fathers"– play off of stereotypes about Jewish parents as concerned with the financial and general well being of their children. The company released a video to promote the campaign [7] . The video consists of footage of a table set for Hannukah, shot from above. Over the footage plays *klezmer* music, and somebody, who is supposed to be the company's founder, Eli, has a discussion with his family about the new campaign. The reaction from his parents, like Sagal's performance of Winkler's parents, echo this same theme of concern over success, as seen in example (44), spoken by Eli's father near the beginning of the video.

(44)   Y'know, you and your friends can take this card game idea, you could go to Mattel, you could get a real job with that

As in the *Wait Wait* excerpt, this advice is portrayed as somewhat clueless–just as Winkler already had a successful acting career at the time of the jumping the shark moment, the card game had, at this point, been out and relatively successful for five years. Eli's father also says, later in the clip "You guys should take this card game and put it on Shark Tank!", showing the same lack of acknowledgement of his son's business success (*Shark Tank* is a television show in which entrepreneurs attempt to secure funding for their products) as well as cluelessness (getting on the show, and even doing well, are not guarantees of success). He also, in the clip, makes reference to another person's son's being a doctor, reproducing another stereotype about Jewish parents, and their expectations for their children's careers. The clip both plays off of stereotypes of Jewish parents as preoccupied with professional and financial success and portrays the parents giving the advice as slightly out of touch, and thus, older.

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[7]Available at https://www.youtube.com/watch?v=wnRDzl3oqeU

Eli's dad, and the other members of the family, display characteristics of Jewish English. The grandmother is called *bubbe* (Yiddish for 'grandma'); the family enjoys their *latkes*. There are also similarities to the dinner conversation among New York Jews described by Tannen (1981): the characters talk about personal topics, including Eli's love life (or lack there of), and a female character's headache. Topics are shifted abruptly, as in the exchange in (45).

(45)   DAD: It's all in the cloud!

       WOMAN 1: How do you get to this cloud?

       WOMAN 2: I hate flying

       WOMAN 1: I hate flying!

In this exchange, and others, there is overlapping speech, or speech with out much pause in between exchanges. And, crucially, as above, there is a greater degree of macro-rhythm, with rise-fall contours in Eli's father's, but notably, not Eli's, speech, as can be seen in figure 15.6, showing an f0 track of Eli's father's utterances, and one from Eli, which is comparatively flat (except for his initial "Yeah") in figure 15.7.
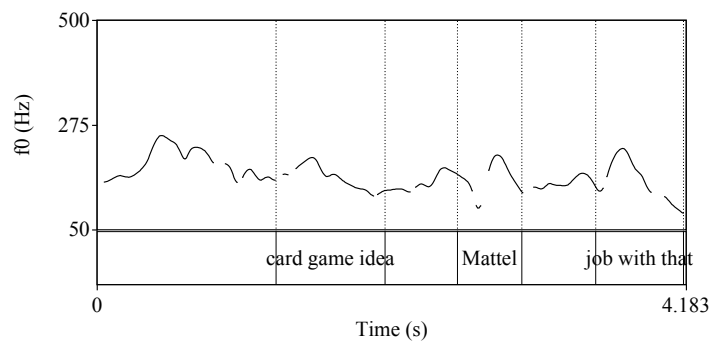
Figure 15.6: Rise-falls produced by Eli's father

Importantly, the family members using these features of Jewish English are marked as being old, reproducing the links between these features, including intonation, and the type
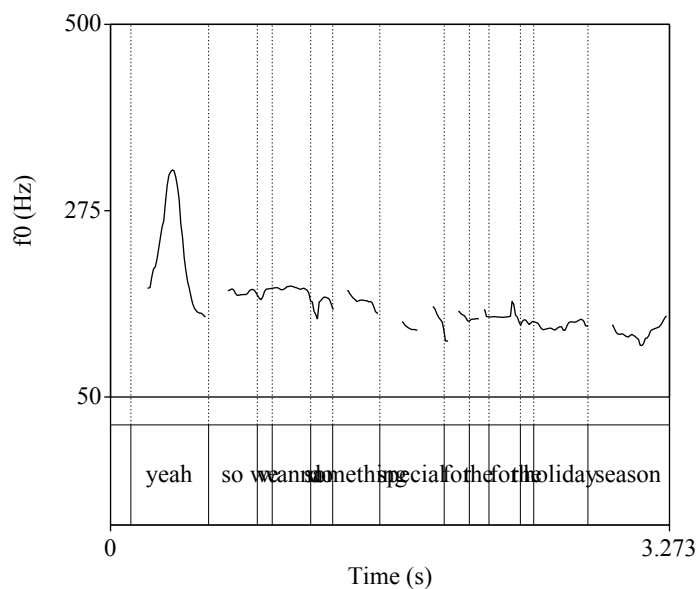
Figure 15.7: Eli's relatively flat utterance; "Yeah, so we wanted to do something special for the holiday season"

of Jewish identity being performed–older, out of touch, but still somewhat endearing. Eli's father's reference to Shark Tank, as well as his insistence for his son to take his idea to Mattel, are probably meant to sound out of touch. Other family members discuss having difficulties interacting with Siri, Apple's voice command program, and have an extended discussion of connecting Ethernet cables (which leads to the exchange above starting with "It's all in the cloud!").

Eli's speech is markedly different from the rest of the group: he doesn't use any Jewish English lexical items, has no overlapping speech with the other participants, and as noted above, has relatively flat intonational contours. A contrast is set up, then, between the older characters who make use of a variety of Jewish English features, including distinctive intonation and a younger character, who does not.

All of the above examples were produced by people who should have, or explicitly state that they have, familiarity with Jewish English: Dorson's informant, Brandes, Sagal, and

the creators of *Cards Against Humanity.* Overall, we see positive, or at least not negative, reactions to the jokes from Jewish audiences: Brandes talks about telling the jokes himself and Sagal's impression of Winkler's parents drew laughs from the audience. The comments on the YouTube video of the Cards Against Humanity campaign were likewise, overall positive, with one user saying "So accurate", and another "Oy, this gave me anxiety" (Presumably, because the video was accurate enough to invoke the writer's own experiences with their family)(Unknown, 2015a), and a *Times of Israel* article (Ghert-Zand, 2015) described the dialogue in the video as "spot-on". "Old Jews Telling Jokes" has generally received favorable press (see, e.g., Zinoman (2012)).

However, as Brandes noted, *inauthentic* performances of Jewish English intonation, produced by speakers who don't have enough experience with the variety being mocked to produce an authentic enough imitation, can backfire, as is shown in the next section.

15.3   Unsuccessful performances of Jewish speech

The following example comes from an episode of the podcast *This American Life.* In this scene, which was improvised as part of a special holiday-themed show in late 2015, three comedians are portraying a gathering of Jews, discussing Christmas[8]. Two comedians are on stage to start, Tami Sagher and Mike Birbiglia. Sagher is Jewish (referenced during the show: "I am also super Jewish. I'm Israeli Jewish") ; Birbiglia is not (Jacobson, 2014). Halfway through, the host, Ira Glass, who is also Jewish (Nathan-Kazis, 2015) (and references this during the podcast–"I'm a Jew[...]in fact I grew up in a suburb of Baltimore that was so Jewish, I didn't understand we were in the minority"), pauses the recording of the improvised scene to address the audience.

(46)   Birbiglia: My Jewish brothers, welcome. I call this meeting.

Sagher: You called this *minyen.*

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[8]Transcript and audio available at `http://www.thisamericanlife.org/radio-archives/episode/576/say-yes-to-christmas`

Birbiglia: Thank you for–

Sagher: There's 10 of us. I gotta say, there's 10 of us.

Birbiglia: Thank you for the correction, Jacob. I call this minyen? to discuss our grievances with Christmas as a holiday? I know it's not our holiday? But I know that I have some concerns?

Sagher: Brother Abraham, I think you should adjust your level of Jew-y. It's a little high.

Birbiglia: Oh! Here it is. It's on my anklet here. There we are.

Sagher: Oh, well–

Bryant: Well, I don't like it?

Ira Glass: Okay, this is Ira in the studio. I'm just going to stop the tape for a second just to make perfectly clear what's happening on stage right now. Okay, so the first comedian in the scene, Mike Birbiglia, he had some trouble with his Jewish accent, as you heard, and he was teased about it. And then another comedian, Aidy Bryant, entered the scene. And she has so much trouble coming up with a Jewish accent that at some point, that just becomes what the scene is about, is her discomfort at this awful accent, and the other performers kind of egging her on and also ribbing her about it very affectionately. Okay, back to the scene.

Sagher: Well–

Bryant: Well, I don't like it? I don't like the holiday one bit?

Other performer: I want to welcome our brother from the Italian branch of Judaism.

Initially, it does not sound like Birbiglia is attempting any sort of accent. However, Sagher interrupts him, to suggest, instead of the word "meeting", that he use the word *minyen*, the term for the quorum of Jews required to say certain prayers. Sagher also makes use of a rise-fall (L+H* !H-L%) in her correction to Birbiglia, as shown in figure 15.9, and makes use of a series of rising-falling contours in her elaboration.

Birbiglia continues, sounding uncertain when he uses the word *minyen*. At this point, some other features of his voice also change, including his intonation. We can see this in his production of rises before and after his "correction" from Sagher. His rises before are somewhat low, and rise to a plateau (shown in figure 15.8); after Sagher speaks, he produces more rises, and they are larger (shown in figure 15.11). At this point, Sagher again corrects him, stating that his "level of Jew-y" is "a little high", still making use of rising-falling contours while doing so, as shown in figure 15.12.
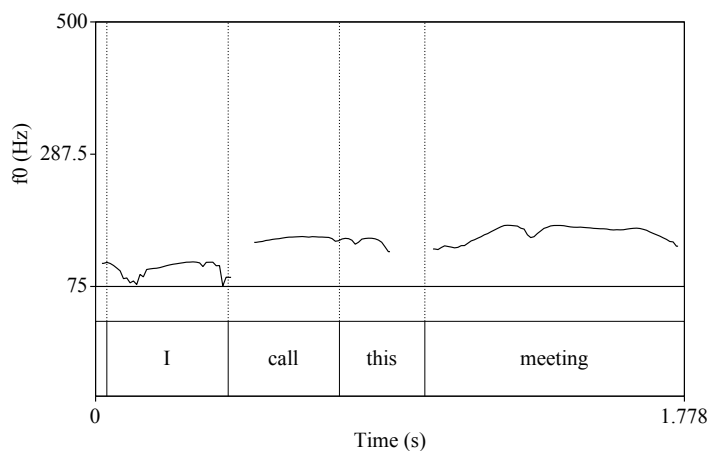
Figure 15.8: Birbiglia, initial rise

Birbiglia then pretends to "adjust", and produces a much smaller rise on "There we are", pictured in figure 15.13. However, at this point, another comedian, Aidy Bryant (who discusses celebrating Christmas with her family later in the episode, and is likely not Jewish) enters the scene. Bryant also makes use of an extremely high rising contour (going up to nearly 600Hz) as shown in figure 15.14.

