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THESIS APPROVAL

The abstract and thesis of Rebecca A. Wolff for the Master of Arts in Teaching English to Speakers of Other Languages were presented April 10, 2000, and accepted by the thesis committee and the department.

COMMITTEE APPROVALS:

Tucker Childs, Chair

Kathy Harris

Mary Gordon-Brannan
Representative of the Office of Graduate Studies

DEPARTMENT APPROVAL:

Jeanette S. DeCarrico, Chair
Department of Applied Linguistics

ABSTRACT

An abstract of the thesis of Rebecca A. Wolff for the Master of Arts in Teaching English to Speakers of Other Languages presented April 10, 2000.

Title: Portland Dialect Study – High Rising Terminal Contours (HRTs) in Portland Speech

This study reports on the use of an intonation contour used in declarative clauses that is referred to in at least some of the literature as a “High Rising Terminal Contour” (HRTs). The intonation pattern is characterized by a final rise, which is similar to the pitch change used in yes-no questions. The purpose of this study is to document the use of this intonation pattern by residents of Portland, Oregon, in order to see what light it can shed on the HRT’s status and function, especially among the young to see if it can be implicated in language change.

Data were collected by interviewing a convenience sample of sixteen Portland speakers. Eight females and eight males from four different age-groupings were interviewed. The interviews were tape-recorded and portions of the tapes were analyzed. There was a three-part analysis of the data: 1) Pitch frequencies were analyzed from the utterances of two different speakers with WinCECIL speech

analysis software, 2) Portions of the tape were transcribed and analyzed by three different raters in terms of HRT functions, and 3) Twenty-minute segments of each interview were analyzed for frequency counts of HRT use.

The study found that HRTs used by Portland speakers generally rise at a higher percentage than the proposed 40%, and are followed by a pause. The two speakers also were found to use HRTs in different ways, showing that there may be different functions for HRTs than those that have been explored. The study also found that women favor HRT use by a small margin, while the young teens and the middle class favor HRTs by a large margin. The study concludes that the patterns found do not support Labov's theory of language change.

PORTLAND DIALECT STUDY – HIGH RISING TERMINAL CONTOURS
(HRTS) IN PORTLAND SPEECH

by

REBECCA A. WOLFF

A thesis submitted in partial fulfillment of the
requirements for the degree of

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in
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2000

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CHAPTER ONE

INTRODUCTION

Why a Portland Dialect Study?

People are always interested in how other people talk, whether it be the words they choose or the way they pronounce those words. The common feeling is that everyone else has an accent. Dialect differences have fascinated linguists as well, and there have been many dialect studies in the United States that have examined variation on the basis of geographical region. In fact, interest in American dialects can be traced back to the nineteenth century with the founding of the American Dialect Society. The first studies that focused on American dialects examined speech in the Eastern United States, with later ones gradually moving west. Examples of such dialect studies can be found in the Phonological Atlas of North America (Labov et al., 1999), The Linguistic Atlas Projects (1998) and the Dictionary of American Regional

English (Carver, 1987). These studies focus primarily on lexical and phonological variation with the majority of the data coming from dialects east of the Mississippi River. In fact, dialectologists and variationists have not yet studied the state of Oregon, which was a major factor in choosing this region for this study. Clearly there is a need for a study of the Portland area, not just because it has not been looked at thus far, but also because Portland is emerging as a major American city.

To the linguist, one of the most obvious and fascinating things about language is that it is not stagnant, but rather evolves and changes. It is easy to see how the English language has changed in both form and lexicon by examining written documents; think of the trouble students have with a Shakespearean play, let alone with Chaucer's Canterbury Tales or with Beowulf. As we consider our own speech, it is easy to differentiate the words and the ways in which we use them as being different from those used by even our grandparents. It is furthermore most likely that our speech will be different from that of generations to come. This idea of language change will be explored in this thesis and will be seen as essential for understanding the variation that is documented synchronically. The idea is an important one because when a language changes, the relationship that exists between the form and the meaning of a word or phrase also changes, in that the people who use the new form also use a new meaning, one that is not part of the dialect familiar to older members of that community. The result is that the same word may mean a different thing, or it may be pronounced in a different way from one generation to the next, or both. This

thesis explores this idea, but not with regard to the more traditional foci of dialect studies, lexical items and/or differences in segmental pronunciation. This project looks rather at intonational differences to see if intonation is also changing, and if so, asks if the new forms are significantly different from the older ones in terms of their function.

The Problem

The first task is to answer the question, what is intonation? Simply put, intonation refers to the pattern of pitch movements that occur within spoken utterances. Intonation is crucially dependent on pitch, the perceptual correlate to fundamental frequency (F_0). If one were to listen to a conversation, removing all of the words and somehow allowing only the fundamental frequency to remain, one would hear the rises and falls in pitch, the main cue for intonation.

The important question in terms of this research has to do with the meaning a speaker conveys when using such pitch differences. What function do specific intonation contours have in language?

Variation studies have looked in detail at segmental differences, e.g. Labov (1966) and Trudgill (1974), yet little work has been done in the area of prosodic variability. Although easily quantifiable through measurements of fundamental frequency, duration, and intensity, the meaning and nature of prosodic units has not formed the subject of study within the quantitative paradigm initiated by Labov

(Chambers, 1995). Intonation, even more than other phonological phenomena, is not well understood, e.g. Ladd and Cutler (1983). Furthermore, there is little historical evidence on the form and function of prosodic elements, and analytical aids have also been lacking. Until recently, the needed technology, such as inexpensive speech analysis software, has not been widely available. For reasons such as these, studies that examine the variable use of intonation are fairly new; there is still much work to be done.

This thesis reports on an intonation contour used in declarative clauses referred to in at least some of the literature as a “High Rising Terminal Contour” (HRTs hereafter). The intonation pattern is characterized by a final rise, which is similar to the pitch change normally used in polar (yes/no) questions, as in the question, “Do you want lasagna for dinner?” There is nothing unusual about the HRT in such contexts, but when it occurs elsewhere its appearance is quite marked, as when it appears in such unexpected contexts as the pitch contour on simple declaratives. From an acoustic standpoint, HRTs have been defined phonetically as a 40 percent rise in fundamental frequency (F_0), beginning on the last tonic syllable and continuing upwards (Guy & Vonwiller, 1989). This high rising tone involves a swift upward trajectory that generally reaches the speaker’s highest frequency range (Guy, Horvath, Vonwiller, Daisley, & Rogers, 1986). This feature has been found in Australian speech (Collins & Blair, 1989; Guy et al., 1986; Guy & Vonwiller, 1989; Horvath,

1985), Canadian speech (James, Mahut, & Latkiewicz, 1989), New Zealand speech (Britain, 1992) and in the southern United States (Ching, 1982).

The Purpose

The purpose of this study is to document the use of this intonation pattern by residents of Portland, Oregon, in order to see what light it can shed on the HRT's status and function, especially among the young, at least partially to see if it can be implicated in language change. One interesting part of this intonation use is that the rise in pitch does not change the declarative to a yes-no question, as would be the general expectation in English. The HRT serves other functions, and it is these functions that have been reviewed and explored in this research. Another fascinating part of HRTs is the negative reaction engendered in hearers, especially in older people. The phenomenon has likely achieved the status of what Labov has called "stereotype", a variable for which the social awareness is quite high (Labov, 1966). For example, many adults claim that they have never used this rise in pitch, and they find it to be an annoying speech characteristic of the young. In fact, when this topic was presented by myself to others, I encountered many responses: some were fascinated, while others appeared bothered or even appalled; few were without an opinion and thus the feature has achieved some salience even among the linguistically unsophisticated. Almost everyone perceived the HRT in this context as a characteristic found only in the speech of teenage girls. The strong and pointed reaction to this intonation pattern

recommends further research to determine its exact status and function in the speech of English speakers.

Research Questions

Impressionistically, HRT use in declaratives is a well-established feature of Portland speech. It seems that HRTs are used predominately by teen-aged females, but it is proposed that a much broader age distribution will be found, which includes teen-aged males and young adults of both sexes. This thesis has three questions that will be explored.

1. In what contexts are HRTs found, and what are the acoustic features that define the intonation pattern?
2. What is the function of HRTs as used by Portland speakers? Do the functions match those proposed in the literature, or is there a new function that has not yet been explored?
3. Are HRTs involved in language change? Can patterns of usage be identified in comparing age, gender, and class, which conform to Labov's theories of sound change in progress?

Summary

Portland is a dynamic city that is rapidly growing en route to becoming a major metropolis. Between 1990 and 1994, the population of Portland increased by

eleven percent, and this growth appears to be continuing. Approximately half of Oregon's population lives within the Portland area. During this time of growth, language is one aspect that will undoubtedly change. For example, some features may be retained, while new ones are acquired and some old ones may be lost. This study collects and analyzes linguistic data from a variety of Portland speakers with a view to documenting and identifying such possible changes.

This study of Portland dialect follows the established methodology of William Labov in New York City and elsewhere. Within this paradigm, language variation, or different ways of saying the same thing, is examined to understand how languages change. Prosodic variation is an element of language variation that needs to be further researched in order to advance our understanding of these phenomena. The next chapter will look at the studies of HRTs to assess what has already been said about the functions, the status, and the possibility that the phenomena is an example of language change in progress.

CHAPTER TWO

REVIEW OF THE LITERATURE

Background on Intonation

Pitch, the prosodic feature most centrally involved in intonation, is the perceptual correlate of fundamental frequency or F_0 , as stated above. The F_0 of an utterance is created by the vibration of the vocal cords within the larynx, and reveals itself as the number of repetitions of the regular waveform within one second, or cycles per second (measured in hertz (Hz)). A regular waveform is generally produced only when the vocal cords are vibrating for voicing. Speakers use this information for interpreting utterances, their interpretations being the “pitch” of an utterance. Because pitch perception is not uniform across all frequencies, there are slight anomalies in the correspondence between F_0 and pitch. Nonetheless, pitch can be correlated with, if not equated with, fundamental frequency, despite the differences between the two (Cruttenden, 1986).

Cruttenden (1986) identifies the use of a rising tone as signaling informational dependency, while falling tones indicate informational ascendancy (104). The term “dependency” when applied to informational status means that the ideas presented with a rising tone are not final; they are dependent on more information. Informational “ascendancy”, the name for ideas presented with a falling tone, means that the information is meant to be finished, final, or not requiring additional information in order to make sense. The part of the sentence to which the pattern applies is called a tone group (its “domain”). Within a tone group, stressed syllables have minor pitch increases, but there is generally one syllable that can be identified by a major change in pitch. This syllable is referred to as the tonic syllable. There is no syntactic definition of a tone group available, for tone groups are determined by the speaker on the basis of what is deemed important information. Therefore, a tone group can be looked upon as a unit of information rather than as one syntactically defined (Ladefoged, 1993).