At this point, the show's host, Ira Glass (who is also Jewish), interrupts the sketch with commentary for the listener, explaining that both Birbiglia and Bryant had tried, and failed to do a "Jewish accent". When they return to the scene, another performer comments on Bryant's accent, stating that "I want to welcome our brother from the Italian branch of
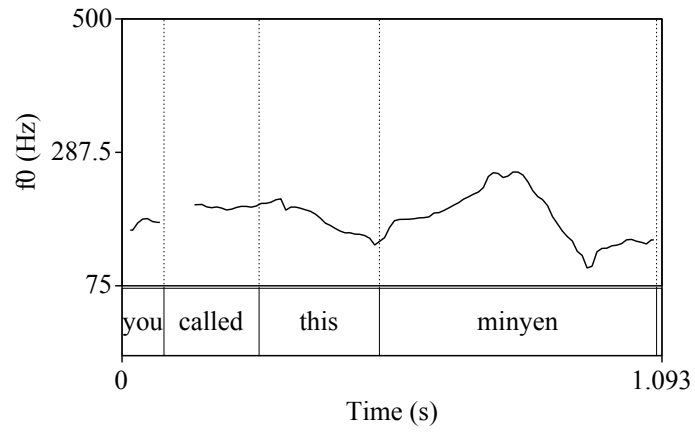
Figure 15.9: Sagher, introducing a Jewish English lexical item and intonation into the scene
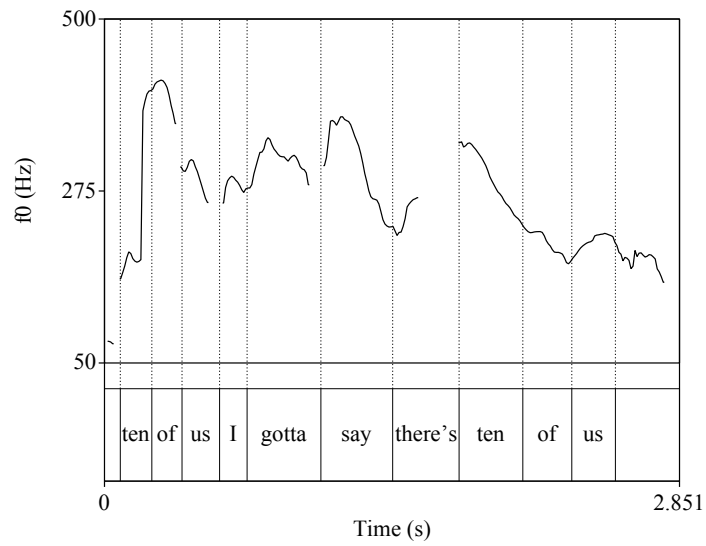
Figure 15.10: Sagher, using rise-falls
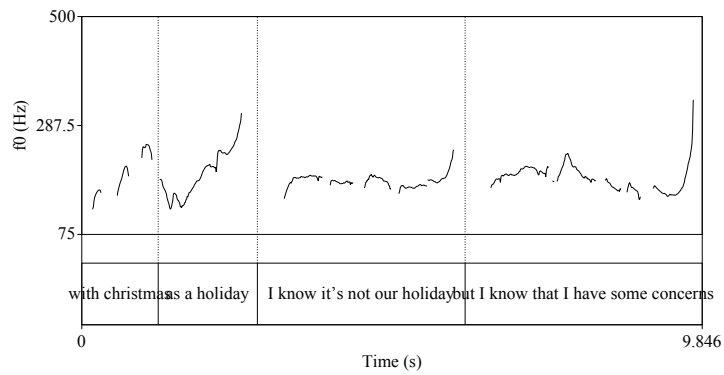
Figure 15.11: Birbiglia, attempting to use intonation to signal Jewishness
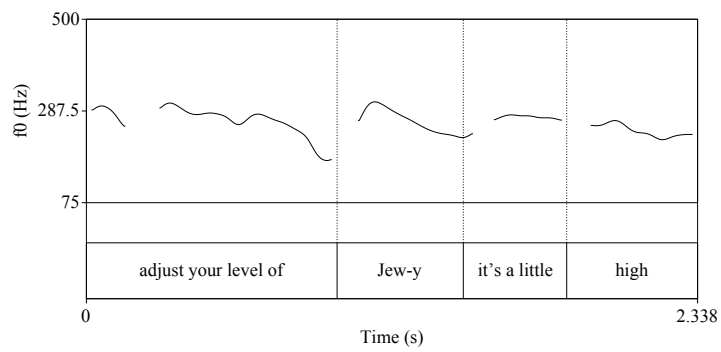
Figure 15.12: Sagher, continuing to use rise-falls
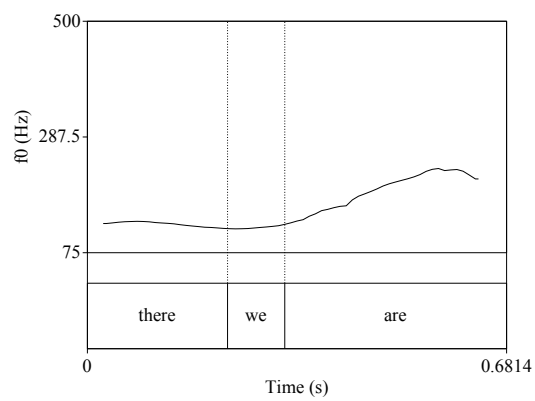
Figure 15.13: Birbiglia, after "adjusting" his "level of Jew-y"

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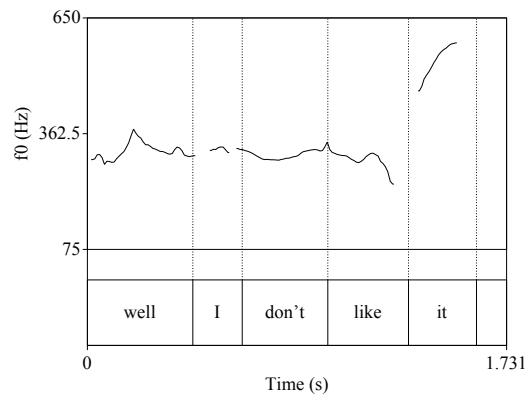
Figure 15.14: Bryant, attempting to use rises to signal "Jewish"

Judaism".

Ira Glass's interruption illustrates some degree of awareness that other listeners may not be able to tell that a particular accent is "Jewish", or that a particular attempt is a bad attempt at "Jewish". Glass, recognizing this, lets listeners who might not be as familiar with stereotypes of Jewish speech know that Bryant and Birbiglia are not performing the accent well, and perhaps, implicitly, that Sagher is doing a more successful performance.

The interaction also displays the same tension around using a "Jewish accent" in jokes that Brandes discusses. Sagher seems comfortable with Birbiglia and Byrant attempting a Jewish accents, and arguably, goads Birbiglia into doing so by suggesting he use the word *minyen* at the beginning of the sketch. Glass also does not express any discomfort with the general idea of these non-Jewish performers using these accents, and stresses the general good-naturedness of the teasing from the Jewish performers. However, both Sagher and Glass feel the need to attempt to "correct" the accents. For Sagher and Glass, then it is the inauthenticity of the accent, rather than the act of attempting the accent itself, that precipitate the on-stage mockery and off-stage commentary. Other listeners, of course, may disagree, and find the accents anti-Semitic; likewise, with the setting of the scene itself, which plays off of a particularly harmful anti-Semitic trope of secret Jewish cabals running

the world.

Regardless of the success of the imitations, it is telling that all of the performers, Jewish and not, cued in to intonation as something they could manipulate to attempt to put on a "Jewish" accent. We see a difference in what the performers think of as a "Jewish" intonational patterns: the Jewish performer, Sagher, made use of rise-falls, while the two non-Jewish performers made use of rises, suggesting that an increase in macro-rhythm is a salient feature of some varieties of Jewish English. However, this feature can be deployed in incorrectly by speakers who might not be as familiar with Jewish English: by, for example, producing rises that are too high.

Finally, it should be noted that neither Sagher's nor Birbiglia's characters are explicitly older; however, part of the intended humor of the scene might be in the juxtaposition of the malevolence of the intending setting–a group of scheming Jews hell bent on the destruction of Christmas– with a performance of Jewish English that paints the people present at the meeting as people like Winkler's parents, or Eli's parents: as older, maybe slightly clueless, but generally harmless people.

15.4 General discussion

All of the above examples show a connection between a greater degree of macro-rhythm–in the use of more rising-falling contours, more rising contours, and a higher and/or wider pitch range–and certain types of Jewish speech.

The two participants from Dayton at the beginning made use of, respectively, rises and rise-falls in performing Jewish speech, and one specifically made reference to some types of Jewish speech being rhythmic in some way.

Looking at the Jewish dialect jokes, and the comedic performances, we can see some ways in which the humorous use of this feature of Jewish speech has evolved. In both Dorson's friend's performance of the jokes in the 1950s, and Brandes' analysis of the jokes

in the 1980s, this sort of accent was associated with immigrant parents, who were certainly not young, but weren't particularly elderly either. However, the use of the rise-fall by Mel Brooks, and these same jokes now being used in a series called "Old Jews Telling Jokes" makes it clear that these types of jokes, and the accents performed in them, are becoming associated with elderly Jewish speech.

We can still see echoes of these accents, and this use of intonation, in comedic performances, particularly of elderly Jewish speech. In the *Wait, Wait* clip, and the *Cards Against Humanity*, these performances are, like in Dorson and Brandes' accounts, still associated with parents, particularly parents that are slightly out of touch with the modern world.

However, experience with Yiddish-influenced speech (or, at the very least, good imitations of it) is necessary to effectively pull off these performances. While someone with less experience might be able to tap into greater macro-rhythm as a salient feature of some types of Jewish English, if they overdo it, the performance may come across as not funny at best, or offensive at worst.

It is also clear that, overall, these features aren't being used in particularly linguistic ways, at least in the present day. With the sample from Dorson's recording, as well as the example from *Spaceballs*, the rise-fall was being used for one of the functions described by Weinreich. However, it is not clear that some of the other rise-falls align with the functions laid out for the rise-fall by Weinreich, or observed in this dissertation. The performances in *Wait, Wait*, the *Cards Against Humanity* video, and by Sagher in the *This American Life* segments might all possibly fit under the general category of "contrast" (e.g., what the children should be doing in their careers, what word Birbiglia should use), but it's not clear that any of these are particularly dramatic, in that they don't involve a change in belief state. Finally, Birbiglia's rises[9] don't line up in either form or function, apart from being

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[9]The use of rises by this one participant, as well as both Birbiglia and Bryant, all non-Jews, is suggestive that maybe that the rises themselves are non-authentic. However, prior comments from Yiddish speakers (specifically, one interviewed as part of the study written up in Burdin (under revision)) also noted rises as a feature of her Yiddish-influenced speech, and, when talking about this dissertation to Jewish people, many used rising contours in their attempts at performing Yiddish-influenced intonation. As such, it does not

more macro-rhythmic. In any case, the post-vernacular functions (of marking a speaker as being an older Jew) likely outweigh any linguistic functions of the rises and rise-falls here. The purpose of the rise-fall, and macro-rhythm in general, is primarily to signal that someone is Jewish.

seem like the rises, *per se*, are inauthentic, but something else about them. The inauthentic part might be the extreme f0 range (which Sagher seems to be hinting at with the suggestion to turn his "level of Jew-y" down) or it might be something about where the rises are being used. Further work will be needed to tease these options apart

Chapter 16

Perception study

Several patterns emerge from both the production data and the performances of elderly Jewish speech, all of which revolve around an increase in macro-rhythm including (1) the greater use of rise-falls and some rising contours and (2) a larger and higher pitch range. This chapter gives further evidence for the association of a greater degree of macro-rhythm with Jewishness, and particularly, a Jewishness associated with older Yiddish-speaking Jews, by making use of the matched-guise technique.

The perception of "religion" in this case intersects with numerous other facets of identity. Yaeger-Dror (2014) in discussing the role of religion as a linguistic variable, describes how race, linguistic heritage, regional heritage, and religion can all interact with each other in various ways. Benor's (2010; 2011b) conception of Jewish English, although she calls it an "ethnolinguistic repertoire", also makes space for other facets of identity beyond ethnicity to interact with "Jewishness": a religious, Ashkenazi Orthodox Jew living in New York will make use of features from the repertoire very differently from a non-religious Zionist who has lived on a kibbutz in Israel.

In this case, the Jewish identity being performed, both by the actors, as well as by the members of the Yiddish club, is a Jewish identity associated with older, non-Orthodox, Ashkenazi Jews, who are potentially, if not speakers of Yiddish themselves, at least the children of Yiddish speakers. This chapter gives further experimental evidence for these connections between Jewishness, age, linguistic background, and geographic location. As such, the perception of "Jewishness" here falls at the intersection of perception of ethnicity, perception of non-nativeness, and also potentially, perceptions of regional dialects, if we

assume, as has been suggested before, a connection between some types of Jewishness and New Yorkness. The following briefly surveys previous work showing that listeners are capable of making judgements, with varying degrees of success, about (1) a person's native language, (2) where a person is from, and (3) their ethnicity, and that some of that success is predicated on a person's familiarity with the variety in question.

16.1 Perceptions of non-native speech

When given a closed set task, in which listeners are forced to give a binary choice between "native" or "non-native", American English-speaking listeners are relatively skilled at identifying speech as being produced by a non-native speaker, even when given fairly short phrases (see, e.g, Flege (1984)). Additionally, when American English-speaking listeners are given a closed set of countries or native languages to chose from, listeners can, again, fairly accurately identify the dominant language of the non-native speaker (Derwing and Munro, 1997). However, McCullough (2015) found that accuracy of identifying native language plummets, at least with American listeners, when listeners are not given pre-assigned labels for the accents they are hearing. This suggests that, while identifying someone as having a non-native accent is an easy task for most American English-speaking listeners, accurately pinning down the speaker's native language without guidance is much more difficult.