A Look at HRT Research

The earliest studies that empirically document the use of HRTs are based on data from Australia. Horvath (1985), and Guy et al. (1986) identify HRTs in the speech of residents of Sydney. In 1989, James et al. published their work documenting the “new” intonation pattern as used in Toronto, Canada. The most recent study of HRT usage was conducted in New Zealand (Britain, 1992). Studies

that document this intonational contour within the United States are very limited; Ching (1982), being one of the few, studies the use of high-rises in the speech of Southerners in the United States.

The majority of the Australian studies used the corpus of data collected by Horvath in 1985. In her study, she conducts 45-minute interviews with 130 speakers from the metropolitan area of Sydney. The basic unit of study used by Horvath is the tone group, which register the way that speakers divide their discourse into meaningful units of information. Horvath counts whether the speaker uses a rising or falling tone in a declarative clause. She finds that in 107,685 tone groups, 1,724 of these tone groups contain HRTs. Therefore, the feature was used 1.6% of the time within tone groups containing declarative clauses. The data are analyzed according to age (teenagers and adults), gender (male and female), socioeconomic class (lower working, upper working, and middle class), and ethnicity (Anglo, Greek and Italian). Horvath concludes that although HRTs occur overall in a very low frequency, the social type most likely associated with its use is lower working-class teenaged females, who were either Greeks or Anglos.

Guy et al. (1986) uses the data collected by Horvath, but breaks down the age-ranges into four categories rather than two: younger teens (11-14), older teens (15-19), young adults (20-39), and older adults (40 and above). The result of analyzing the data with a more finely articulated notion of age shows that there is a slight rise in the incidence of HRTs among younger teens as opposed to the older teens, with a

decline through the adult groups. The researchers find that adults over forty rarely use HRTs in a declarative. When social class is analyzed, the researchers find that the highest social class uses the feature the least amount. When gender and class are analyzed together, the results are varied. In women, the highest rate of HRT use is among the lower working class, and in men, the highest rate is among the upper working class. In general, Guy et al. find that female speakers use HRTs in declaratives at double the rate of males.

In 1982, Ching conducted a study of high rising tones among Southern dialects in the United States. He collects data by interviewing 14 speakers who were born or moved to the Southern dialect region at an early age. The speakers are from Tennessee, North Carolina, Mississippi, and Arkansas. The speakers are distributed as follows: ten Caucasian females (ages 15-55), one Asian female (age 13), one African-American female (in her 20's), and two Caucasian males (one 15 years old and the other in his 40's). Ching analyzes the interview data using speech act theory in order to hypothesize about the functions of HRT use in declarative speech (these functions are discussed later in this chapter). Although this study contains no quantitative measures, he concludes that the question intonation signals in a compact form, in one utterance, a variety of speaker motivations or illocutionary forces.

In 1989, James et al. conducted their study of HRT use within the region of Toronto, Canada. The researchers collected their data from samples of a University of Toronto radio station during a fund-raising drive. They define an HRT as the

intonation contour at the end of a declarative containing the highest pitch level reached in a tone group. They also find that this high rise is often followed by a notable pause. They compare only male and female speech, and the researchers do not look at class, ethnicity, or age (all samples were university students of about the same age). They conclude that HRTs are most commonly used among young women, and they find very few instances of the feature among males.

Britain's New Zealand study (1992) is the most recent look at HRT use. He collects data from sixty working class speakers, and analyzes the data as to age (20-29, 40-49, 70-79), gender, and ethnicity (Maori and Pakeha). Informants are contacted through the "friend of a friend" technique used in Belfast (Milroy, 1980). The interview begins by eliciting demographic information, continues with reading passages and word lists, and follows with many topics designed to elicit a casual speech style, including Labov's (1966) "danger of death" question (i.e. "Has there ever been a time that you were really scared, that you thought, this is it, I am going to die!"). Britain analyzes the interview data that is designed to elicit casual speech in 20-minute sections. He analyses only 20-minute sections, due to the length of the interviews, which were approximately 60 minutes long. Studies that featured multiple researchers (i.e. Guy, et al.) were able to analyze the entire interview data. Britain, on the other hand, had to limit the analysis due to limited time and resources. The data are analyzed by tone groups, and coded by the presence or absence of an HRT, the text type in which the HRT is found (narrative, description, explanation, or opinion), and

the age, sex, and ethnicity of the speaker. Britain finds a 4.12% occurrence of HRT use in declaratives, or 612 HRT tone groups out of 14,844 total. The considerable rise in use may be attributed to the analysis of 20-minute sections of narratives, which is the most common text type in which HRTs are found. The young (ages 20 – 29) were found to be five times more likely than the old (ages 70 – 79) to use HRTs. The difference between male and female users is less distinct. Britain finds that women do favor HRTs, but only by a small margin. He also finds that the middle-class uses HRTs more than the working class.

The studies reported here compare HRT use with the speaker's age to conclude that this may be a case of intonational language change, that the use of HRTs in declaratives is a recent innovation that is first being used by young female speakers. In order to support this claim, more HRT studies need to be conducted, especially longitudinally (in "real time"), to determine if the speech characteristic is indeed spreading to males, and to other social classes. If the feature has broadened its distribution, then it can be concluded that language change has in fact occurred, and we do not have a case of age-grading, i.e., a phenomenon associated with a certain age which disappears as the subjects become older.

Favorable Text-Type for HRTs

Before examining all of the meanings and functions of HRTs that have thus far been explored, it is important to understand in which environments the contour is

predominately found. Within the work on Sydney dialect, Horvath (1985) and Guy and Vonwiller (1989) identify five broad categories of text type based on their interview data. They are:

1. Description (generally following a “How” question)
2. Opinion (“What do you think?”)
3. Explanation (generally following a “why” question)
4. Factual (generally following a “what” question)
5. Narrative (“Tell me...”).

Within this framework, the most favorable environments for HRTs are descriptions and narratives. Opinions and factual texts are found to be unfavorable environments, while explanations seem to neither favor nor disfavor HRTs. This research shows that HRTs do not appear at random throughout an individual’s speech, but are found rather in specific sorts of texts.

As stated, narratives and descriptions favor HRTs. One reason for this may have to do with one proposed function of HRTs (which will be further discussed in this chapter), namely, to check listener comprehension. HRT use seems to correlate with the semantic complexity of what is being said, and thus the speaker seeks affirmation that the listener understands what is being said. A narrative has a detailed structure that includes a plot, the introduction and development of the characters, and a reason for telling the story (a “point”). A narrative follows a series of steps, beginning with the setting and scene, moving to some sort of action or complication, and ending

with a resolution (Labov & Waletzky, 1967). Each step in the story is dependent on the previous step, and if the listener fails to understand one step in this process, the overall impact of the story suffers (thereby becoming an unsuccessful narrative). Like a narrative, a description also requires the listener to follow stages for a successful construction. An example of this is describing the rules of a game or how to get to a certain destination. If listeners get lost at one step in the description, they will not have a full understanding of the game or may get lost trying to find the particular location.

According to Guy and Vonwiller (1989), the least-favored text, the factual and opinion, have a simpler semantic structure. Their factual text data yielded short, simple responses, such as the answer to the question, "Where did you grow up?" Their opinion data, like the factual text data, yielded short responses, either positive or negative evaluations of the subject proposed by the interviewer. The length of the text response seems to be another factor in the usage of HRTs. For example, the longer the texts, the greater occurrence of HRTs. This may be one reason why narratives and descriptions yield the highest HRT use, due to the fact that the speaker holds the floor longest in these text types.

Function of HRTs

This section represents the body of work that has explored the functions of high rising tones in declaratives within the speech of English speakers.

Social Inequality Hypothesis

The first mention in the literature of this speech phenomenon is by Lakoff in 1973, proposing that the motivation for the use of the HRT is social inequality. In this hypothesis, she interprets the speech pattern as being characteristic of female speech attributable to their powerlessness in society. She states that women use this rise in declaratives in order to avoid making strong commitments to the ideas they present. She believes the HRT shows an avoidance of commitment. Lakoff feels that the use of HRTs is particular to women speaking to men so that conflict (with men) could be avoided. Basically, Lakoff sees HRTs use in unexpected environments as an example of women's deference and hesitancy.

In 1982, Ching studied the use of high rises in declaratives for speakers in the southern United States. The analyses of his data support some of Lakoff's claims within certain situations, but he adds many new functions of the intonation pattern. The two functions that Ching addresses supporting Lakoff are the speaker's need for reassurance, as though the speaker is asking the listener to correct a statement because of uncertainty as to its accuracy. The next function is that of the speaker showing

deference to the listener, the intonational pattern indicating the tentativeness of the information.

Interactional Role

The Australian studies use their data to challenge the functions proposed by both Lakoff and Ching. Guy and Vonwiller (1989) state that in the narrative structure (where HRTs are found) “there is no indication of uncertainty; the speaker is in command of the facts and develops the story appropriately without hesitating or looking for words” (p. 24). In fact, the high rises are generally used when the speaker is talking about something that they know to be true. These researchers introduce another function of HRTs: an interactional role. Specifically, HRTs are used in narratives to make sure that the listener understands the story. This is similar to the function of tag questions, such as “right?” and “you know”. The speaker, in this case, may want some sort of response from the listener, they may want empathy from the listener, or they may just want to make sure that their story is comprehended. The researchers cite Bryant (1980) as evidence to support these functions. Bryant used videotaped interviews to study the use of HRTs, and he found that they generally elicited some sort of response from the listener. The response could be verbal, such as “mm-hmm” or “yeah”, or non-verbal, such as a smile, nod, or eye contact. Ching (1982) states that generally there is a very slight pause after the question intonational

contour, which serves as an opportunity for the listener to exhibit that they indeed understand the point of the discourse.

Turn-Taking

Guy et al. (1986) further explore the function of HRTs used in declaratives. They state that HRTs have a specific function in turn construction. The effect of an HRT on turn-taking serves to retain the floor for the speaker, so that the speaker may have an extended turn at talk in order to carry out the task of telling the story. The HRT gives the hearer a small opportunity to intervene in the discourse, and it is the expectation of the speaker that this intervention will be limited. The researchers give as evidence of this function the length of turn at talk compared to the frequency of HRT use. For example, the shortest turns (those of only one word) have the least chance of HRT use. On the other hand, longer turns (those which have several clauses) have a higher rate of HRTs.

Politeness Strategies

Several of the researchers involved in studying high rising tones in declaratives introduce the idea of politeness as a function of HRT use. Britain (1992), for example, introduces Brown and Levison's (1987) theory of politeness as a sociolinguistic model that is sensitive to the conversational needs and wants of both the speaker and hearer. He states that rather than function as a marker of "negative politeness" by showing

deference as Lakoff had proposed, “high rising tones in declarative clauses are markers of positive politeness toward the addressee, inviting him or her to participate vicariously and empathetically in the production of the talk and emphasizing the in-group nature of the relationship between speaker and hearer”. In other words, he feels (as does Horvath, 1985) that HRTs are used in declaratives as a means to maintain the engagement and enlist the solidarity of the listener.