16.2 Perceptions of regional dialects

In the United States, there is a broad degree of awareness of the existence of regional dialects, as perceptual studies from Preston (1986, 1993) show. However, there is wide variation in the ability of subjects to accurately place an isolated speech sample as being from a particular region. Preston (1993) found that, for example, when instructed to place the location of talkers on a north-south line, while subjects could make the broad distinction

of "Northern" vs. "Southern" dialects, they were less able to make finer grained distinctions within the two regions. Similarly, when Clopper and Pisoni (2004) presented students at Indiana University with speech samples from speakers from six different dialect regions, they found that, while subjects were overall accurate at dividing the speakers into three broad dialect groups, there was much less accuracy and agreement in sorting the talkers into more fine-grained dialect regions.

The background of the subject or listener can influence the identification of dialect boundaries, or judgement of a speaker's regional origins. For example, Benson (2005) found that the placement of a dialect boundary between the Midland and Southern dialect regions in Ohio depended on where the respondent was from, with those from Northern Ohio putting the boundary just south of Cleveland and those from Cincinnati putting the boundary north of Columbus. Preston (1993) also found a movement of the north/south boundary described above based on where subjects were from, as well as, in other studies, subjects providing more detailed dialect information for areas closer to where they were from, potentially suggesting a greater degree of dialect awareness for those dialects with which they may have had more personal interactions. And, while Clopper and Pisoni (2004) did not find differences between Northern Indiana, Southern Indiana, and Out-of-State students in their ability to accurately identify three main dialects regions, they did find differences between the three groups in how similarly they perceived the separate dialects. All of these studies broadly show that familiarity with dialects may affect a listener's ability to pinpoint where a speaker is from.

16.3   Perceptions of ethnicity

The majority of work looking at listeners' abilities to determine a speaker's ethnic identity in the United States has focused on the identification of African American speakers. For the most part, studies have found that listeners are able to do this with some accuracy

even from speech samples as short as one word (Purnell et al., 1999; Holliday and Jaggers, 2015). However, in a meta-study of perception of African American English, Thomas and Reaser (2004) found that, across studies, the accuracy of the listeners can depend on, to a large extent, the exact variety being used by the talker, with listeners generally being less accurate at identifying varieties of African American English that were described as being "standard" by the studies' authors, or tokens that have come from speakers of varieties of African American English that have converged more towards local European American varieties (e.g., older speakers from Hyde County, North Carolina, as in Thomas and Reaser (2004)).

Personal experience with the variety in question has also been shown to be significant in other experiments. Eisenstein (1982), in studying immigrants in New York, found that advanced language learners performed better at a task distinguishing between AAE and Standard English, compared to beginning language learners, suggesting that time in the United States, and thus, potentially more frequent exposure to different dialects, improves a listener's ability to distinguish between those dialects. Haley (1990) found differences in accuracy between African Americans from rural regions, and African Americans from urban regions at identifying white vs. African American English, with the African Americans from rural regions (who may have more interactions with white speakers) being more accurate at identifying older white speakers. Foreman (2000) likewise found differences based on exposure to both African American English and European American English in her study, with listeners with significant exposure to both varieties performing better at identifying low-pass filtered speech as coming from AAE or EAE speakers compared to more mono-dialectal AAE and EAE speakers. Thomas and Reaser (2004) found African Americans were better able to identify African Americans from more rural areas (who had used fewer "prototypical patterns" (p. 79) of African American English compared to other AAE speakers, possibly due to assimilation to European American English speakers where they lived) in some experimental conditions compared to European American listeners.

Two experimental studies have been conducted looking specifically at the ability of listeners to identify Jewish speech. Anisfeld et al. (1962) studied perceptions of Jewish speech in Canada. There were differences between the Jewish and non-Jewish listeners in how they rated the speakers on various social factors. Additionally, Jews were also more likely to have false positives, identifying non-Jewish guises as Jewish. Benor (2012) also performed matched-guise experiments, looking at features of Jewish English that were acquired by newly Orthodox Jews in a community in the Philadelphia area. Several features were identified that caused talkers to be identified as either more "BT" (*ba'al teshuvah*; someone who was not born Orthodox, but has become Orthodox) or more "FFB" (*frum from birth*; someone who was born and raised Orthodox). One version of the rise-fall contour was tested; however, the use of the rise-fall was not found to significantly influence the ratings of the talker as FFB, which was unexpected (Benor, p.c.).

All of the above studies show that, broadly speaking English-speaking listeners in the United States are able to identify (1) non-native speech, (2) speech from different dialect regions, and (3) speech produced by people of different ethnicities. All of the above also suggest some effect of the experience of the listener on the ability to make these judgements, with greater experience with a variety leading to more accurate judgements. As such, we expect that listeners, broadly speaking, will be able to make judgements about a speaker's native language, place of origin, and ethnicity. For this experiment, I expect that these judgements will be affected by manipulating the intonational contour, with contours with a greater degree of macro-rhythm (rises, rise-falls, and rise-falls with a large pitch range) being more likely to be identified as coming from an older, non-native, Jewish English speaker compared to contours with a lesser degree of macro-rhythm (plateaus). Judgements about race and regional origin should also pattern with judgements about the speaker's religion and native language, with speakers identified as being Jewish and Yiddish-speaking also being identified as being white, not from the United States, or possibly from the New York City region.

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However, these judgements may be altered based on characteristics of the listener, with non-Jewish listeners with little experience with Yiddish speakers being able to pin the more macro-rhythmic contours as sounding non-native (particularly the rise-falls), but not necessarily as signaling any sort of association with Yiddishness, or Jewishness more broadly. Older Jewish subjects may also be less likely to identify more macro-rhythmic contours as being explicitly associated with older Jews, instead hearing these contours as a marker of Jewishness more generally.

Finally, we might expect different interpretations of rises, rise-falls, and plateaus in listing contexts. Recall that Tyler and Burdin (2016) found that listeners associated rises with informative lists, and plateaus, with non-informative lists, and, from chapter 13 that there were differences found between Yiddish and non-Yiddish-speaking subjects in their intonation in lists. We then might see a split between listeners with more and less experience with Yiddish, with those with more experience with Yiddish-influenced English being more likely to hear the rises as coming from closed/informative lists, and the plateaus, from open/non-informative lists.

16.4   Methodology

A matched-guise technique was used. 8 sound clips, collected during the production study were manipulated into four guises–a rise, a rise-fall, a rise-fall with an expanded pitch range, and a plateau. These clips were presented to Jewish and non-Jewish subjects of a variety of ages from across the country using an online survey. Subjects were asked a variety of questions about the speakers, and information was collected about the subject's religious and linguistic background.

16.4.1 Matched-guise techniques

Many of the above studies, including the studies looking at Jewish speech, were done using the matched-guise technique. The matched-guise technique works by presenting listeners with several versions, or guises, of a particular stimulus which have (unbeknownst to the listeners) been produced by the same talker. These guises can be created using a variety of methods. The first is when a talker, under instruction from the experimenter, produces both of the guises which have been constructed by the experimenter, as in Anisfeld et al. (1962) and Benor (2012). Or, the talker might naturally produce an utterance, and then, at a later point, be asked to produce another variant, which is then spliced into the original utterance, as in Campbell-Kibler (2007, 2009). Finally, the experimenter might simply manipulate an original utterance without any further input from the talker, as in Tyler (2015) in which utterances taken from YouTube videos were resynthesized with different intonational contours.

In the first technique, where talkers are instructed to produce the variants, there are two disadvantages. The first is that the talkers, despite their attempts to control their speech, may alter other aspects of their speech, making it harder to isolate what is changing between the guises, and what exactly the listeners are attending to as they make their decisions. The second is that the talkers, even if they are skilled vocal actors, may produce inauthentic speech patterns in one or both of the guises, which might affect the ratings. The second technique, of manipulating one version of the guise side-steps these problems; however, there is the new problem of introducing synthetic speech into the mix, which again, might influence participant ratings. For example, in her experiment looking at perceptions of pitch in Japanese and Dutch, van Bezooijen (1995) found higher attractiveness ratings for the original, unmanipulated speech samples. As such, if manipulated samples are used, they should be extensively vetted to ensure that the manipulated guises sound real to listeners. For this experiment, it was decided to use original clips from the participants in the production task, and manipulate them, in order to have (1) a wide range of voices, and

(2) isolate the effects to the intonation only.

16.4.2 Selection and preparation of sound clips

The data was drawn from the Presidents Task, as this was the task that had the most consistent responses from the participants (recall that participants frequently went off prompt in their responses to the DCT). The uniform lexical content meant that item effects due to differences in what the subjects were saying would be reduced; it also meant that manipulating the intonational contours was fairly straightforward, as, e.g., pitch accents were usually in the same place (as opposed to the DCT, where even if the participants produced the same lexical string, the location of pitch accents were not always consistent). The content was also fairly neutral for the questions being studied. This neutrality was both a benefit, as it reduced item effects due to content, and a potentially a drawback, as the subject's ratings for things like emotion might be downgraded. However, previous work on perceptions of list intonation has found that subjects are willing to make judgements about speakers' emotions based on lists that were designed to be fairly neutral (e.g., grocery lists) in free response tasks; subjects are also willing to make judgements about the epistemic nature of lists in both free-response and forced-choice tasks (Tyler and Burdin, 2016).

Four versions of the lists were created for each speaker: (1) one in which each item had a rising contour, (2) one in which each had a plateau, (3) a rise-fall, and (4) a rise-fall with an expanded pitch range. These guises were selected as the previous chapters showed distinctions based on religion and language background in the use of rises, plateaus, and rise-falls in both the listing tasks as well as the Frog Stories and the Discourse Completion Task, as well as the fact that differences in the use of these contours has previously been proposed as being a point of variation within Jewish English (Burdin, 2014), but this finding has not been tested perceptually. This task will thus allow us to examine more closely a proposed difference in the discourse function of the rise-fall (linking items together in a

sequence, as in the narratives and the lists, fitting with the "forward-looking" function) as well as social meanings of the rise-fall and macro-rhythm more generally.

Three of these guises–the rise-fall guise, the plateau guise, and the rise guise– were phonological rather than phonetic. That is, the contours were manipulated to be either a contour which would be ToBI annotated as a L+H* !H-L% (the rise-fall), a H* H-L% (the plateau), or with a final L-H% (the rise)[1], rather than, e.g., creating the rise-fall guises by creating a 40Hz rise to a point 10ms into the stressed syllable followed by a 20 Hz fall. The wide variety of voices, from female and male speakers of a variety of ages, who had produced lexical material which was similar, but not identical, would have made this an unwise choice. As such, each of these three versions were modeled after other utterances by the speaker. The fourth version was more phonetic, in that it took the rise-fall contour and simply expanded the pitch range, meaning that both would be annotated as L+H* !H-L%, but are different phonetic realizations of the contour.

To create the stimuli, attempts were made to locate a sequence in the Presidents Task where the subject used the same intonational contour on three, or, if that was not possible, two items in a row, again to make the creation of the stimuli easier. Any fillers in between the items were edited out. The following outlines the procedure for creating the stimuli for one of the talkers.

Figure 16.1 shows the start of the original utterance from one of the talkers. She produced H* L-H% on each of the items. It was decided that stopping the utterance after "Bill Clinton" would not be ideal, as the list would sound cut off, due to her going directly into "George H. W. Bush". The first "George W. Bush" was cut, in order to make it less obviously a chronological list, and more plausible for the list to be open or closed.

First, to create the rising version, the f0 was lowered for the stressed syllables[2], to create the perception of a L* instead of a H*, and then a low rise was synthesized. If there was

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[1]Note that the ToBI annotation system is phonological, rather than phonetic
[2]In this example, more so for "Obama" than in "Clinton" and "Bush"
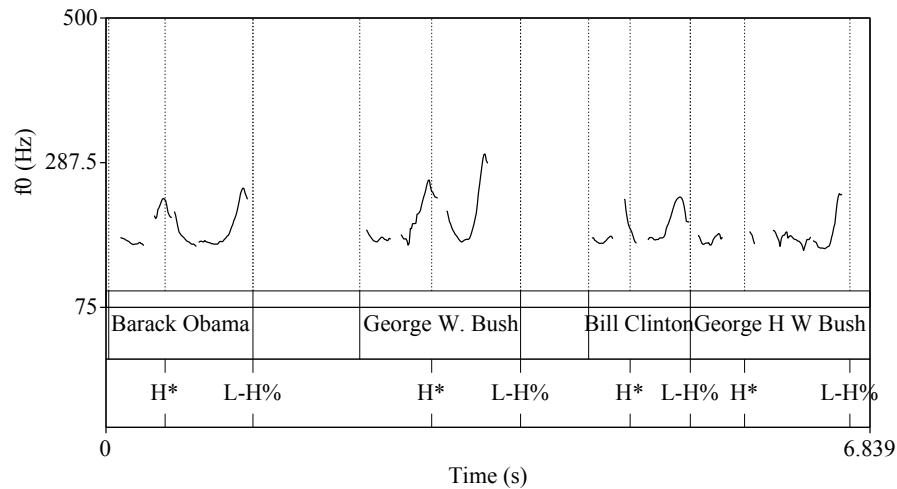
Figure 16.1: Original utterance

no original rise, rises from elsewhere in the Presidents task were used as models. The rises for this speaker, as she already produced a L-H% boundary, remained the same. The pitch perturbation caused by the [k] in "Clinton" also remained intact here. The final version is shown in figure 16.2.

To create the L+H* !H-L% "rise-fall" version, a rise-fall was resynthesized on the contour with an f0 peak, and preceding and following f0 valley matching the mean from the rise-falls taken from the interview portion. The exact placement of the peak within the stressed syllable varied depending on the speaker, but was always located within the stressed syllable. The final version is shown in figure 16.4.

After the rise-fall version was created, that version was manipulated to create the large rise-fall version. The f0 measurements for this version were modeled after the rise-falls with the highest f0 peaks from the interview data. The peak and valley location remained in the same place as for the normal rise-fall version. In one instance, the existing contour was the most extreme rise-fall produced in the course of the interview; in this case, the contour was lowered down to the averages for the "normal" rise-fall version. The large rise-fall version is shown in figure 16.4.
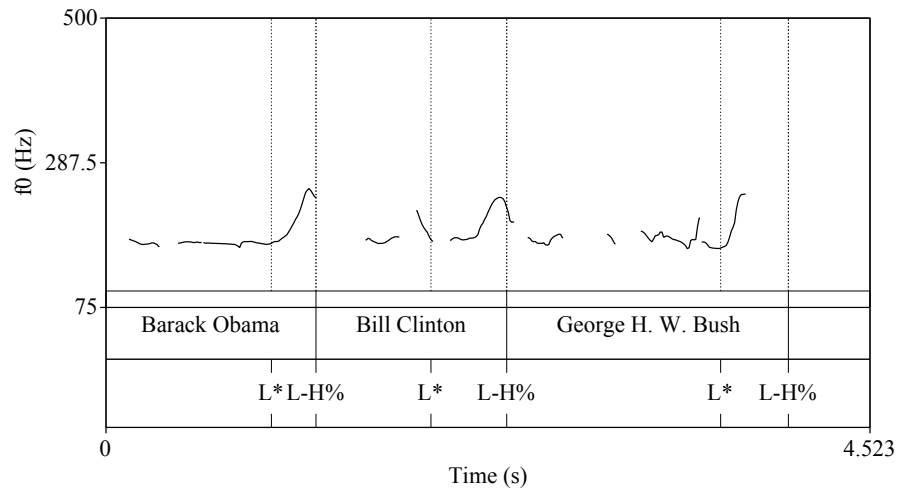
Figure 16.2: Rise version
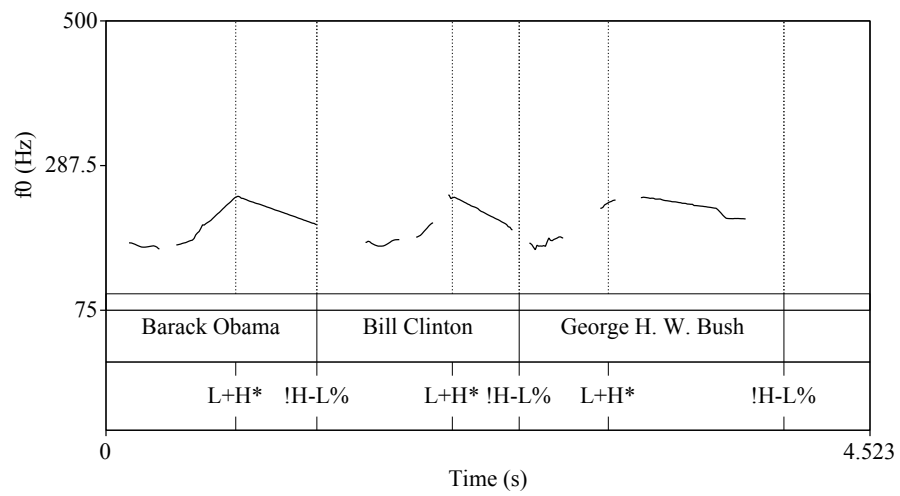
Figure 16.3: Rise-fall version
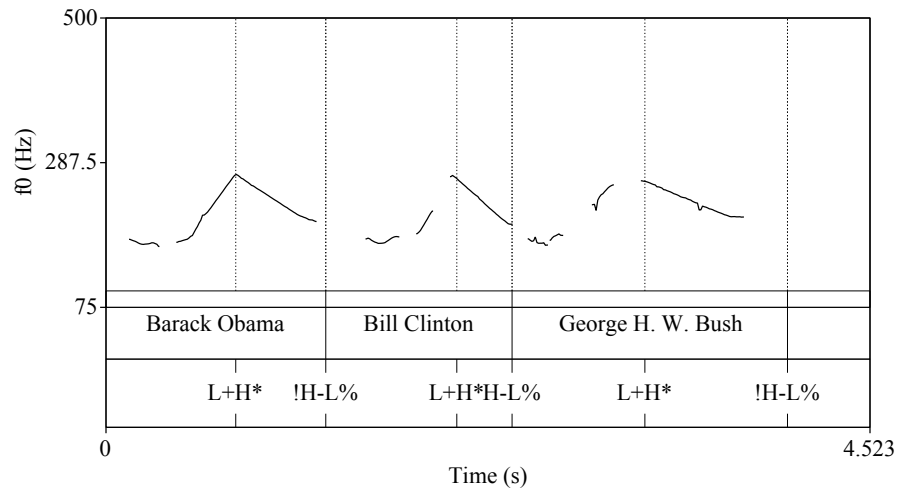
Figure 16.4: Large rise-fall version

For the plateau version, the plateau was placed approximately in the middle of the pitch range for the utterance. These plateaus often had a sharp jump from any prior unstressed syllables to the H* associated with stressed syllable. To replicate this in the final stimuli, for multi-syllabic words with initial unstressed syllables, the unstressed syllables were lower in f0 than the full plateau, as shown in figure 16.5.

These contours were all slightly manipulated after these original parameters were set until they sounded natural. For example, a completely flat plateau often sounded robotic; slight perturbations were added to the f0 contour, based on perturbations that were present in the original contour. Some degree of declination was also added, particularly for the plateau contours, both within the contour, and across the contours. These manipulated utterances were then played to several groups of trained and untrained listeners[3] to ensure that the contours sounded natural, and not resynthesized. Further manipulations were made on contours that were flagged as sounding "off" to these listeners, until all of them

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[3]These groups included the Ohio State psycholinguistic research group (SpeerLab) which includes several members who are trained in ToBI annotation, a group of 5 Jewish English speakers, as well as several other miscellaneous Jewish English speakers and linguists. As this process was fairly informal, an exact count of these initial listeners is not known.
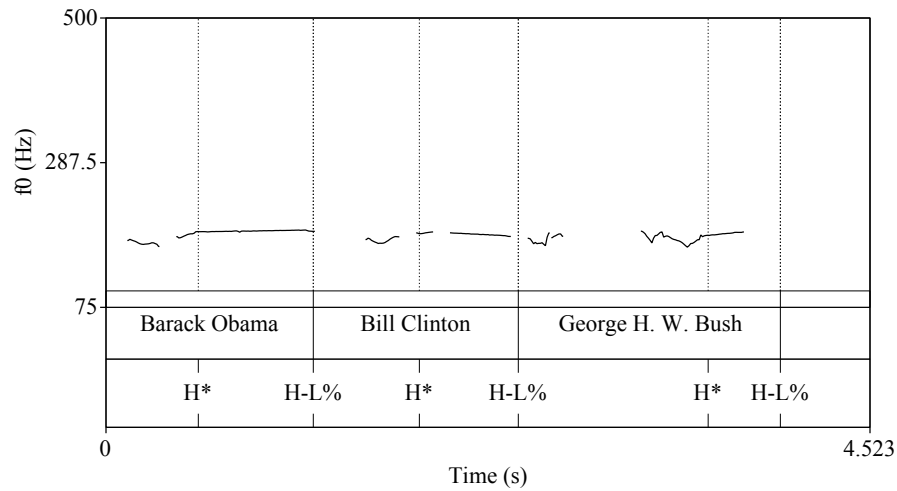
Figure 16.5: Plateau version

were deemed to be acceptable.

To further check the naturalness of the sound clips, the subjects were also asked at the end of the survey if they noticed anything odd about the clips. Although the subjects were not explicitly asked about manipulation, some did comment on the clips. Three listeners said that one talker (talker 2; described below) sounded manipulated; otherwise, the manipulation appears to have been successful.

16.4.3 The survey

Sounds files from eight participants from the production task were used as the speakers for this experiment. The talkers were balanced in a 2x2x2 design by gender (4 male, 4 female), age (4 younger, and 4 older), and religious identification (4 Jewish, 4 not). Table 16.1 summarizes the social characteristic of each talker.

Four versions of the survey were created, so that each subject heard all 8 talkers, but only one guise from each talker. Subjects heard each type of guise (rise-fall, large rise-fall, rise, and plateau) twice, from two separate talkers. The order of the clips was randomized. Care was also taken to balance the contour types across the talkers: for example, rise-falls

Speaker description	Subject Number
Male, non-Jewish, Younger	1
Female, non-Jewish, Younger	2
Female, Jewish, Older	3 (German L1)
Male, Jewish, Older	4 (Yiddish L1)
Female, Jewish, Younger	5
Male, Jewish, Younger	6
Male, non-Jewish, Older	7
Female, non-Jewish, Older	8

Table 16.1: Talker characteristics

Survey Version	A	B	C	D
Talker 1	Large rise-fall	Rise	Rise-fall	Plateau
Talker 2	Rise-fall	Plateau	Large rise-fall	Rise
Talker 3	Plateau	Large rise-fall	Rise	Rise-fall
Talker 4	Rise	Rise-fall	Plateau	Large rise-fall
Talker 5	Rise	Rise-fall	Plateau	Large rise-fall
Talker 6	Plateau	Large rise-fall	Rise	Rise-fall
Talker 7	Large rise-fall	Rise	Rise-fall	Plateau
Talker 8	Rise-fall	Plateau	Large rise-fall	Rise

Table 16.2: Survey summary

were never all produced by older talkers, or rises by younger women. Table 16.2 shows which stimuli were in each survey.

In the instructions screen, participants were explicitly told that there were two types of lists, "open" and "closed", and given examples which were similar to the example prompt used to elicit the different list types from the talkers, as shown in figure 16.6.

Some of the original clips came from the "closed" task (in which presidents were being named in chronological order) and others from the "open" task (in which the presidents were not necessarily being named in order). The example given in the instructions scene purposefully had the same presidents, in the same order, in both, in order to prevent the speakers from judging the lists as open or closed based solely on the lexical content (although some appear to have done so anyway, based on some of the comments).

In this study, you will be presented with several sound clips. These sound clips come from people producing two different types of lists, called "closed" and "open".

In a closed list, people name all of the items in a list, as in the following example:

A: Which four presidents are from Massachusetts?
B: John Adams, John Quincy Adams, Kennedy, and Coolidge

In an open list, people only give a part of the list, or examples from the list:

A: Can you name some presidents for me?
B: Sure, John Adams, John Quincy Adams, Kennedy, Coolidge...

In the following task, you will hear part of a list; note that the end of the list has been cut off. You can play the clip as many times as you like. You will then be asked which type of list you think the speaker was producing-- open or closed-- and then will be asked some questions about the speaker. Try not to overthink your responses, and to use only the information you have been given.