Britain (1992) introduces strategies from the politeness framework in which a speaker can address the hearer’s “positive face wants”. The first class of strategies is to “claim common ground” with the listener. This is done by intensifying what he or she is saying, or by making a good story. When this is successful, the hearer is pulled into the events of the story, which heightens their interest in what is being said. Britain states “HRTs intensify and dramatize the message of a story, thereby heightening the hearer’s vicarious participation in the development of the experience”.

Another politeness strategy introduced by Britain (1992) includes some of the functions put forward by the Sydney researchers (Horvath, 1985; Guy et al., 1986). This strategy is used when the speaker wishes to convey to his or her audience that they are conversational co-operators. The strategy can be seen through their mutual adherence to the rules of turn-taking; the speaker conveys a desire for a minimal affirmation while he or she maintains a turn at talk. Politeness strategies are used because the speaker wishes to overcome any obstacles that could hinder a successful conversation.

A variation on politeness strategy as a function of HRT usage was proposed by Ching (1982). Although he does not have quantitative data to back up his claim, he uses anecdotal data from his wife, who uses HRTs in her work as a lawyer. HRTs are introduced here as a mode of mitigation and politeness, used in situations where the speaker is presenting “the painful truth”, or information which could offend the hearer. In these situations, such as delicate social or business situations, HRTs make the speaker sound genuinely sincere and nondefensive, a mode used to blunt the blow of the information.

Emphasis

Ching (1982) proposed a function of emphasis, one I have not seen in any other studies. I find this HRT function particularly interesting, and it is one that I hoped to find in my own interview data. HRT use in this context indicates the importance of a word, a phrase, or an idea within the discourse. It is as if the speaker is advising the listener to “pay attention” to what they are highlighting as being important or valuable information. Ching states that this emphasis often appears on the unusual or uncommon information, as opposed to ordinary information.

Status of HRTs

The use of HRTs has received a fair amount of social attention, most of this attention being negative. The feature is perceived by some as being used excessively

by teenaged girls, who should be discouraged from using HRTs. Guy and Vonwiller (1989) suggest that the status of HRT use is not very high, and that it is thought of as being an unsuitable speech characteristic for higher status occupations. One reason that this is the case is that the use of HRTs suggests a lack of confidence and lack of forcefulness on the part of the speaker. On the other hand, users of HRTs are generally perceived as being more friendly and attentive, which is related to group solidarity and local identity. Cruttenden (1986) states that because the use of high rising tones is more common among the young, it suggests one of two things: “either high-rise is purely a signal of youth of a certain sort and will remain limited in use principally to this age-group, or it may be an intonational change being initiated by youth, in which case we would expect present youth to keep this tone as it ages” (p. 136). Cruttenden goes on to describe a type of intonational change called “de-attituding”. This is when a pattern of intonation that is “attitudinally marked” becomes very frequent in the speech of certain groups. As the frequency of the feature increases, it spreads to other groups in the speech community and therefore loses its “attitudinal” connotation (p. 170).

Language Change in Progress

Historical linguistics seeks to identify and describe linguistic changes that occur over long periods of time. In fact, historical linguistics is founded on the idea that past language was different from the present, and that language is changing.

Unfortunately, the data that are needed to study language change is often incomplete (as in historical records or literature, which were not written for or by linguists) or not available at all (no evidence on tape, of course), and therefore new methods of studying language change have been developed.

The first study of language change in progress took place from 1899 through 1904 by Gauchat in the Swiss village of Charmey. Gauchat believed that the Neogrammarian ideas, which were accepted at the time, had overestimated the homogeneity of rural dialects (Labov, 1994). His research challenged the Neogrammarian belief that sound change is regular, proceeding gradually and uniformly, so that all members of a community use the same form. Gauchat's idea of the heterogeneous character of speech communities has since been supported by numerous modern sociolinguistic studies (Labov, 1994). If past language use were exactly the same as the present in every way, then the use of the present to explain the past would be unnecessary, because there would be no changes and therefore nothing to explain. Due to the fact that language does change, the task of historical linguistics is to document and analyze these differences.

Language Variation

Looking upon English-speakers as a group, the analyst can identify many speech differences among a population. One example of language variation is geographical: people from one region use speech that is different from those of

another in terms of pronunciation (“accent”), lexicon, and even morphosyntax.

Another type of variation is social, in which speakers of different social groups use different speech. Variations in an individual’s speech style, on the other hand, are more difficult to assess. Most people alter their speech to fit differing needs, such as feelings of formality or informality, which are not so easy to analyze. Individual variations normally occur in pronunciation, syntax, and word choice in order to fit the needs of the situation (Aitchison, 1991).

The importance of an individual’s variation to understanding language change was first recognized through the work of Labov. In addition to identifying a number of social factors determining variation, his research showed that variation in language could be an indication of language change in progress. In his studies of New York speech variation, Labov developed interviewing techniques to elicit both careful and casual speech styles. Due to the nature of an interview, where the interviewer is in a position of power and the respondent is not, careful speech styles were the easiest to obtain. In order to capture casual speech, Labov developed such techniques as the “danger of death” question: “Have you ever been in a situation where you thought you were in serious danger of being killed – where you thought to yourself, ‘this is it’” (Labov, 1966). Questions that ask the respondent to recount a dramatic or fearful incident tended to move the speaker into a more casual speech style.

The Apparent Time Construct

Can sound change in progress be observed? Yes, and in fact there are several ways of doing so. One way is to compare new data to older “real time” data. Another method is to conduct an extended observation of speech community to determine if changes are significant. There are two methods of extended observation: a panel study, which locates the same speakers and observes them at a later time period, or a trend study, which constructs a second representative sample at a later time.

Unfortunately, these types of studies require a great deal of time and expense. Due to this problem, linguists now trace change in apparent time, looking at the distribution of linguistic variables across age levels, in order to study language change in progress.

The apparent time construct is used to study language change in progress by extrapolating future language patterns from current ones. Sociolinguists have used it as an analytical construct since Labov’s (1963) work on Martha’s Vineyard. The basic assumption of the construct is that the speech of each generation reflects the language as it is used and will continue to be used as the given generation ages. Therefore, differences in the speech of different generations within a speech community are a reflection of diachronic developments (Bailey, Wickle, Tillery & Sand, 1991). According to Chambers and Trudgill (1980), “the validity of [apparent time] hinges crucially upon the hypothesis that the speech of say, 40 year-olds today directly reflects the speech of 20 year-olds twenty years ago and is thus comparable for diffusion research to the speech of 20 year-olds today” (p. 165). There are changes

in terms of new vocabulary, borrowings from other speakers, but on the whole the speech of the adolescent years is preserved (Labov, 1981). Within this construct, the differences in the speech of a 40 year-old when compared with a 20 year-old are evidence of the progress of a linguistic innovation that has risen in the twenty years that separate the two groups. If there is a correlation between age and a linguistic variable, the issue is to figure out if there is true language change in progress or a case of age-grading, which is a regular change of linguistic behavior with age that repeats in each generation (Labov, 1994) and is limited to a certain age group. Slang is an example of age-grading, a variety which is generally used by the young, with its use declining when an individual reaches a workforce age. On the other hand, the view of a stable individual system, that adults maintain in general the linguistic system of their youth, has been supported by many linguistic studies (Labov, 1981).

Statements that are made about language change can only be taken as an inference or an educated guess, and linguists are often wrong in their ideas about what is language change in progress. Labov (1981) states,

If we want to propose that change in progress has been detected in a given speech community, evidence is needed to show that the variation within the community is a direct result of the fact that in the recent past language learners acquired a different form of the language than they are acquiring now (p. 177).

To show this, one must examine different age groups, with a separation of a minimum of a half of a generation and a maximum of two.

Social Variables

Labov (1981) has made several conclusions based on his own work and the work of others about the link between social variables and language change. Age distribution is the most crucial factor in examining language change in progress. Due to the idea that adults (ages 20 and above) have a relatively fixed linguistic system, the only age group that is able to adopt a new linguistic trait is the young. A change in progress will therefore show an age distribution with the maximum use of the new feature in the younger age groups.

In terms of socioeconomic class, Labov (1981) states that each social class uses a different form of speech: the upper class uses upper class speech, the lower uses lower class speech, and the middle class is somewhere in the middle. As illustrated in Figure 1, he finds that there is a curvilinear distribution associated with language change in progress: that the most innovative speakers are not found among members of the highest or lowest class of speakers, but among the interior groups (the upper working class and the lower middle class). His hypothesis is that these “interior” groups “have a positive social motivation for adopting new forms, which have a local, possibly ‘covert’ prestige as markers of ‘local identity’ – of belonging to a particular locale or social group” (Guy et al, 1986). On the other hand, the classes at the two ends of the social scale do not have this “positive evaluation” of this feature as a marker of “local identity”. Therefore, a speech innovation is driven forward by the middle of the social scale, hence its “curvilinear” social distribution.

Figure 1. “Curvilinear” social class distribution of a change in progress

In terms of gender and language use, there are of course differences between the speech of men and women. In general, women use a higher prestige form of speech than their male counterparts (Labov, 1994). Yet, in the majority of sound changes that have been examined thus far, women lead the men by half a generation or so. Labov (1981) states, “when this is so, we find a sharp opposition between new changes in progress with women innovating, and the older stages or stable variation with women more conservative” (p. 185).

Due to the fact that there are few linguistic studies conducted with real-time data, linguists currently use synchronic data to evaluate language change in progress. This is done by analyzing the data as to the social variables of age, gender, class, ethnicity, among others. The analysis of one of these variables on its own, however, can be sufficient evidence of a linguistic change in progress. Although age is the primary feature that marks language change, when the features are examined as a group,

patterns may be found that may be useful in resolving the ambiguities of current data when there is not support from real time data.

Summary

This review has examined studies of HRTs; the studies document which text-type the HRTs normally appear in and their functions. The research has suggested that the HRT may represent language change in progress. Finally, the methods used to study language change in progress that have been established by Labov have been introduced as the analytical framework for this thesis. The literature presented was used as a basis to design methods to study this speech characteristic. The methods used are outlined and discussed in the next chapter.

CHAPTER THREE

METHODOLOGY

This chapter outlines the methods and procedures used in this project to determine the acoustic features, function, and use of high rising tones as a characteristic of the speech of the residents of Portland, Oregon

Subjects

In order to participate in this study, respondents had to meet specific criteria. Each informant was either born in Portland or moved into the area before they were five years old. Each informant lives within the Portland Metropolitan boundaries, or lives in an outlying suburb and commutes into the city for work or school. In order to determine eligibility, each respondent received a screening phone call prior to the interview (See Appendix A).

Data were collected by interviewing a convenience sample of Portland speakers, which were identified by talking to friends and co-workers. Each subject read and signed an informed consent form (see Appendix D). A total of sixteen respondents participated in this study, who were divided into four age-groupings. Within each grouping the four subjects were: two males and two females, with one middle class and one working class respondent in each gender grouping. Ethnicity was not analyzed in this study; all of the informants were Caucasian.

Table 1. Subjects for Portland Dialect Study

<u>Age-Grouping</u>	<u>Female</u>	<u>Male</u>
Young Teens 11-14 years	Middle Class-Age 11 Working Class-Age 14	Middle Class-Age14 Working Class-Age12
Older Teens 15-19 years	Middle Class-Age 17 Working Class-Age 18	Middle Class-Age 17 Working Class-Age 19
Younger Adults 20-39 years	Middle Class-Age28 Working Class-Age 26	Middle Class-Age 32 Working Class-Age 29
Older Adults 40+ years	Middle Class-Age 46 Working Class-Age 56	Middle Class-Age 40 Working Class-Age 40

Variables

The subjects were chosen paying attention to three different variables: age, gender, and socioeconomic status. Four age groupings were used, following work on Australian English (Guy et al., 1986): young teens (ages 11 through 14), older teens (ages 15 through 19), young adults (ages 20 through 39), and older adults (age 40 and above). The two status groups examined in this study were working and middle class, as in Britain's 1992 study.

Class was determined by using a three-part system. First, during the screening call the respondent was asked to answer a series of questions based on a socioeconomic index of Portland. This index was designed by using sample socioeconomic indices (Chambers, 1995), and U.S. Census data for Portland (<http://govinfo.library.orst.edu>). The index is divided into four parts: occupation, income, housing, and education. Due to the fact that half of the subjects were teenagers, their assignment was determined by using their parents' class as determined by the index. The following shows the rating system used to determine the class of the participants, on which the highest possible score is 16. Scores greater than 12 are categorized as middle class, while scores of 12 or below are categorized as working class. The subjects desired for participation in this study were from the interior classes, thus the upper class and lower class were eliminated from consideration. The index was designed so that the highest number, which is 16, is the upper scale of the

middle class. In this study, scores of 13 through 16 were designated as middle class while scores of 9 through 12 were designated as the working class. Subjects who scored 8 or below were not considered for this study.

Table 2. Socioeconomic Index for Portland, Oregon

I. Occupation	a. Executive, administrative, and managerial occupations (4) b. Professional occupations (4) c. Administrative support, clerical (3) d. Skilled construction, machine operator, assemblers, factory (3) f. Service occupations (2) g. Non-skilled labor (1)
II. Annual Income	Compared to most recent census data for Portland (1990), based on households or non-family households. a. \$40,000 / year (4) b. \$20,000 - \$40,000 / year (3) c. \$10,000 - \$20,000 / year (2) d. Below \$10,000 / year (1)
III. Housing	a. Own house (4) b. Rent house (3) c. Rent apartment (2) d. Rent room / shared housing (1)
IV. Education	a. College graduate (Bachelor's or above) (4) b. Some college (3) c. High school graduate (2) d. Did not graduate high school (1)

The second method to determine class was via self-reporting by the respondents. During the interview, the respondents were asked which social group they (and their family) best identified with. The last method of identifying class was post-interview reflection by the researcher. Directly after the interview, notes were taken based on characteristics of the respondents' home, such as part of town (SW, NW, SE, NE) and type of home (for example, single-story, number of rooms). These notes were then compared with the initial screening data and the self-report of the informant in order to make the final categorical distinction between working and middle class. All three metrics converged in their evaluations and no cases of conflict occurred.

Design of interview

The interview is semi-structured, designed to elicit both careful and casual speech samples. The first part of the interview asks for general biographical information and was designed to elicit factual responses and a careful speech style. This part of the interview was a review of the information obtained during the screening process and an attempt at eliciting more personal details. Next, the respondent was asked questions about topics and issues of interest, open-ended questions that are designed to elicit a description or narrative, and precipitate an extended turn at talk. Examples are: "Have you ever been in an accident? Tell me about it." or, "Has there ever been a time that you were really scared?" (See Appendix

B for a list of questions used during the interview). The average length of each recording was approximately 60 minutes.

Instrumentation

Interviews were recorded on a Marantz portable cassette recorder PMD222 using TDK D90 high output IECI / TYPE I ninety-minute tapes. Data were digitized at the sampling frequency of 22050 Hz with WinCECIL speech analysis software produced by the Summer Institute of Linguistics (SIL). WinCECIL was originally designed to display pitch contours in tone languages, and was chosen for this project because of the excellent pitch displays produced by the program. The program provides facilities to record, analyze, save to disk, and replay short sections of speech. It is able to hold two utterances of up to 65,000 data samples each in memory at one time. This gives a maximum utterance length of a little under 3 seconds for 22050 Hz sampling frequency. This length was sufficient to capture the contour and its context. After an utterance is recorded, the program allows for a number of different displays designed to highlight various acoustic features of the utterance, such as F_0 .

Data Analysis

The first part of the data analysis was to examine in detail utterances from two of the subjects with speech analysis software. The two subjects that were the most

frequent users of HRTs were selected for this acoustic analysis (see Appendix C for frequency of HRT use data). WinCECIL was set to display two screens in analyzing the data for this study: the smaller top screen showed the amplitude (loudness) of the utterance, and the larger bottom screen was the “Fsmooth”, or smoothed tone pitch contour. Although amplitude has not been measured in other HRT studies, it was chosen as another means to acoustically define a high rising contour. The Fsmooth graphs are created by WinCECIL through a three-step process. First, initial independent fundamental frequency estimates in voiced sections of the waveform are incorporated into data points. Next, single data points, which form significant sections of the tone contour, are retained. Finally, single data points are interpolated across other data points and smoothed to give the continuous tone contours displayed in Fsmooth graphs. The end result is a series of lines that represent the rises and falls in pitch, which are represented in figure 2.

Figure 2. WinCECIL sample of Amplitude and Pitch Contour

The analysis relies on the data in both WinCECIL screens. Figure 3 is an example of an HRT that was analyzed for this study. The two lines (vertical cross hairs) represent where the measurements were taken from. The first line represents the lowest point, or the beginning of the rise. The second line represents the highest point reached. The top screen was compared to the bottom, and the amplitude was noted in decibels (dB) in correspondence to the HRT. For example, the decibel reading at the first reference line were 5.9 dB and 4.8 dB at the second. The significance of loudness and HRT use is analyzed and discussed in the final chapter. On the bottom screen, the fundamental frequency was measured in hertz (Hz), noting

the number at the beginning of the rise and at the very top of the rise. In the example presented below, the rise began at 104.6 Hz and ended at 199.2 Hz. Calculations were made to determine the percentage in rise from the beginning to the end of the HRT. To do this, the number of Hz at the beginning of the rise was subtracted from the number at the end of the rise ($199.2 - 104.6$). The resulting number was then divided by the number of Hz at the beginning of the rise ($94.6/104.6$). This number (90.4%) represents the percentage in rise from the beginning to the end of the HRT. Other aspects were also measured, such as the duration of the rise (in seconds) and whether or not a pause occurred after the rise. It is these measurements that were used to evaluate the phonetic definition of an HRT.

Figure 3. Sample HRT Analysis

“You sound a little bit more perturbed than you ought to be ↑”

Next, the segments of speech containing HRTs were orthographically transcribed. The transcriptions were then used to locate the speech segment in one of five functional categories that were outlined in Chapter Two, also taking into account the context, my own intuitions and background knowledge, as well as acoustic cues. The five functional categories are given as a reminder below:

- 1) Registering social inequality
- 2) Clarifying interactional roles
- 3) Turn-taking

4) Showing politeness

5) Emphasizing

To confirm my own intuitions and analysis, I sought corroboration in the ratings of two other individuals. The five categories were described and explained to another graduate student in the Department of Applied Linguistics, and an undergraduate student with no background in linguistics. Both raters were asked to read the transcribed portions, listen to the corresponding recordings and then to state their opinions as to the speaker's intentions. If the rater was unable to place the segment within one of the pre-determined categories, they were asked to explain what they felt the function of the HRT was in the specific context. The results of my judgments and those of the two other raters are displayed and discussed in the next two chapters.

The last step in the analysis was to establish a quantitative measure of HRT use; this was done by calculating the number of HRT clauses as a percentage of the total number of declaratives. The data were analyzed in twenty-minute segments from the section of the interview designed to elicit narratives and descriptions. Each twenty-minute segment was taken from the last twenty minutes of the interview. HRT's were determined by listening to the tape and noting them as they occurred. Any questionable rises were run through WinCECIL and measured to ensure a 40% rise in tone. A frequency count was used to compare the variables of age, gender, and class to see if any patterns emerged that could support a claim for language change, as

in the Labovian paradigm. The text was divided into tone groups, the units into which speakers parcel their thoughts into meaningful units of information. Its length depended on how the respondents decided to segment their utterance. Each declarative clause tone group was then coded for the absence or presence of an HRT, the text type, and the age, sex, and class of the speaker.

From a methodological standpoint, the major goal of this study is to collect and analyze data from a variety of individuals who represent different segments of the Portland speech community. The data from this study will eventually be used in a larger study that will examine this and a number of other linguistic features of Portland speech.

CHAPTER FOUR

RESULTS

This chapter outlines the results of the various measures discussed in Chapter Three. In the first section, WinCECIL graphs are displayed and described. The second section displays transcriptions of HRTs and analyzes their functions. The last section displays the results of the frequency counts in a series of graphs, which correlate the linguistic data with different social variables.

I. HRT Speech Analysis Results

Table 3 illustrates the text types that were analyzed in these interview data. The segments that were analyzed for this study contained a majority of narrative speech, which was introduced in Chapter two as being the most favorable text type for the occurrence of an HRT. The 2,688 tone groups that were examined for this portion of the analysis came from narrative speech, which yielded 103 HRT samples.

Description and opinion text types also occurred in this sample, yet at a less frequent rate. The least frequent text types were the explanation and factual text types, though they both did occur in our sample, with only the explanation text type yielding no HRTs. This table shows us that the majority of these data come from HRTs where the subject was telling a narrative.

Table 3. HRT use by text type

Text Type	Instances of HRTs	# of Tone Groups
Narrative	103	2,688
Description	22	264
Explanation	0	22
Opinion	4	116
Fact	8	55

In this section, a total of twelve WinCECIL figures will be displayed and described. The figures represent a variety of HRTs from two different subjects. These subjects were selected for detailed analysis because they were the most frequent users of HRTs (see Appendix C for frequency of HRT use data). In general, the subjects who were interviewed used HRTs between two and ten times within the twenty-minute analysis. These two speakers, however, used an average of thirty-four HRTs within the twenty-minute segments. The first speaker is what we may think of as a “typical” HRT user, a middle class, young-teenaged female. The first figure is taken from a narrative, following the interview question, “Have you ever been really scared?”