As this study involves listening to sound clips, it is recommended that you complete the survey in a quiet room, while wearing headphones.

An example is given below:

Listen the following clip:

What sort of list did this clip come from?

○ A closed list (the speaker is naming all of the items in the list)

○ An open list (the speaker is giving examples from the list)

Figure 16.6: Survey Instructions

For each speaker, subjects were then presented with an audio file, which they could play as many times as they wished. They were first asked which type of list they thought the subject was producing, and then asked various questions about the speaker, as shown in figures 16.7 and 16.8.

Three of the questions revolved around the speaker's language background, asking how likely it was that the speaker was a non-native speaker of English, that the speaker spoke Yiddish, and that the speaker spoke Polish. It was thought that listeners unfamiliar with this variety of English might be more likely to simply identify it as "non-native"; those who were more familiar with the variety might be more likely to pinpoint Yiddish as the source of the differences, with Polish as a plausible distractor item. Yiddish and Polish were given explicitly, due to the lower identification rates of native languages without guidance that was found in McCullough (2015).

Four of the questions revolved around geographic origin, with listeners asked how likely

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Figure 16.7: Survey questions

Figure 16.8: Survey questions, continued

it was that the speaker was from the United States, from the Midwest, from the South, or from New York City. The speakers are all from, or have spent significant time in the Midwest. "New York" was included to test the proposed associations between New York-ness and Jewishness posed by previous works (Knack, 1991; Benor, 2011b). The South was also added as a distractor item, and to also broadly cover the three main dialect regions of South, Northeast, and Midwest/West found in Clopper and Pisoni (2004). It was expected that speakers who were judged to be more likely to be Jewish would be more likely to be judged as being from New York compared to other speakers. Finally, subjects were asked two questions about ethnicity and religion: how likely it was that the speaker was white, and how likely it was that the speaker was Jewish.

Subjects also had the option of selecting choices to indicate the speaker's emotional state, including "Happy", "Angry", "Annoyed", "Excited", and "Neutral". It was thought that there might be differences between Jewish and non-Jewish subjects in their judgements of

the emotional state of the talker. As mentioned in the previous chapter, some writing about performances of Jewish speech displayed some degree of fondness towards the speakers. Likewise, in playing the materials to native speakers of Jewish English to test the material's suitability for the experiments, the contours were often described in positive terms, with the speaker being said to sound happy, or in one case, "complaining, but happy about it".

Subjects were also asked to say how old they thought the speaker was. This response was open ended. Due to the fact that, first, (non-Orthodox) Yiddish speakers tend to be older than non-Yiddish speakers, and second, the use of macro-rhythm to perform elderly Jewish identities in particular, it was thought that the more macro-rhythmic guises would be rated as sounding older than the plateau guise. Subjects were also given the opportunity to put any further comments about the speakers.

At the end of the study, subjects were asked a variety of standard demographic questions (age, race, gender, place of birth), as well as questions about their religion and language background. Collecting survey data on Jewish identity has long been an issue. For example, questions that target Jewish identity as purely a religious matter often miss considerable segments of the Jewish population who identify as Jewish, but who are not religious (a group that, according to a recent Pew Research survey (Lugo and Cooperman, 2013), is around a fifth of the American Jewish population). To avoid this problem, subjects were first asked "Do you identify as Jewish?", rather than "What is your religion"? If the subject selected "Yes", they then had the option to chose between Orthodox, Conservative, Reform, Reconstructionist, Secular, or "Other". Subjects were asked if they spoke Yiddish, and if they had a significant amount of interactions with Yiddish speakers[4].

Subjects were recruited in several ways. The first was through digital social networks, and posting in local groups targeted towards young Jewish adults in the Columbus, OH area. Older Yiddish speakers, and those with contact with Yiddish speakers, were recruited

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[4]This was how the question was phrased; however, to reduce confusion with model interactions in the discussion below, this variable is referred to as *contact* with Yiddish speakers instead

via a mailing list that is regularly sent out to members of Yiddish clubs that are a part of the International Association for Yiddish Clubs.

To recruit additional non-Jewish subjects, a link to the survey was posted to the /r/samplesize subreddit. Reddit is a large website which hosts links and discussion on a variety of topics. Reddit is made up of "Subreddits". Subreddits are user created, and revolve around various topics and interest groups: there is, for example, a subreddit devoted to linguistics, one devoted to Columbus, another to Ohio State, etc. Users who create an account on Reddit can choose to subscribe to various subreddits, posts from which will then appear on their homepage, in order of popularity (determined by user votes). The /r/samplesize subreddit is a community of Reddit users who volunteer to do various surveys. This means it is a self-selecting group, and a group of experienced survey takers; however, this is also true for subjects recruited on Mechanical Turk or through various university subject pools. Subject pools like /r/samplesize have an advantage over university subject pools by having a greater range of ages, education levels, and locations.

47 people completed the survey, 16 of whom identified as Jewish. Subjects were randomly assigned surveys by the survey website. 10 saw survey A (4 of whom identified as Jewish); 10 saw survey B (5 of whom identified as Jewish); 14 saw survey C (4 of whom identified as Jewish), and 13 saw survey B (3 of whom identified as Jewish)[5].

16.5   Results

Two issues arise from looking at the type of data gathered in this experiment. The first is that subjects might have very different ideas about what particular items mean to them, particularly for social categories like "Jewish"'. As described in chapter 5, a person's Jewish identity intersects with other facets of their identity, meaning that "Jewish" might mean

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[5]Note that the automatic randomization of the survey versions, combined with religious identification asked at the end of the survey (as opposed to as a filter at the beginning) meant that I had no direct control over how many Jewish/non-Jewish subjects saw each version of the survey. Sending the survey out to areas targeting the Jewish community first mitigated this problem somewhat.

something very different to different people. The second is that multiple questions might be getting at something that is, to a certain extent, "the same thing". We might imagine, for example, that if we asked people to rate other people's kindness and likability, that these two ratings would be quite similar, and would actually be measuring a broader underlying category (as Anisfeld et al. (1962) did). Factor analysis is one method of addressing both of these problems, by providing a measure of to what degree ratings on certain questions correlate with each other.

By showing correlations between different ratings, factor analysis provides a partial solution to the first problem. If a person's ratings of "Jewishness" correlate strongly with their ratings of "From New York" and negatively with "From the South" that provides evidence that that person's conception of Jewishness is linked with being from New York, as opposed to being from the South. Factor analysis solves the second problem by proving the researcher with groups of questions that pattern together, making it easier to see general trends in the ratings. Additionally, factor analysis reduces the likelihood of Type I (false positive) errors by avoiding running repeated statistical tests on the data set: instead of testing whether the ratings for Jewishness *and* Yiddishness *and* Polishness were significant, if the three pattern together in a larger factor, we can thus run only one test, testing that factor, rather than three separate ones[6].

The appropriate number of factors for the data set was determined by an examination of the Eigenvalues produced by the model and a scree plot. An Eigenvalue provides a measure for how much variation a given factor captures compared to the original questions. This means that, when the Eigenvalues drop below 1, the factor is contributing less to the model than one of the original questions. A scree plot is a visual representation of the contribution of each of the factors. Once the curve on a scree plot levels off, the additional factors added

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[6]As these factor ratings tell us how certain categories are linked in the minds of the subjects–say, Jewishness and Yiddishness–it would be unwise to go back to try to look at and statistically test, e.g., just the subjects' ratings for Jewishness, as we would now be aware that that ratings for that question are not independent of ratings for other questions.

Original question	Factor 1	Factor 2	Factor 3
United States		0.829	0.110
NYC		0.160	0.682
Midwest		0.451	-0.465
South			-0.154
White		0.453	0.106
Jewish	0.501		0.391
Non-native	0.192	-0.711	
Yiddish	0.942	-0.123	0.158
Polish	0.735	-0.225	

Table 16.3: Factor loadings

to the model are likely only representing noise in the data set, rather than any sort of true underlying pattern.

Based on the Eigenvalues and the scree plot, three factors appeared to be most appropriate for this data set: Eigenvalues dropped to below 1 starting with the fourth factor, with models with more than three factors, and the scree plot leveled off after this point. Table 16.3 shows the factors and factor loadings.

A plot of Factor 1 and Factor 2 is shown in figure 16.9. Factor 1 appears to capture whether or not the speaker is likely to be a speaker of Yiddish. The question "Is the speaker likely to speak Yiddish?" has the strongest loading onto this factor (0.942), followed by "Is the speaker likely to speak Polish?" (0.735), "Is the speaker likely to be Jewish?" (0.501), and a very weak loading of of "Is the speaker likely to be a non-native speaker of English"? (0.192). This factor will be referred to as YIDDISH, based on the question which loaded most strongly on the factor[7].

Factor 2 appears to capture whether or not the subject though the listener was from the United States. "Is this speaker likely to be from the United States?" loads the strongest on this factor (0.829); the question "Is this speaker likely to be a non-native speaker" also loaded negatively on this factor (-0.711). "Midwestern" (0.451), "White" (0.453), and

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[7]The ALLCAPS is meant to indicate that the name, given *post hoc* by the author, represents the author's best guess for the core meaning of the factor.
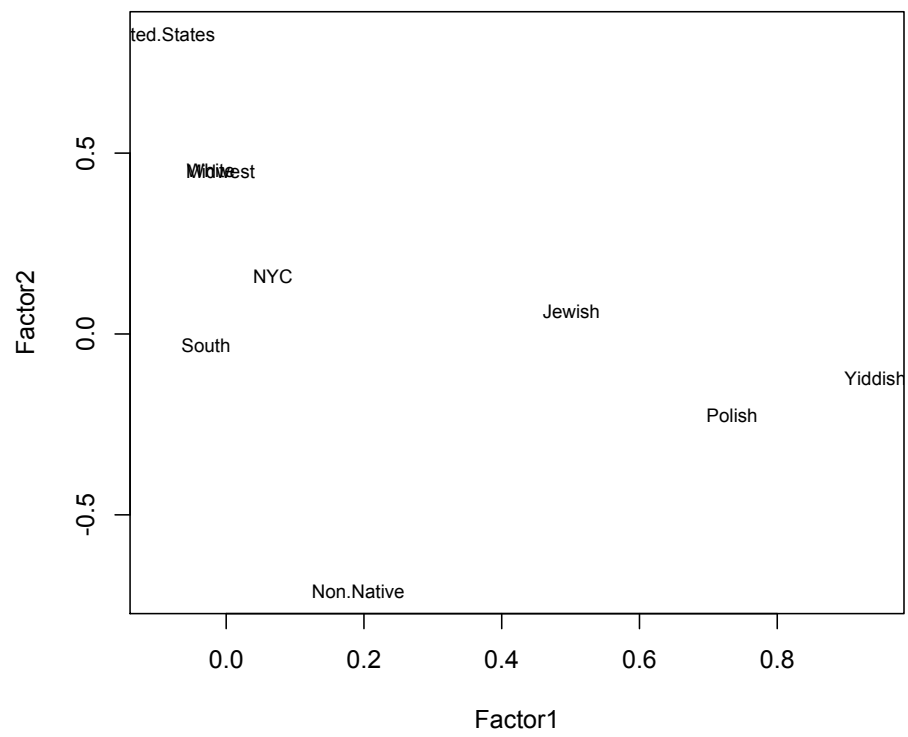
Figure 16.9: Factor 1 and Factor 2

"NYC" (0.160) also load onto this factor weakly positively, and "Yiddish" and "Polish", weakly negatively (-0.123, -0.225). This factor is called NATIVE.