Figure 4 is a sample of the tone group prior to the HRT tone group. It is characterized by a series of three falling tones, on the words “like”, “totally”, and “scared”. The fundamental frequency falls from 323.4 Hz to 267.3 Hz on “like”, a fall of 56.1 Hz. On “totally”, the fall is from 274.4 Hz to 250.6 Hz, 23.8 hertz. On the last word of the tone group, “scared”, the Fo falls from 269.3 Hz to 214.3 Hz, a fall of 55 Hz.

Figure 4. Tone Group Prior to HRT

“Well it wasn’t like totally scared”

Figure 5 is the tone group following figure 4. The two vertical lines displayed on both the top and bottom screen show where the HRT measurements begin and end. The larger, lower-half of the screen displays the pitch. The rise begins on the first vowel of "other" at 204.2 Hz and ends on "friend" at 374.1 Hz, an 83.2% rise. The duration of the rise is .66 seconds. The smaller top screen displays the loudness or amplitude of the utterance in decibels (dB). The amplitude of the beginning of the rise is 16.7 dB, and at the end it is 4.1 dB. There is a pause after the high rise of .55 seconds. Figures 4 and 5 are interesting because they show an example of the tone group prior to an HRT, which contains a series of falls, and then the HRT, which has a very high percentage rise. This pattern seems to be a speech characteristic for this speaker, who tends to precede her HRTs with falling tones. Perhaps it is so that she can have a good low base from which to begin the rise.

Figure 5. Example of HRT in a narrative structure

“Me and my friend and my other friend ↑”

The next five figures display a sequence of HRT's within a description. The sequence is marked in order by the letters "A, B, C, D, E", and they occur one right after the other. This is an excerpt from a description of a birthday spent at a laser tag arena. In figure 6, the rise begins on "you" at 194.5 Hz and ends on "have" at 289 Hz, which is a 48.5% rise occurring over .31 seconds. The amplitude at the beginning of the rise is 11.1 dB and 6.0 dB at its end, and there is a pause of .20 seconds after the high rise.

Figure 6. HRT Tone Group A from a description

"It counts how many hits you have ↑"

In figure 7, the rise begins on “laser” at 185.8 Hz and ends on “thing” at 313.5 Hz, which is a 68.7% rise. The duration of the rise is .72 seconds. The amplitude at the beginning of the rise is 10.8 dB and 3.7 dB at its end. There is a pause of .63 seconds after the high rise.

Figure 7. HRT Tone Group B from a description

“You have this like, la-ser thing ↑”

In figure 8, the rise begins on “dark” at 194.7 Hz and ends on “inside” at 267.8 Hz, which is a 60.5% rise. The duration of the rise is .67 seconds. The amplitude at the beginning of the rise is 21.2 dB and 6.0 dB at its end. There is a pause of .46 seconds after the high rise.

Figure 8. HRT Tone Group C from a description

“And... it’s all dark in - side ↑

In figure 9, the rise begins on “glowing” at 193.8 Hz and ends on “lights” at 267.8 Hz, which is a 38.2% rise. The duration of the rise is .40 seconds. The amplitude at the beginning of the rise is 5.8 dB and 5.6 dB at its end. There is a pause after the high rise, which is displayed in Figure 10.

Figure 9. HRT Tone Group D from a description

“Except for like some glowing lights ↑”

Figure 10 is the tone group after the four successive HRTs. There is a pause before this tone group, which is directly following the final HRT on “lights” in the last figure. The duration of the pause is 1.05 seconds.

Figure 10. Tone Group E from a description

“ . . .

And there's two teams”

The preceding figures have given examples of successive HRT use in a description from a young teenaged middle-class female. Figures 5 through 10 are interesting because they show a clear pattern in the use of HRTs. If we compare the

first HRT (“have ↑”) with the last one (“lights ↑”), we see that they are very similar in terms of acoustic features. They have a similar percentage in rise (48.5% to 38.2%) and duration (.31 seconds to .40 seconds). The two interior HRTs, “thing ↑” and “inside ↑”, also share some acoustic features. For example, their percentages in rise are similar (68.7% to 60.5%), in addition to the duration of rise (.72 seconds to .67 seconds). Generally, the first and last HRTs rise less and for a shorter duration than the two HRTs in the middle. It is also interesting that the sequence of HRTs is followed by a significant pause of 1.05 seconds.

The following figures are HRT samples from a middle class male speaker, 32 years old. Each of the HRT samples shown follow the interviewer’s question, “Tell me something either important or complicated about your work”.

In figure 11, the rise begins on “employees” at 111.4 Hz and ends on “lives” at 158.6 Hz, which is a 42.4% rise. The duration of the rise is .77 seconds. The amplitude at the beginning of the rise is 7.2 dB and 4.9 dB at its end; there is a pause of .49 seconds after the high rise. This example seems to fit the definition of an HRT that has been proposed so far, which is characterized by (at least) a forty percent rise in fundamental frequency on a normally declarative sentence.

Figure 11. HRT Tone Group by Male Adult Speaker

“And I can’t help knowing about my employees’ personal lives ↑”

Figure 12 is a sample of two HRT tone groups used by the speaker, one right after the other. The first rise begins and ends on the word “peer”, measuring 105 Hz and ending at 148.7 Hz, which is a 41.6% rise. The duration of the first rise is .25 seconds. The amplitude at the beginning of the rise is 5.4 dB and 12.6 dB at its end. There is no pause between the first HRT and the second tone group. The second HRT begins on “they” at 96.3 Hz and ends on “are” at 141.6 Hz, which is a 47% rise in tone. Its duration is .43 seconds. The amplitude at the beginning of the rise is 7.5 dB and 3.3 dB at its end. There is a .33 second pause after the second HRT tone group. This sample is interesting because it shows what two HRTs look like when used in rapid speech. The first HRT is not followed by a pause in this case.

Figure 12. Succession of Two HRT Tone Groups

"I'm also a peer ↑ Like I'm also a student here the same way they are↑"

The next figure is an example of an HRT tone group followed by a fairly long pause. The rise begins on “long” at 107 Hz and ends on “time” at 152.2 Hz, which is a 42.2% rise. The duration of the rise is .28 seconds. The amplitude at the beginning of the rise is 9.9 dB and 2.8 dB at its end. The pause following the HRT is 1.05 seconds in duration. The HRT in this example seems to signal a conclusion of the speaker’s thoughts, where the long pause and the “Ummmm” seem to give the speaker time to start on a new topic.

Figure 13. HRT Tone Group followed by a long pause

“Wait a really long time ↑ Ummmmm”

The next two figures are samples of very high rising tones, well above the definition of a forty percent rise. Unfortunately, there is no mention of HRTs with rises this high in the literature. The rise in the first example, Figure 14, begins on “this” at 98.5 Hz and ends on “job” at 167.5 Hz, which is a 70.1% rise in tone. The duration of the rise is .51 seconds. The amplitude begins at 4.0 dB and ends at 3.9 dB. There is a pause of .31 seconds after the rising tone.

Figure 14. Very High Rise 1

“They have other stress in their lives that is outside of this job ↑”

Figure 15 is the second example of a very high rise. The rise begins on “you” at 104.6 Hz and ends on “be” at 199.2 Hz, which is a 90.4% rise. The duration of the rise is .66 seconds. The amplitude begins at 5.9 dB and ends at 4.8 dB. There is a very short pause of .02 seconds following the high rise. These two samples are interesting because they show that some speakers use a rise far in excess of that proposed in the literature.

Figure 15. Very High Rise 2

“You sound a little bit more perturbed than you ought to be ↑”

II. Results of Functions of HRTs

In this section, transcriptions of larger segments of text will be analyzed in order to determine the function of an HRT in discourse. The transcribed samples are from the dialogue before and after the WinCECIL figures, and are displayed here in the same order as the figures in the preceding section. In the transcriptions, an HRT is marked by “↑” and a pause is marked by “...”. A series of three interpretations as to the function of the HRT follow each transcription. Analysis 1 is the writer’s interpretation, Analysis 2 is that of the graduate student in Applied Linguistics, and Analysis 3 is done by the undergraduate student with no training in linguistics. The two raters were given index cards with definitions of the functions proposed in Chapter Two. They were then played the recording of the segment while they read the transcript. They were asked whether the HRT fit within any of the proposed functions, and to give their own interpretation of the HRTs function. The first two transcriptions are from the young teenaged middle-class female that we saw in the first part of the chapter.

A. An answer to the question, “Have you ever been really scared?”

Oh yeah... well, it wasn’t like totally scared, but well, me and my friend and my other friend ↑, we have a carpool together ↑ and, um.. when we were driving home from school... um, we went to pick up my friends, um, brother ↑, so we went to his school and... I stayed in the car with one of my friends and my other friend... went, and her dad, went to get her brother so we stayed in the car... and um... and...when they came back, we didn’t know they were coming back, cause they were behind us ↑

and our friend like knocked on the window ↑ and we're all "Oh my gosh, someone's trying to break in" and then she like... that was scary.

Analysis 1

The function of HRTs in this narrative context seems to match the politeness strategies introduced in Chapter Two (Britain: 1992). In this narrative, the speaker is relaying an event in her life that made her frightened. The HRT is used to pull the listener into the events discussed, and to "make a good story". HRTs are used at the beginning of the narrative to introduce the setting of the story, on "friend ↑", "together ↑", and "brother ↑". When the speaker is describing the action, no HRTs are used. Yet, at the story's climax, which is the reason that the speaker was scared, HRTs are used again, on "us ↑" and "window ↑". HRTs in both of these contexts seem to heighten the listener's interest in the story, first to set up the story, and then to describe the most important incidents.

Analysis 2

According to this rater, the HRTs at the beginning of the story fits in the interactional category, and are setting the scene of the narrative and functioning to ask the listener, "Are you paying attention?" The last two HRTs fit in the category of emphasis, drawing the listener to the important parts of the story and making the listener feel like they should do something (i.e., respond in some way).

Analysis 3

The first comment by this rater was that the speaker sounds very young. He states that the HRTs in this narrative fit in the interactional category, functioning to ask the listener, “Do you understand?” This rater also believes that the speaker wanted some sort of response from the listener. The HRTs function to see if the listener understands why the speaker was scared, as if asking the listener if they can see where she is leading to and why the incidents in the story created the emotional response of fear.

B. Transcription of a Description of Laser tag

I won a raffle ↑ at my school and we won a gift certificate ↑ to laser tag ↑... so we decided to go there for my birthday ↑... and it's... it's really fun cause you, um.. you like get this.. like.. weird.. thing ↑... and it counts how many hits you have ↑... and you have this like laser thing ↑... and its all dark inside ↑... except for like some glowing lights ↑... and um... and there's two teams. And there's like obstacles ↑... and you have to weave around them ↑... and you try to shoot people like in the stomach or on the side ↑... and if you get hit something will light up. And if you run into ammo then you go back to your base and, yeah... that's it.

Analysis 1

In this section, the HRTs appear to be contained in two different contexts with two different functions. The first three HRTs, “raffle ↑”, “certificate ↑”, and “tag ↑”, are in a narrative structure and fit in the politeness category to “make a good story” and “heighten listener interest”. They function to orient the listener to the following description of laser tag. The eight HRTs that follow all describe new information,

functioning in the interactional category. They express to the listener, “Do you understand me?” This is a good example of two different text types, a narrative and a description, and the different HRT functions that they yield.

Analysis 2

This rater also states that there are two different functions of the HRTs in this segment. The first HRTs fit in the interactional category, and are setting the scene of the story, asking the listener, “Are you paying attention?” All of the HRTs that follow fit in the politeness category by creating solidarity with the listener and claiming common ground. They ask the listener to evoke an image of what she is describing, as if stating, “Can you picture this?” This rater states that the high rises indicate information that the listener has to process, and the pause afterward gives the listener time to do so. The story ends without HRTs and the text ends abruptly. The rater believes that although the words do not really conclude the story, her intonation informs the listener that the story is over.

Analysis 3

This rater states generally that the speaker sounds young and insecure, which is a characteristic that fits with the social inequality category. He believes that the speaker uses HRTs in this segment because she doesn’t really know the names of what she is trying to describe, and therefore using “thing ↑”. The speaker is using rising

tones to ask if the listener understands, not if they are following the story, but if they can understand because she is unable to give appropriate words to the objects she is describing. This rater also comments on the abrupt ending of the HRTs, which he believes happens because the speaker is tired of not being able to explain what she is trying to say.

These first two transcriptions and their analyses are interesting because it shows the unfixed nature of the function of an HRT. Table 4 summarizes the analyses of the two transcriptions. Apparently an HRT can mean different things depending on both the context and who is listening to the utterance. This may be due to the relative newness of this linguistic feature. We have seen in the first part of this chapter that the definition of what an HRT is acoustically is incomplete and lacks detail. In addition, the functional analysis of an HRT shows that the meaning of an HRT is not set within the mind of the listener.

Table 4. Summary of Functions for Female Speaker

	Analysis 1	Analysis 2	Analysis 3
Segment A.	Politeness	Interactional / Emphasis	Interactional
Segment B.	Politeness / Interactional	Interactional / Politeness	Social Inequality

The next four passages are from the middle class adult male, who is presenting a narrative about his work environment. The passages follow the interviewer's question; "Tell me something either important or complicated about your job."

C. Transcription 1 from a Narrative

I need you to be able to have a working relationship with them so that when you're on duty with this person, you can call up and say... we need to send someone to the library... do you want to go? The printers are down in here, how is it in there? You've gotta be able to work and communicate with this person, um... and and I can't help but knowing about my employees personal lives ↑.

Analysis 1

This segment does not fit clearly into the proposed categories. There is an element of the emphasis category, but also something else (which I will refer to as "other"). In the beginning of this segment, the speaker is discussing conflicts that occur between co-workers that he manages at his place of work. The speaker is role-playing a scenario where he is speaking to his employees about problems on the job. He is stating that although these conflicts naturally exist in a workplace environment, these are his expectations as the employer. This segment ends with an HRT on "lives ↑", which serves as a change of reference, which falls under no category (other category). The HRT also seems to function as emphasis, highlighting to the listener that new information is being presented. The speaker is no longer referring to the workplace conflicts that go on between co-workers. He is introducing the topic of his

personal relationship and involvement with his employees. It is as if a camera is panning an audience, generalizing from a group of people, and the HRT signals the scene, zooming in on more detail and including the speaker within its frame.

Analysis 2

This rater states that the use of an HRT on “lives ↑” does not fit in the proposed category. The states that the HRT functions as a transition. He believes that this HRT signals a shift in topic, or to mark the information as being different from the other information. He states that maybe HRTs are used as a floor-holding mechanism that allows the speaker to change the subject, which fits under the turn-taking categorical distinction.

Analysis 3

This rater states generally that the speaker sounds very articulate and sure of himself. In his interpretation the HRTs seem to function as emphasis; he continues that the HRT in this segment does not really fit in with the first part of the story. The HRT functions to show that the information stands on its own, that it is separate, or that he may be leading into some new information.

D. Transcription 2 from a Narrative

Um, well I think, I think the thing about my job that is both important and complicated, is managing the staff, which can be complicated because I'm

also a peer ↑, like I'm also a student here the same way they are ↑... Um, and when I first became coordinator... for a little while it felt a little awkward being the immediate supervisor to people who just two weeks before had been my peers.

Analysis 1

The use of an HRT in this segment seems to fall under the function of emphasis. The speaker does not use an HRT to set up the narrative, yet he chooses to use two of them when he is highlighting the most important part of the story. The HRTs in this segment function to emphasize the difficulty of the position that the speaker is in at his workplace as a manager to other students.

Analysis 2

This rater states that the two HRTs in this segment feel like two different things to him. The first one does not fit into one of the categories and it does not feel like a typical high rise because it lacked a following pause. There is no room for the listener to respond, and the second rise functions to define what he meant by the first one. It is as if the first rise, "peer ↑", was an error in speech, and he does not pause as he explains himself. The second rise, "are ↑", fits in the emphasis category, highlighting the meaning of the first rise and asks the listener if she understands what he is saying.

Analysis 3

This rater states that the HRTs in this segment function for emphasis, signaling to the listener that this is the most important information. He states that the rest of what the speaker is saying centers on the important information associated with the use of high rising tones.

E. Transcription 3 from a Narrative

Because I've learned to be a lot more patient with people who are having a shortcoming at one point or another because, we do take into account, are they having a hard term in school or are they having this or having that. Um... and the employees here have worked here generally a really long time ↑ ... Um, and so the other part of this job that that is probably for me the most complicated part is the inter-personal relationships and the dynamics between the employees.

Analysis 1

The HRT in this segment does not fit into the proposed categories. In the first part of this segment, the speaker is the center of the topic. He is talking about the managing style that he must follow at work and how he has had to adjust as an individual and what he has had to take into account when dealing with his employees. The HRT on "time↑" signals a shift in the frame of reference from himself to the employees. It is additional information to back up his points about himself, but with a new focus. The phrases that follow the HRT return to the speaker as being the focus of the narrative and do not contain any HRTs.

Analysis 2

This rater also states that the HRT in this segment does not fit within the categories. The HRT functions as a connector or transition, signaling movement from one topic to another. He states that the rise does not fit with the utterances that begin this segment, and the utterances that follow conclude the speaker's thoughts. Therefore, he believes that the HRT transitions from old information to new information.

Analysis 3

This rater states that the HRT fits in the emphasis category, that it functions to stress the speaker's point, that he is telling the listener that this is the most important part of what he is saying and that they should pay attention. He claims that the speaker is using a rising tone to make sure that the listener understands the importance of what is being said.

F. Transcription 4 from a Narrative

And so I know when they have other stress in their lives that is outside of this job ↑, and that impacts how they perform on their duties, if they're stressed out about something else, I can tell by reading their emails if they're being less tolerant of things, and then that gets all their co-workers pissed off at them, so I have to pull them aside and say, listen... I know you're stressed out right now about this and this and this, but I need you to kind of take a breather because I'm noticing in your emails that you sound a little more perturbed than you ought to be ↑... Um... and and, a lot of these relationships have been going on for so long that, I almost feel like I'm a psychologist sometimes with them.

Analysis 1

The first HRT in this segment seems to fit in the emphasis category, signaling to the listener that this is important information. The speaker uses the HRT on “job ↑”, and then the utterances that follow, which do not have HRTs, all relate details of this point. The HRT on “be ↑” signals the end of the examples, which is followed by a pause and then a re-statement of the speaker’s initial point, or the reasoning behind giving so many details. It is as if a camera is beginning by capturing an entire scene (at “job ↑”), then it zooms in on the more intimate details of the scene, and it ends by panning back out and capturing the initial scene.

Analysis 2

This rater comments that both the HRTs in this segment do not fit the proposed categories. The first HRT functions to introduce the story, and it is followed by supporting evidence. It is as if the speaker is stating “Here’s the thesis of my story, and here’s the evidence”. He sees the second HRT as a transition from the details of the story to the end or conclusion.

Analysis 3

This rater states that the first HRT’s function is emphasis, signaling that this is the important part of what he is saying. He states that the second HRT’s function is politeness, that the speaker is describing his role as a boss who is talking to a

subordinate. It is as if the speaker is role-playing, and he is trying to cushion the blow of what he is going to say, because he knows that he is bringing up a sensitive subject. The HRT in this context functions as a way to present something that may be painful or offensive to the listener, which in this situation the speaker is imitating a potential scenario that may occur at his workplace.

Table 5 summarizes the functions as analyzed by the three raters. It is interesting to note that the category of emphasis comes up many times in addition to an “other” category, which shows that there are functions that have not yet been explored.

Table 5. Summary of Functions for Male Speaker

	Analysis 1	Analysis 2	Analysis 3
Segment C.	Emphasis / Other (change of reference)	Other (transition) / Turn-Taking	Emphasis
Segment D.	Emphasis	Other / Emphasis	Emphasis
Segment E.	Other (change of reference)	Other (connector / transition)	Emphasis
Segment F.	Emphasis	Other	Emphasis / Politeness

It is interesting to note from both analyses that the female speaker seems to use HRTs in ways that have been proposed in other studies. The male speaker, on the other hand, used HRTs in ways that did not fit into the categories that have been proposed by other researchers.

III. Overall Frequency Results

The analysis of the speech of the sixteen Portland residents yielded 137 HRT out of a total of 3,145 tone groups, HRTs thus being used at a rate of 4.4% in declarative clauses. The first interesting thing to note is displayed in Table 6, which shows that the percentage of HRT use by males and females was roughly equivalent. Females, in this study, favor the use of HRTs at a 4.6% rate, while males fall only slightly below this rate at 4.1%.

Table 6. HRT use by sex

Sex	Instances of HRTs	# of Tone Groups	% HRT
Male	56	1375	4.1
Female	81	1770	4.6

Table 7 shows the results of HRT use when compared to social class. The middle class favored the use of HRTs, yielding 102 HRT tone groups out of the total 1,597. HRTs were used 6.4% of the time. The working class, on the other hand, only used HRTs 35 times out of 1,548 tone groups, only 2.3% of the time.