A plot of Factor 2 and Factor 3 is shown in figure 16.10. Factor 3 appears to be capturing judgments about where the speaker is from in the United States; specifically, whether or not the speaker is from New York City. "New York" is the strongest loading on the factor (0.682), followed by a negative loading of "Midwest" (-0.465). "Jewish" (0.391), "White" (0.106), "Yiddish" (0.158), and "From the US" (0.110) also weakly positively load onto this factor; "South" (-0.154) also weakly negatively loads onto the factors. This factor is thus called NEWYORK.
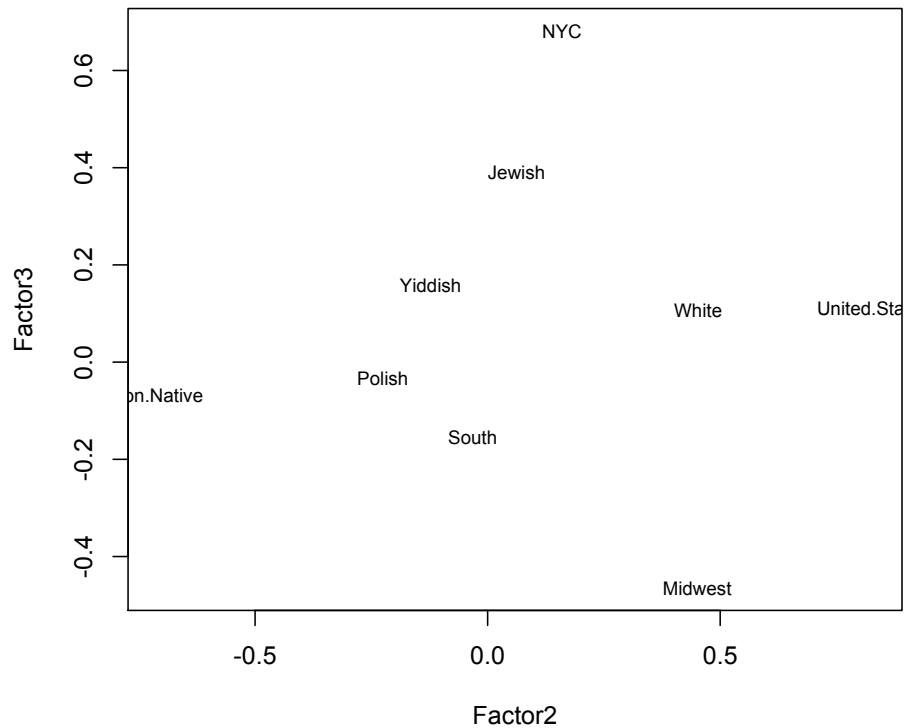
Figure 16.10: Factor 2 and Factor 3

The results from this factor analysis tells us several things about listener's assumptions about the interconnectedness (or not) of these facets of a person's identity.

First, while judgements of non-nativeness were correlated with judgements about whether or not the talker speaks Yiddish and Polish, there was some degree of independence of these ratings. This shows that, to a certain degree, the listeners were not automatically selecting high ratings for "Yiddish" or "Polish" when they heard the talker as sounding like a non-native English speaker. This might be due to some degree of acceptance that a Yiddish-speaker could also be a native English speaker (particularly if they're from New York City, as the third factor shows). This finding reflects the facts on the ground, as described in Chapter 6 where the 1940s census data showed that a large number of US-born children of immigrants reported hearing, and possibly speaking, Yiddish in the house as young children. Another possibility is that the listener thought that the person sounded non-native, but didn't think that Polish or Yiddish was their native language (see, e.g., comments about the speaker speaking a "more tonal language" in the next section).

Factor 3, NEWYORK also provides statistical support for the ideological link between Jewishness and New York-ness. Both production (Knack, 1991) and self-reported (Benor, 2011b) data has shown that speakers of Jewish English are more likely to produce, or report producing, characteristics of the New York City vowel system, even if neither they nor their parents have ever lived in New York City. This adaptation (or maintenance) of the New York City vowels has been suggested as reflecting this ideological link. The correlation of ratings of New York-ness and Jewish-ness shows this link at work in the minds of the listeners.

Factors 1, YIDDISH, and 3, NEWYORK, also show that the listeners were hearing the talkers not just as "Jewish" talkers, but as a particular type of Jewish talker: one that is white, Yiddish- speaking, and maybe born abroad, or, if a native American, from New York City. These clustering of identities gives evidence for both Yaeger-Dror and Benor's conception of Jewish English as not a monolithic entity, but a linguistic system that highly

depends on, and intersects with, the race, linguistic heritage, and regional heritage of the speaker.

It should be noted that, to a certain extent, the Jewish listeners were similar in background to the perceived Jewish talkers. All of the subjects who self-identified as Jewish also identified as white, and all but one reported having Yiddish-speaking ancestors. 10 out of the 16 Jewish listeners also reported growing up either in New York or a neighboring state (specifically, Pennsylvania, or New Jersey.) This is contrast to the non-Jewish identified listeners. Out of the 31, only four were from New York or a neighboring state (in this case, Connecticut). To a certain extent, then, the Jewish listeners conceived of the Jewish sounding-speakers to be like them in other ways.

Six of the Jewish listeners reported regular interactions with Yiddish speakers, as did five of the non-Jewish listeners. Of those five, one was a Yiddish speaker, who reported using Yiddish in his job. Two of the other non-Jewish listeners specifically mentioned being in largely Jewish communities in Massachusetts and New York, two others mentioned coworkers and "friends and family".

16.6   Open ended comments

For the most part, participants did not leave any comments in the "Anything else?" space. As noted above, most did not mention hearing any of the talkers as sounding manipulated. However, there were a few illustrative comments.

One talker's (a young, Jewish women) pronunciation of "Clinton" with a glottal stop attracted comments from three participants. One stated "SHE SAYS CLINTON LIKE I DO. Rhode Islander!?" (emphasis in original). Another connected the "t" with a friend they had in New Jersey; another connected it with being young and a native speaker of English.

Another talker (an older, non-Jewish man) also elicited comments that suggested he sounded older, and learned, to the listener: one called him "a bored history teacher"; another "a middle age college professor"; another, "perhaps on a podcast or news show", and finally, one said that he "sounds like ben stein [sic]", who is best known for his role in *Ferris Bueller's Day Off* as a bored economics teacher.

One person's production of the rise-fall was described as being "read in a sing-songy sort of way", which made the subject "think this person speaks a more tonal language". Another subject stated that the rise-fall guise "has a slight lilt". The rise-fall elicited some comments about age: the "middle age college professor" comment, describing an older, non-Jewish talker, was made in reaction to a rise-fall guise, while "bored history teacher" was used in response to the plateau. Another talker, an older, non-Jewish women, was described as a "Golden Girls-type person".

These responses showed that participants were likely attending to both segmental and intonational features when making their judgements. Recall, however, that the segmental string remained the same for each guise. So, while the speaker who produced "Clinton" with a glottal stop might have been, overall, perceived as more like she was from New Jersey, we still might see differences between the guises, based on the intonation.

16.7   Individual talkers

Tables 16.4 and 16.5 show (1) the average for each factor for each talker, and (2) the average rating for each talker for each of the questions.

Talker	Factor 1 (YIDDISH)	Factor 2 (NATIVE)	Factor 3 (NEWYORK)	Perceived age
1	0.22945	0.01424	0.2821	36
2	-0.0105	0.323987	-0.1748	35
3	-0.00524	0.246767	0.2482606	51
4	0.123	-1.1975	-0.2288	36
5	-0.365869	0.24824	0.25258	23
6	-0.15426	0.1666	-0.007	27
7	0.05928	0.52434	0.15617	41
8	-0.0017	-0.1652	-0.3684	44

Table 16.4: Factor ratings for each talker

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Talker	US	NYC	Midwest	South	White	Jewish	NonNative	Yiddish	Polish	Perceived Age
1	4.36	3.11	3.03	1.95	4.10	3.05	1.90	2.52	2.34	36
2	4.44	2.81	3.28	2.10	4.20	2.76	1.58	2.24	2.18	35
3	4.64	3.05	3.05	2.25	4.05	3.05	1.83	2.44	2.14	51
4	3.54	2.44	2.58	1.84	3.84	2.82	3.05	2.56	2.67	36
5	4.65	2.96	2.94	2.13	3.92	2.65	1.44	2	1.94	23
6	4.46	2.93	3.20	2.08	4.32	2.95	1.78	2.25	2.14	27
7	4.70	3	3.23	2	4.23	3	1.49	2.41	2.18	41
8	4.03	2.67	3.38	2.23	3.78	2.82	2.15	2.38	2.27	44

Table 16.5: Average ratings for questions, where 1 corresponds to "Very unlikely", and 5, "Very likely".

Talker 1 had the highest average ratings for Factor 1, YIDDISH, which is somewhat surprising, as talker 1 was a young, non-Jewish, monolingual English speaker. Talker 5, a young, monolingual Jewish English speaker, had the lowest average ratings for this factor. Both of these can also be seen in their averages for the individual items, with talker 5 having the lowest average rating for "Is this speaker likely to be Jewish?", and talker 1 being tied for the average highest rating for this item. Talker 5 likewise had the lowest average scores for "Is this speaker likely to speak Yiddish?" and "Is this speaker likely to speak Polish?". Talker 1 had the second highest score (behind talker 4, an older, native Yiddish speaker) in both of those categories.

Talker 4 had the lowest ratings for Factor 2, NATIVE, which is unsurprising, as this talker is a non-native speaker of English, who emigrated to the United States later than the other non-native speaker in the set (talker 3). He also had the highest average raw score for "Is this speaker likely to be a non-native speaker of English?" and for "Is this speaker likely to speak Polish?" and "Is this speaker likely to speak Yiddish?". Talker 7, an older non-Jewish male, had the highest ratings for Factor 2, NATIVE, and the highest average ratings for "Is this speaker likely to be from the United States?" and "Is this speaker likely to be white?".

Finally, for factor 3, NEWYORK, Talker 1 again had the highest ratings, which is reflected in his high ratings for the question "Is this speaker from New York?". Talker 8 had the lowest average ratings for this category.

All of the above shows that, while there may be talker-specific differences in, e.g., their baseline rating for "Jewish", that rating did not depend on whether or not they were actually Jewish. Therefore, the ratings have to do with the properties of their voices, rather than any other inherent characteristics of the talkers themselves.

16.8 Modeling

Linear mixed-effects models were built predicting each of the three factors, with contour, subject age, perceived speaker age, and contact with Yiddish speakers as fixed effects, and random intercepts by subject and talker[8]. Separate models were run for Jewish listeners, and non-Jewish listeners, due to the asymmetry in the number of subjects (non-Jewish subjects outnumbered Jewish subjects about 2 to 1). Treatment contrasts were used for all fixed effects. A full model was built with up to two way interactions among the fixed effects and random intercepts by subject and by talker, and an automated step-down procedure using log-likelihood comparisons between models was used to find the best model.

16.8.1 Jewish subjects

Factor 1, YIDDISH

The final model for Factor 1, YIDDISH, included contour, contact with Yiddish speakers, the age of the participant, the perceived age of the talker, and interactions between age of the participant and contour, age of the participant and perceived age of talker, and contact with Yiddish speakers and age. Random intercepts by subject were included; random intercepts by talker were not found to significantly improve the model. Significance was assessed using log-likelihood comparisons of models with and without the fixed effect or interaction; as above, significance for main effects that were involved in interactions was taken to be at t $>|2|$; likewise, for levels of effects that had more than two levels. A summary of the model output is given in table 16.6.

The large rise-fall guise had higher ratings for YIDDISH, compared to the plateau guise. This effect was decreased for older listeners, as well as for listeners who didn't report significant contact with Yiddish speakers.

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[8]Recall that each item (that is, segmental string) was produced by a separate talker; this effect could also be called "item", as they are essentially the same thing.

	Estimate	Std. Error	t value	Pr($>|\chi^2|$)
(Intercept)	-1.6477827	0.8582410	-1.920	
YiddishContactNo	-1.6601709	0.9304632	-1.784	
Age.1	0.0393658	0.0173736	2.266	
ContourRise	0.3983104	0.6400653	0.622	
ContourRisefall	-0.7961883	0.6372110	-1.249	
ContourRisefallbig	1.4713861	0.6185748	2.379	
PerceivedAge	0.0480650	0.0123348	3.897	
Age.1:ContourRise	0.0014927	0.0105650	0.141	⎫
Age.1:ContourRisefall	0.0178035	0.0120789	1.474	⎬ 0.004297
Age.1:ContourRisefallbig	-0.0222669	0.0104221	-2.137	⎭
Age.1:PerceivedAge	-0.0010333	0.0003511	-2.943	0.002505
YiddishContactNo:ContourRise	-0.7159224	0.4709862	-1.520	⎫
YiddishContactNo:ContourRisefall	0.4789693	0.4590063	1.043	⎬ 0.03992
YiddishContactNo:ContourRisefallbig	-0.9954173	0.4566826	-2.180	⎭
YiddishContactNo:Age.1	0.0446536	0.0233581	1.912	0.03992

Table 16.6: Model Output for Factor 1, YIDDISH, Jewish subjects

Older participants gave higher ratings for YIDDISH compared to younger listeners; older participants also rated the speakers as sounding younger overall. The older the listener thought the speaker was, the higher their rating for factor 1. Finally, older listeners who reported no significant contact with Yiddish speakers gave higher ratings on factor 1.

Factor 2, NATIVE

The final model for factor 2, NATIVE, included contour, age of the listener, contact with Yiddish speakers, an interaction between contour and contact with Yiddish speakers, and random intercepts by subject and by talker. A summary of the model output is given in table 16.7.

Older listeners gave overall lower ratings for NATIVE. The rise was rated as sounding more NATIVE than the plateau; however, this effect was reduced for those who did not report significant contact with Yiddish speakers.

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
(Intercept)	0.820797	0.454435	1.806	
Age.1	-0.012204	0.006211	-1.965	0.04621
ContourRise	0.672934	0.332799	2.022	
ContourRisefall	-0.348846	0.353038	-0.988	
ContourRisefallbig	0.312628	0.336875	0.928	
YiddishContactNo	-0.184446	0.371544	-0.496	
ContourRise:YiddishContactNo	-1.249653	0.409138	-3.054	
ContourRisefall:YiddishContactNo	0.251867	0.436098	0.578	0.00175
ContourRisefallbig:YiddishContactNo	-0.663563	0.423253	-1.568	

Table 16.7: Model Output for Factor 2, NATIVE, Jewish subjects

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
(Intercept)	36.32605	4.69695	7.734	
ContourRise	1.83920	2.07997	0.884	
ContourRisefall	7.42021	2.09277	3.546	0.0009498
ContourRisefallbig	5.68187	2.02954	2.800	
Factor.2	3.69034	1.62937	2.265	
Age.1	-0.02925	0.04370	-0.669	
Factor.3	-0.48703	0.76905	-0.633	
YiddishContactNo	-1.14245	1.84414	-0.620	
Factor.2:Age.1	-0.08852	0.03296	-2.686	0.00612
Factor.3:YiddishContactNo	2.95590	1.05955	2.790	0.004483

Table 16.8: Model Output for perceived age, Jewish subjects

Factor 3, NEWYORK

None of the effects were found to be significant for factor 3.

Perceived Age

The final model for perceived age included contour, factor 2 (NATIVE), factor 3 (NEWYORK), listener age, contact with Yiddish speakers, an interaction between NATIVE and listener age, between NEWYORK and contact with Yiddish speakers, and random intercepts by talker and by subject.

The rise-fall and large rise-fall were rated as making the speaker sound older compared to the plateau, as shown in figure 16.11. The higher a speaker was rated on NATIVE (factor 2), the older they were rated as sounding. However, this effect was smaller for older listeners. Listeners who reported no contact with Yiddish and who rated the speaker higher on NEWYORK (factor 3), rated the talkers as sounding older.
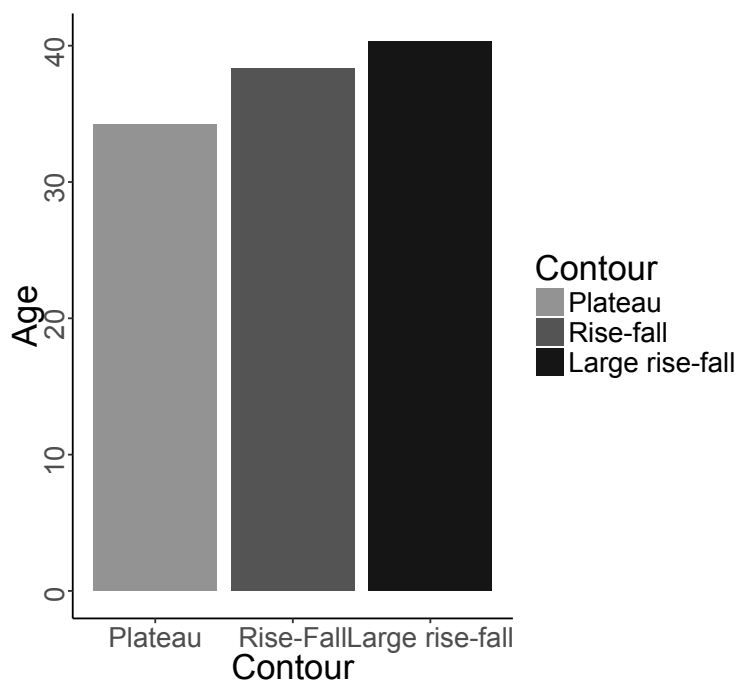
Figure 16.11: Perceived age, Jewish subjects

16.8.2 Non-Jewish subjects

Factor 1, YIDDISH

The final model included contour, contact with Yiddish speakers, listener age, and an interaction between contour and Yiddish interactions, and random intercepts by subject and by item. The final model output can be seen in table 16.9.

The rise and rise-fall were heard as more YIDDISH than the plateau; however, this effect only held for those with contact with Yiddish speakers; those without contact with

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
(Intercept)	-0.6306	0.3711	-1.699	
ContourRise	0.9019	0.3051	2.957	
ContourRisefall	0.8470	0.3051	2.776	
ContourRisefallbig	0.4960	0.3051	1.626	
YiddishContactNo	0.5938	0.4013	1.480	
ContourRise:YiddishContactNo	-1.0342	0.3337	-3.100	
ContourRisefall:YiddishContactNo	-1.0532	0.3351	-3.143	0.001835
ContourRisefallbig:YiddishContactNo	-0.3289	0.3348	-0.982	

Table 16.9: Model Output for Factor 2, NATIVE, non-Jewish subjects

	Estimate	Std. Error	t value
(Intercept)	-0.62746	0.34510	-1.818
Age.1	0.02408	0.01079	2.232

Table 16.10: Model Output for Factor 2, NATIVE non-Jewish subjects

Yiddish speakers heard those contours as *less* YIDDISH than the plateau. This effect can be seen in Figure 16.12. Unlike the Jewish listeners, there was no effect of either perceived age or the listener's age on the ratings.

Factor 2: NATIVE

The final model included listener age, and random intercepts by subject and by item. The final model output is shown in table 16.10.

Older listeners gave, overall, higher ratings for NATIVE.

Factor 3, NEWYORK

The older listeners gave, overall, higher ratings for factor 3, NEWYORK compared to younger listeners. There was an interaction between age and contact with Yiddish speakers, with older listeners without contact with Yiddish speakers giving higher ratings than younger listeners without Yiddish interactions.
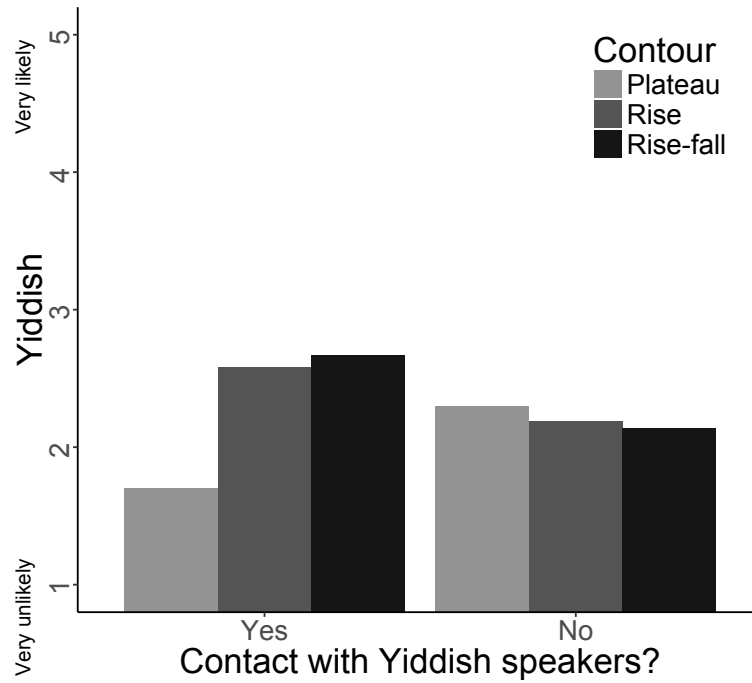
Figure 16.12: Average ratings for "Is this speaker likely to speak Yiddish?" based on contact with Yiddish speakers

	Estimate	Std. Error	t value	$Pr(>|\chi^2|)$
(Intercept)	-2.23660	0.99933	-2.238	
Age.1	0.08772	0.03456	2.538	
YiddishContactNo	1.85041	1.04562	1.770	
Age.1:YiddishContactNo	-0.07489	0.03639	-2.058	0.03414

Table 16.11: Model Output for Factor 3, NEWYORK, non-Jewish subjects

	Estimate	Std. Error	t value	$\Pr(>|\chi^2|)$
(Intercept)	38.35824	3.72441	10.299	
ContourRise	0.67801	1.54866	0.438	
ContourRisefall	2.55461	1.52041	1.680	0.001865
ContourRisefallbig	5.18331	1.53505	3.377	
YiddishContactNo	-3.85822	1.39817	-2.759	0.048
Factor.3	-3.98826	1.54479	-2.582	
Age.1	-0.03951	0.06678	-0.592	
Factor.3:Age.1	0.12916	0.05379	2.401	0.007229

Table 16.12: Model Output for Perceived Age, non-Jewish subjects

Perceived Age

The final model for perceived age included contour, contact with Yiddish speakers, Factor 3 (NEWYORK), listener age, and an interaction between listener age and factor 3 (NEWYORK), with random intercepts by item. The model output is given in table 16.12.

The large rise-fall guise was heard as significantly older than the plateau guise. Those without Yiddish interactions rated the talkers as sounding younger. Talkers who were rated as sounding older had lower ratings on factor 3, NEWYORK; there was an interaction with age, where this effect was enhanced for older listeners.

16.8.3 List types

None of the variables were found to be significant for the selection of the list being either open or closed for either the Jewish listeners or the non-Jewish listeners. This null result is somewhat surprisingly considering the findings in Tyler and Burdin (2016); however, a slightly different question prompt was used in that case, and participants also only heard two contours (plateaus and rises) in that experiment, suggesting that either (1) a prompt more similar to the one used in that experiment might yield clearer results here, or (2) the task becomes too difficult with more than two contours.

16.8.4 Emotions

Due to the small number of participants selecting an emotion other than "Neutral", results are only presented for whether or not "Neutral" was selected. Note that the options for these items were check boxes; participants were not required to check any boxes (or even prompted to select one, as the instructions said to "Check all that apply", rather than, e.g., "Pick one"). As such, these results only tell us if neutral was checked or not, not, e.g., if the participants selected "Excited" instead (as it is possible that the participants checked nothing).

Models were attempted predicting selection of "neutral" based on the contour, the three factors, the age of the subject, perceived age, and contact with Yiddish speakers as fixed effects, with up to two way interactions, along with random intercepts by subject and by talker. Something about the nature of the data set caused convergence issues for the models; talker effects had to be removed in order for any model to converge, along with some of the fixed effects.

A smaller model was built with only contour, contact with Yiddish speakers, and listener age for the Jewish and non-Jewish subjects, as those were the variables thought to be most likely to predict the response.

For the Jewish subjects, the final model included contour, contact with Yiddish speakers, listener age, and an interaction between contact with Yiddish speakers and age, along with random intercepts by subject. The model output is shown in table 16.13. There was a non-significant trend where neutral was less likely to be selected when the large rise fall guise was heard compared to the plateau. Subjects with no contact with Yiddish speakers were more likely to select "neutral"; this effect was reduced for older listeners.

None of the variables were found to be significant for the non-Jewish speakers.

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	0.6672907	0.7820107	0.853	0.393492
ContourRise	0.5608389	0.7571820	0.741	0.458880
ContourRisefall	-1.0404340	0.6632012	-1.569	0.116693
ContourRisefallbig	-1.2221045	0.6626370	-1.844	0.065139
YiddishContactNone	4.7814405	1.1704145	4.085	4.4e-05
Age	0.0009674	0.0113590	0.085	0.932129
YiddishContactNone:Age	-0.0951542	0.0286000	-3.327	0.000878

Table 16.13: Model output for selection of "Neutral"

16.9   Discussion

There are differences in the perception of these contours both between Jewish listeners and non-Jewish listeners, as well as between, within each group, those with reported contact with Yiddish speakers and those without.