Table 7. HRT use by social class

Social Class	Instances of HRTs	# of Tone Groups	% HRT
Working Class	35	1548	2.3
Middle Class	102	1597	6.4

Table 8 shows the results of HRT use when broken down into the four age-groupings. It is interesting to note that HRTs were used by all age groups in this study. As would be expected, the youngest speakers (11-14 years) were the most frequent users of HRTs, yielding 57 HRTs out of 602 tone groups, or 9.5%. There is a sharp decline in use when compared to the next age category, the older teens (15-19 years). This age grouping only used HRTs 21 times out of 753 tone groups, or 2.8% of the time. The next age group, the adults (ages 20-39), show an increase in use from the former group. The adults used HRTs 4.5% of the time, which is almost double that of the older teens and about half that of the younger teens. The oldest group, ages 40 and above, are the least frequent users of HRTs, at 2.3%. It is interesting to note that although this is the lowest percentage displayed here, the figure is very close to that of the older teens.

Table 8. HRT use in four age groups

Age group	Instances of HRTs	# of Tone Groups	% HRT
11 – 14 years	57	602	9.5
15 – 19 years	21	753	2.8
20 – 39 years	36	807	4.5
40 + years	23	983	2.3

When the data are further examined to compare HRT use by age and sex (Table 9), some very interesting numbers emerge. First, when looking at the young teen age-grouping, females far preferred the use of HRTs at 15.4% of the time, while males only used the feature at 1.2%. In the older teen age-grouping, the females showed a preference for HRT use, but not nearly at the same rate. The females used HRTs 3.2% of the time and the males only 1.8%. In the remainder of the age categories, the males show a preference for HRT use over the females. The adult males used HRTs at a fairly high rate of 6.9%, while adult females used rising tones only 1.4% of the time. The older adult males used HRTs 4.1% of the time, while their female counterparts yielded only 0.9% use of rising tones. To summarize, HRT use as to age and sex shows that the teenaged females use it more than teenaged males, and adult males use it more than adult females.

Table 9. HRT use by Age and Sex

Age Group	Instances of HRTs	# of Tone Groups	% HRT
Young Teens			
<i>Female</i>	54	350	15.4
<i>Male</i>	3	252	1.2
Older Teens			
<i>Female</i>	17	526	3.2
<i>Male</i>	4	227	1.8
Adults			
<i>Female</i>	5	355	1.4
<i>Male</i>	31	452	6.9
Older Adults			
<i>Female</i>	5	539	0.9
<i>Male</i>	18	444	4.1

Table 10 examines the data on HRT use as to age and class. In three out of the four age categories, the middle class showed a preference for HRT use. In the young teen category, the middle class used HRTs over three times more than the working class, 13.9% to 4.1%. In the older teen category, the HRT use was a lot closer in number, with the working class favoring at 3.6% over the middle class' 2.1%. In the adult category, the middle class showed preference of HRTs with a 7.5% use, while the working class only used HRTs 2.2% of the time. The older adult category also showed that the middle class favored HRT use. Middle class older adults used HRTs 4.2% of the time, while the working class used HRTs only 0.4%. In general, this table demonstrates that the middle class favors the use of HRTs over the working class.

Table 10. HRT use by Age and Class

Age Group	Instances of HRTs	# of Tone Groups	% HRT
Young Teens			
<i>Working Class</i>	11	270	4.1
<i>Middle Class</i>	46	332	13.9
Older Teens			
<i>Working Class</i>	12	332	3.6
<i>Middle Class</i>	9	412	2.1
Adults			
<i>Working Class</i>	10	462	2.2
<i>Middle Class</i>	26	345	7.5
Older Adults			
<i>Working Class</i>	2	484	0.4
<i>Middle Class</i>	21	499	4.2

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the results and presents conclusions that may be drawn from the findings. The study's limitations, its implications for teaching, and some suggestions for further research are also discussed.

Review of Research Questions

In Chapter One, the following research questions were posited:

1. In what contexts are HRTs found, and what are the acoustic features that define the intonation pattern?
2. What is the function of HRTs as used by Portland speakers? Do the functions match those proposed or is there a new function that has not yet been explored?

3. Are HRTs involved in language change, and if so, can patterns of usage be found comparing age, gender, and class which follow Labov's theories of change in progress?

Discussion of Question One

The first question seeks to define the high rising terminal contour in terms of its acoustic characteristics. Other researchers have identified the contour with the sharp rise in fundamental frequency, stating that an HRT has a forty percent rise in F_0 , beginning on the last tonic syllable and continuing upwards (Guy & Vonviller, 1989). They have also stated that the most favorable text-types for an HRT are descriptions and narratives. For this reason, the twenty-minute segments were taken from the end of the interview where the speaker was most likely engaged in the telling of a narrative or description. Speech analysis software has been used in a limited manner as in the studies summarized in the second chapter (James, Mahut, & Latkiewicz, 1989; Britain, 1992). The use of speech analysis software in this project has allowed a more detailed descriptive analysis of an HRT in terms of several acoustic features. The WinCECIL data from Chapter four are summarized in Tables 9 and 10. These two speakers were chosen for this more detailed analysis because of their frequent use of HRTs throughout the interview.

Table 11 summarizes the HRT data from the first speaker, the young teenaged middle class female, analyzed with WinCECIL software. In general, the beginning of

her rises all start at approximately the same level in fundamental frequency, ranging from 185.8 Hz to 204.2 Hz, with an average rise beginning of 194.6 Hz. The end of the HRT in fundamental frequency has a larger range with this speaker, from 267.8 Hz all the way to 374.1 Hz, with an average of 311.38 Hz. The speaker's percentage of rise is also varied in our data, from a 38.2% rise to an 83.2% rise. Her average percentage in rise was 60%, which is far above the stated definition of a forty percent rise in F_0 . The other acoustic characteristics that were examined with the software were the duration of the rise, the duration of the pause following the HRT, and the amplitude at the beginning and end of the high rise. The young female speaker's HRT duration ranged from .31 seconds to .67 seconds, with an average duration of .55 seconds. All of her HRT data included a pause after the rise, ranging from .20 seconds up to 1.05 seconds, with an average pause of .58 seconds. The amplitude at the beginning of the rise ranged from 5.8 dB to 21.2 dB, averaging out at 13.1 dB. The amplitude at the end of the rise ranged from 3.7 dB to 6.0 dB, averaging at 5.1 dB. In general, her speech was a lot louder at the beginning of the rise than at the highest peak of her high rising contour.

Table 11. Summary of WinCECIL data for Young Teen Middle Class Female

Figure #	Location of Peak	Rise Begins	Rise Ends	% of Rise	Duration	Pause	Amps @ Beg	Amps @ End
5	friend↑	204.2	374.1	83.2	.66 s	.55 s	16.7	4.1
6	have↑	194.6	289.0	48.5	.31 s	.20s	11.1	6.0
7	thing↑	185.8	313.5	68.7	.72 s	.63 s	10.8	3.7
8	inside↑	194.7	312.5	60.5	.67 s	.46 s	21.2	6.0
9	lights↑	193.8	267.8	38.2	.40 s	1.05 s	5.8	5.6
Averages		194.6	311.4	60.0	.55 s	.58 s	13.1	5.1

Table 12 summarizes the HRT data from the second speaker analyzed with WinCECIL software, the adult middle class male. In general, the beginning of his rises also started at approximately the same level in fundamental frequency, ranging from 96.3 Hz to 111.4 Hz, with an average rise beginning of 103.8 Hz. The end of the HRT in fundamental frequency was also at a close range in Hz, from 152.2 Hz to 199.2 Hz, with an average of 161.3 Hz. The speakers' percentage of rise varied greatly, from a 41.6% rise to a 90.4% rise. His average percentage in rise was 55.4%, which is also, once again, far above the stated definition of a forty percent rise in Fo. The speakers' HRT duration ranged from .25 seconds to .77 seconds, with an average duration of .48 seconds. Two of his HRTs were not followed by a pause. The other HRT data included a pause after the rise, ranging from .31 seconds up to 1.05 seconds, with an average pause of .37 seconds. The amplitude at the beginning of the rise ranged from 4.0 dB to 9.9 dB, averaging out at 6.6 dB. The amplitude at the end of

the rise ranged from 3.3 dB to 12.6 dB, averaging 5.4 dB. In general, there was not much difference in loudness from the beginning of the rise to its end.

Table 12. Summary of WinCECIL data for Adult Middle Class Male

Figure #	Location of Peak	Rise Begins	Rise Ends	% of Rise	Duration	Pause	Amps @ Beg	Amps @ End
11	lives↑	111.4	158.6	42.4	.77 s	.49 s	7.2	4.9
12	a) peer↑	105.0	148.7	41.6	.25 s	0	5.4	12.6
	b) are↑	96.3	141.6	47.0	.43 s	.33 s	7.5	3.3
13	time↑	107.0	152.2	42.2	.28 s	1.05 s	9.9	2.8
14	job↑	98.5	167.5	70.1	.51 s	.31 s	4.0	3.9
15	be↑	104.6	199.2	90.4	.66 s	.02 s	5.9	4.8
Averages		103.8	161.3	55.4	.48 s	.37 s	6.6	5.4

It is not possible to compare the two speakers' fundamental frequencies from the beginning of the HRT to its end. The two speakers' ranges are very different due to the fact that one of our samples is from a young female speaker and the other is from an older male. It is difficult to assess whether the similarities and differences in HRT use are due to the individual speaker differences. However, an attempt will be made here to compare and contrast HRT use between these two speakers. First, the percentage of the rise can be compared, and in this case we see that the rise is very similar between these two speakers. Our female speaker averages a 60% rise while our male averages a 55.4% rise. Both of our speakers had a lot of variety within their individual percentages. In terms of duration, our female speaker's average was .55

seconds and our males' average was .48 seconds, a difference of only .07 seconds. All of our female speaker data included a pause after the HRT, while the male speaker data did not. The female speaker's average pause was considerably longer at .58 seconds, while the male speaker's average pause was .37 seconds, a difference of .21 seconds. In general, the male speaker's rate of speech was a lot faster with fewer and shorter pauses than the female speaker. The amplitude differences from the beginning to the end of the HRT yielded different results when the female and male speakers are compared. The female speaker generally began the rise louder, averaging 13.1 dB, and ended at a quieter level, averaging at 5.1 dB. The male, on the other hand, began and ended the rise at about the same level of loudness, averaging 6.6 dB at the beginning and 5.4 dB at the end.

In general, we can conclude that these two speakers averaged a higher percentage in rise than the prior definition of an HRT. The average percentage in rise of this Portland speaker data is 57.7%. The average duration of the rise was a little over a half a second for our data. The length of a pause, if it occurred, varied greatly in our data. Yet, in general, a pause did occur after an HRT in this study. This fact seems important because it underscores the interactional nature of HRT use, where the speaker is allowing for a backchannel response, such as "mm hmm", "yes", or any other paralinguistic response (such as a nod or eye contact).