Overall, for Jewish listeners, the large rise-fall sounded significantly more YIDDISH compared to plateau contours. As expected, this effect was most pronounced for those who reported contact with Yiddish speakers; however, this effect was less pronounced for the older listeners. It seems, then, there may be a split in perception between those who might be more likely to use the contour (older subjects) and those who have had contact with those who use the contour, but may not necessarily use it themselves (those with contact with Yiddish speakers). This analysis is supported somewhat by the fact that we saw lower ratings for YIDDISH for older listeners who rated the speakers as sounding older: in both cases, listeners who recognized the talker as someone who was like them in some way, were less likely to describe that person as YIDDISH.

This finding may be because, as described in the previous chapter, the rise-fall, along with other features of Yiddish accents, is used in mocking performances of older, Yiddish-influenced English, particularly by younger Jewish performers who are not themselves Yiddish speakers. It is perhaps not surprising, then, that listeners who perceive the speaker as being somewhat like themselves would give them slightly lower YIDDISH ratings. These

findings also potentially suggest a shift in the social meanings of these contours: whereas younger speakers hear these contours as signaling a Jewish identity associated with being older, and Yiddish speaking, older listeners might be simply hearing these contours as suggesting a more neutral "Jewishness", unconnected with age. Another survey, with a larger number of questions, might have revealed other types of identity with which these contours are linked; however, with the current data set, it is difficult to tell if this is in fact the case.

There is no such interaction with age for the non-Jewish subjects, who heard the rise and rise-fall as more YIDDISH sounding than the plateau, regardless of the listener's age. However, these ratings are enhanced for those who report contact with Yiddish speakers, highlighting the importance of contact for gleaning the social meaning of these contours.

We see slightly different social meanings, then, for contours with a greater degree of macro-rhythm between the Jewish and non-Jewish subjects. Both groups rated more macro-rhythmic contours as sounding more YIDDISH; however, the exact contours that were heard as more YIDDISH differed between the groups. The Jewish listeners only picked the phonetically extreme rise-fall as marking a YIDDISH speaker; the non-Jewish listeners picked the rise and the rise-fall instead. This difference is interesting; a potential explanation might be that the Jewish listeners are more willing to accept the non-phonetically extreme rise-fall as more unmarked compared to the non-Jewish speakers (giving further evidence to the proposal put forth in chapter 10 that rise-falls, particularly those with higher peaks are socially meaningful), whereas the non-Jewish speakers might have heard the phonetically extreme rise-fall as signaling something else entirely. We did see that they heard the large rise-fall (but not the rise-fall or the rise) as signaling that the speaker was older, and thus, this might be part of the social meaning they are perceiving in this case[9].

The findings for NATIVE also look different between the Jewish listeners and non-Jewish listeners, and between those with and without contact with Yiddish. For the Jewish

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[9]As mentioned in the previous chapter, it is also, again, tempting to see the rises themselves as inauthentic. It is possible in this case, that the rises are in fact, not appropriate for signaling Jewishness in listing contexts.

listeners, there's a broader acceptance of rises as signaling NATIVE for those who may have experience with two groups of speakers who might use more rises: younger speakers in general, and those who also speak Yiddish. Contour, however, does not effect the ratings for NATIVE at all for the non-Jewish listeners, and contour is not significant for either group for NEWYORK.

We also see differences in perception of age. For the Jewish listeners, both users of the rise-fall and large rise-fall are older, as are NATIVE speakers. Jewish listeners without contact with Yiddish speakers perceive NEWYORK speakers as older. For non-Jewish listeners, while they also perceive use of the rise-fall contour as older, NEWYORK speakers for them are younger; this effect is weakest for younger listeners. What we might be seeing here, then, is two competing ideas about New Yorkers: in the minds of older non-Jewish listeners, a New Yorker is young. In the minds of some Jewish listeners, particularly those without contact with Yiddish speakers, a New Yorker is old.

Finally, there were some differences on the attitudinal meanings conveyed by these contours. Jewish listeners were more tuned into emotional variation signaled by these contours (hearing the large rise-fall as less neutral, though not significantly so), compared to the non-Jewish listeners. Further work is needed to probe these differences, as well as differences in how these contours signal functions like "forward-looking" or signal different types of lists. The null result here is unexpected; however, a more targeted experiment, with more specific scenarios and only two contour choices, like Tyler and Burdin (2016) might show more differences.

All of these findings show first that macro-rhythm is socially meaningful: both Jewish and non-Jewish listeners heard more macro-rhythmic contours as signaling that a speaker is Jewish. Overall, this Jewishness is perceived as being associated with being older, speaking Yiddish and Polish, and being from New York. However, there is variation based on both age (with, e.g., older listeners not hearing the speakers as being as old, or as YIDDISH), suggesting changes in the exact social meaning of the contour, and contact with Yiddish

speakers (with, e.g., non-Jewish listeners without contact with Yiddish speakers not showing as strong an effect of contour on their ratings for YIDDISH), suggesting variation in social meaning based on contact with Yiddish speakers.

Intonation, particularly a greater degree of macro-rhythm, is a part of the Jewish English repertoire, in that listeners can use it to identify a speaker as being a particular type of Jew. Just as we saw in the production section of the dissertation, we again see that intonation patterns like other items of the Jewish English repertoire, in that different speakers make use of, and understand, the feature in different ways: just as we see age-based variation in the meaning of words like *shmooze* (with older speakers having meanings closer to the original Yiddish meaning compared to younger speaker), we see age-based differences in the (social) meaning of these more macro-rhythmic contours.

Chapter 17

Conclusion

The three separate parts of this dissertation–the production study, media study, and perception study–all end up telling similar stories. Jewishness is associated with a greater degree of macro-rhythm. This greater degree of macro-rhythm is caused by both the greater use of a particular rise-fall contour, and also by a greater use of rising pitch accents, rises, and a wider and higher pitch range. However, the association is with a particular type of Jewishness, namely the Jewishness of older Jews, who are likely to also be speakers of Yiddish. This finding is not surprising, as it is Jewish English speakers who also speak Yiddish who make the greatest use of these features, and we also saw evidence for some of these features having their roots in Yiddish.

We saw that the Jewish English speakers who also speak Yiddish show more intonational distinctiveness than the non-Yiddish speakers, using more rise-falls in their narratives, using rise-falls with higher peaks when speaking to other Yiddish speakers, and using more rises, and fewer plateaus, in some listing contexts. Some of these differences seem to stem from a difference in the function of plateau contours like H-L% and !H-L%, in both Yiddish and Yiddish-influenced Jewish English, in their ability to convey that an utterance is "forward-looking".

Looking at these Yiddish speakers, we did see some differences in how the rise-fall was used in Yiddish. Sarah and Joe, although both learned Yiddish somewhat later in life, were able to acquire the form, and some of the functions of Yiddish intonation. While all three made use of the rise-fall in "dramatic transitions", Sarah, Joe, and Ira all patterned slightly differently in their use of the Yiddish rise-fall in questions. Joe and Ira, but not Sarah,

used the rise-fall in questions (and Ira, in more contexts than Joe). Here, then, we see a split between the acquisition of intonational form and intonational function, with the form perhaps being easier to acquire than the function.

A parallel can be found in the acquisition of segments, and the acquisition of morphemes. If a speaker is able to acquire a native-like pronunciation of a segment, this will be present in the speaker's productions across the board. And, if we consider that the meanings of intonational tunes are, in languages like English, highly pragmatic, it is perhaps not surprising that a speaker, especially one who has somewhat limited access to native speech and different types of speech settings (like Sarah and Joe), has not yet learned all of the functions of that particular tone or tune, just as we might expect even an advanced language learner to not grasp all of the meanings and function for certain types of highly pragmatic morphemes, like sentence-final particles. This acquisition would be easier when the functions are conveyed with similar forms in their native language (i.e., the rise-fall in "dramatic transitions", which can be found in both English and Yiddish); less so when the functions are divergent (i.e., the rise-fall's use in non-wh questions, which can be found in Yiddish, but not in the English data as collected here).

Here then, perhaps, we see that intonation is not uniquely hard to learn or use in a second language compared to other aspects of the linguistic system. Just like morphemes, we see that participants have to both acquire the form and the function in order to have fully acquired that morpheme. We can also theoretically expect to see similar effects in sound change in the intonational system. For example, under the view that intonation is a part of the sound system, we expect that we should both be able to see Neogrammarian-type regular sound changes and potentially, changes affected by things like frequency in pitch accents and edge tones. For example, we can imagine a change that merges L+H* and L*+H (maybe by the peaks of L+H* moving backwards). This merger should have an effect in the range of functions for that new category. Differences in the phonetic realization of pitch accents may also prove fruitful ground for future research along these lines, in seeing how

changes in intonational form interact with changes in intonational function: if the "default" peak height for L+H*, particularly in rise-falls is higher in Yiddish and some varieties of Jewish English, we might thus expect some differences in how these extra high rise-falls are interpreted, both between Jews and non-Jews, and by Jews in different situations. More perception work, using a wider variety of contexts beyond list intonation, can be done to probe these differences.

In the media study, we saw evidence for the social meaning of a greater degree of macro-rhythm in general, in that we saw that rise-falls, expanded pitch ranges, and rising contours were used most often in mocking performances of the speech of older Jews, particularly parents. There is also some evidence to suggest that even the act of making use of this intonation in jokes is changing, and becoming associated with an older Jewish identity. Finally, we saw that contact matters, with contact with Yiddish, and/or Yiddish-influenced Jewish English, necessary for successful imitation of Yiddish-influenced intonation.

Finally, in the perception study, we saw differences in the perception of more macro-rhythmic contours, with rises, rise-falls, and rise-falls with expanded pitch range sounding more YIDDISH than plateau contours. However, which contours, exactly, signaled this identity differed between Jewish and non-Jewish listeners, and between those with and without contact with Yiddish speakers. There were also differences in exactly, what type of identity was being signaled, with differences in the speaker's perceived age and YIDDISH varying based on the listener's age for Jewish listeners. Contact with Yiddish speakers was also found to be important again, particularly for non-Jewish listeners: only those who reported contact with Yiddish speakers heard the more macro-rhythmic contours as signaling YIDDISH. With this knowledge in hand, future work can return to examining more closely how the rise-falls, particularly rise-falls with wider pitch ranges, were used in the Yiddish club meeting and in the interviews to signal particular types of Jewish identity. It may perhaps be the case that we see differences in how they are used, and what sorts of identities, are being expressed by the Yiddish-speakers, the monolingual Jewish English

speakers, and the non-Jewish English speakers.

From a methodological standpoint, all three of these separate studies are important, and all three are necessary to see the full picture of what has happened, in intonational form and function, in Jewish English. The production studies allowed us to see differences in intonational form and function, through the use of both controlled and non-controlled data. Differences were seen in controlled tasks (i.e., differences in open and closed lists in the Presidents Task) that might have also been present in other tasks (i.e., lists produced during the interview), but were impossible to see due to the messiness of the data. Likewise, recording the Yiddish-speaking subjects across different settings allowed us to see differences in their English that were masked during the interview (and certainly would not have emerged in a controlled reading task). Finally, the final two studies allowed us to more closely probe the function, particularly, the social meaning, of the differences found in the production data, providing more evidence for the social meaning of macro-rhythm in general.

Using this wide range of data we can thus more concretely outline a story for how an increase in macro-rhythm has become a part of the Jewish English repertoire. Yiddish-dominant English speakers brought into their English a variety of features: an expanded pitch range, more rising pitch accents, a preference for (!)H-L% as a "forward-looking" contour (the last two of which accompany a greater use of rise-falls more generally), via imposition. Some features, like the use of the rise-fall in questions, appear to have not been taken up or selected out of the feature pool as general markers of Jewish identity, and so, have nearly disappeared from Jewish English. However, other features have become imbued with social meaning, including rising pitch accents, an expanded pitch range, and use of rise-falls. These features have thus spread throughout the community as a marker of Jewish speech more generally. However, they are most strongly connected with Yiddishness, and an older Jewish identity. These features are thus a part of the Jewish English repertoire, available for use by anyone to invoke that particular type of identity (Jewish or not).

These markers of speech have lived on as features of Jewish English, despite lessening contact with Yiddish speakers, in whose speech these features originated, just as we see continued, and (sometimes even increased) use of words from Yiddish, like *shul*, and maintenance of New York-like vowels in *cot* and *caught*. The form and function of intonation thus is not distinct from other parts of the linguistic system, in how it acts in contact, or how subsequent generations make use of those features in constructing their social identity. In contact-induced change and variation, then, intonation is like any other part of the linguistic system.

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