In addition, there were also varying results between the male and female data in terms of amplitude at the beginning and end of the rise. The female data generally

began the rise at a louder level, while the male data maintained approximately the same level at both points. An explanation could be as simple as the level of hertz at the top of the female range would naturally be a lot higher and therefore quieter than the male speaker. However, we have seen that the functions of HRT use are apparently different between the male and female speaker. The difference in loudness may be related to the differences in HRT functions. It is obvious that these data cannot be generalized to Portland speakers as a whole because the samples are from only two speakers. However, these data are a start to a more detailed acoustic definition of a high rising terminal contour.

Discussion of Question Two

Question two looks at the function of HRTs as used by Portland speakers. In the review of literature, the five general functions that have been proposed by HRT researchers are outlined. The first is the “social inequality hypothesis”, which claims that high rises are a female characteristic due to their need for reassurance, powerlessness, and hesitancy in speech (Lakoff, 1973; Ching, 1982). The next function is its “interactional role”, where the HRT is used to make sure that the listener comprehends a story, as in “Do you understand?” (Guy & Vonwiler, 1989). The third function, “turn-taking”, has to do with the HRT’s role in turn construction, where the speaker desires minimal affirmation (i.e. mm-hmm, yes, or a nod) while maintaining an extended turn at talk (Guy et al., 1986). The fourth function,

“politeness strategies”, has to do with “claiming common ground”, “making a good story”, and presenting “the painful truth” (Britain, 1992; Ching, 1982). The last proposed function, “emphasis”, advises the listener to pay attention to an important word, phrase, or idea (Ching, 1982).

In Chapter four, the writer and two other raters analyzed a series of six transcriptions. A summary of the results is presented in Table 13.

Table 13. Summary of HRT Functions

Transcript	Analysis 1	Analysis 2	Analysis 3
A.	-Politeness. -“Making a good story”. -Setting up story and highlighting climax.	-Setting the scene. -“Are you paying attention?” -Emphasis -Speaker wants listener response.	-Speaker sounds very young. -“Do you understand?” -Speaker wants listener response.
B.	-First 3 ↑’s, orient the listener. -Next 8 ↑’s, describe new information, “Do you understand me?”	-First ↑’s, setting the scene, “Are you paying attention?” -Next ↑’s, “Can you picture this?” -Intonation signals end of story.	-Speaker sounds young and insecure. -HRTs used because speaker does not know words to describe.
C.	-Change of reference. -Highlights new information.	-Transition. -Shift in topic.	-Speaker sounds articulate and sure of himself. -Emphasis. -Information is separate or new.
D.	-Emphasis, highlighting the most important information.	-Second rise defines or clarifies what is meant by first rise.	-Emphasis.
E.	-Signals shift in frame of reference.	-Connector / Transition.	-Emphasis, stressing a point. -Listener should pay attention.
F.	-First ↑, Emphasis. -Second ↑, signals end of thought.	-First ↑, introduces the story. -Second ↑, transition to end or conclusion.	-First ↑, emphasis on important information. -Second ↑, Politeness: cushion the blow of sensitive information.

The first two transcriptions are from the assumed “typical” user of HRTs, a young teenaged female. They show examples of HRT functions that match those proposed in the review of literature. According to the three raters, transcription A. functions in several ways: politeness, to make a good story; emphasis, to see if the listener is paying attention; and as an interactional role, to see if the listener understands the story. Example B. also yielded a variety of functions: an interactional role, to see if the listener understands; emphasis, to see if the listener is paying attention; and insecurity. The variety of functions displayed here could indicate that an HRT may function in more than one way in each context. It also signals that the function of the intonation contour is not yet clear or set in the mind of the listener.

Examples C. through F. are from an “atypical” HRT user, an adult male. In each of these examples, at least one of the raters stated that the HRT functioned to emphasize important information. In addition, the HRTs appear to relate more specific discourse-oriented functions, such as a transition, a shift in the frame of reference, and highlighting new or concluding information. Example F. yielded an interesting analysis by the third rater. The second HRT in this segment was analyzed as functioning to cushion the blow of sensitive information, which falls under the category of politeness. This function was proposed by Ching (1982) via anecdotal information, and this analysis gives evidence to support this function.

Although the first two sets of examples fit rather neatly into the proposed functions of HRTs, the segments by the male speaker do not fit as well. The male

speaker's data all generally fit under the vague blanket function of emphasis, but the analyses here present additional detailed discourse functions. According to these two analyses, the young female and the adult male use HRTs in different ways. While the female use heightens listener interest and ensures listener comprehension, the male use emphasizes information deemed vital and important.

This study highlights the fluid nature of HRT understanding. All of the listeners had a different perception of what the HRT meant within each context. These differences may mean many things. For example, an HRT may have multiple functions within one context. Also, the speech characteristic may be new and not understood by the listener and therefore yield a variety of interpretations. One important note that can be drawn from this study has to do with the differences in function interpretations from the two speakers. These results bring up a variety of questions. Do females and males use HRTs in different ways? Do the young and the old use HRTs in different ways? Although I have not seen other studies that show HRT use functioning in different ways according to gender and age categories, it would be very interesting to see if other data would support this claim.

Discussion of Question Three

The third research question asks if HRT use is involved in language change. If the English of Portland speakers is currently undergoing an innovation in intonation use with respect to HRTs, this should be reflected in different social correlations of the

feature. The social distribution of the linguistic feature throughout a speech community is thus examined within Labov's framework of language change to seek an answer to this question. A summary of the frequency of HRT use results is presented in Table 14.

Table 14. Summary of the use of HRTs according to age, sex, and class

Group	# of HRTs	Total # of Tone Groups	% Use of HRTs
Age			
11-14 years	57	602	9.5
15-19 years	21	753	2.8
20-39 years	36	807	4.5
40 + years	23	983	2.3
Sex			
Male	56	1375	4.1
Female	81	1770	4.6
Social Class			
Working Class	35	1548	2.3
Middle Class	102	1597	6.4

The most important of the social dimensions is age for evaluating the likelihood of language change. The majority of speakers are relatively fixed in their linguistic traits when they reach an adult age of about twenty years of age. In general, they do not go on changing the way in which they speak. They may, of course, continue to build a more extensive vocabulary, but their pronunciation and grammatical constructions are stable. Therefore, the age group that is available to adopt new linguistic traits is the young, those less than twenty years of age (Labov,

1981). In general, studies that examine change in progress use age stratification as evidence. For example, young people use the innovative form more, while older people use it less.

In this study, the two age groupings that used HRTs with the most frequency were the young teens and the adults. These results are very different from the results in other studies. In general, the prior studies reveal that the young use rising tones with the most frequency while the adult groups use them infrequently, thus supporting a claim for language change. In the Guy and Vonwiller (1989) and Guy et al. (1986) studies, the breakdown was as follows: young teens at 1.6%, older teens at 2.0%, adults at .5%, and older adults at .2%. Some of the differences may be accounted for by the huge difference in sample size, my 16 subjects to their 130 subjects. Yet it is interesting to note that those who used HRTs in my study did so at a much higher percentage than formerly reported. It is difficult to state conclusions based on language change with these results. The expected pattern of the young leading, with each older age group showing a decline in use, was not found. Therefore, I am unable to say that this is a case of language change based on the age data. On the other hand, the fact that HRT use was found for the adult speakers shows that this speech characteristic is not a case of an age-graded phenomena, such as slang, which is used heavily at an age and then is dropped in the adult years.

The sex distribution of a linguistic variable is another important aspect when looking at change in progress. Labov (1981) states “women often lead in sound

changes by a half-generation or so ahead of their male counterparts”. In fact, examples that are counter to this pattern, those showing men in the lead, are very rare. Therefore, if females favor the linguistic trait, then it is in further support of the trait being a recent innovation. In this study, females did favor the use of HRTs in declaratives, but not by much at all. Out of 1,770 tone groups, the female data yielded 81 HRTs, which is 4.6% of use. For males, the 1,375 tone groups yielded 56 instances of HRTs, which is 4.1% of use. In all of the studies reported in Chapter Two, females lead in HRT use, but at a similar rate as in this study. For example, the two Guy studies (1986, 1989) show a 2.2% use by females and a 1.0% use by males. Britain’s study (1992) reports a 4.4 % use by females and a 3.6 % use by males. This study of Portland speech seems to fit the patterns presented by these studies. The fact that women lead HRT use in this study supports language change patterns, but the closeness of the percentage of use makes it a weaker case to support the Labovian paradigm.

The last social dimension that we will consider is social class. Labov’s theory of “change from below” (1966) states that linguistic innovations characteristically originate in the working class, but more specifically in the internal classes, or the lower middle class and the upper working class. In language change in progress, we would expect an uneven social class distribution, with the most frequent use showing up in the working class. This was not the case, however, in this study. The middle class favored HRTs almost three times over the working class, using it 6.4% of the

time as compared to 2.3%. In Guy et al. (1986), the working class favored HRTs at 4.2% to the middle class' .7%. However, in Britain's study (1992), the middle class favored HRTs at 4.4% to the working class' 3.9%. The results in these three cases are quite different. The Australian English study (Guy et al., 1986) shows that the working class by far favors HRT use, the New Zealand English study (Britain, 1992) in general lacks a class distinction between the working and middle classes, and this Portland study shows that the middle class by far prefers the use of HRTs when compared to the working class. Labov's theory that language change comes from the working class is not supported by this study.

When the variables are considered as a whole, it is interesting to note that each age group, gender, and social class had some use of HRTs. The young teens lead in HRT use at a considerable rate, and there was a fairly high use in the adult category. The high use by young teens supports Labov's theory of language change, and the adult use supports that this may not be a case of age-grading, or a linguistic trait that prevails among the young and virtually disappears in older speakers. When age is considered on a whole, the pattern is not consistent with what would be expected for language change, which suggests that more data need to be collected and analyzed in order to draw conclusions about this speech characteristic. The results of the male to female use are also interesting in that they are almost the same, which shows this may not be a "female speech characteristic" as generally thought. The results of HRT use when compared to social class lead to questions as to why the middle class favors

HRT use at such a higher rate. High rising terminal contours may be an intonational innovation among Portland speakers. Yet to be absolutely confident of this, more speech data, in addition to diachronic evidence, or some data to examine from Portland speakers from several decades ago, is needed.

Limitations

This research has several limitations. First, due to the small number of subjects who participated in this study, it is difficult to generalize the results for a larger population. In order to be able to state more definitive claims in regard to language change in progress, a larger sample-size needs to be interviewed from a wider variety of subjects. Class, for example, would be better represented if further broken down into the socioeconomic categories of: lower working-class, upper working-class, lower middle-class, and upper middle-class. Another variable that was not taken into account for this study was ethnicity. The decision was made based on census data for Portland which illustrated that the population of the city is over 80 % Caucasian. The study would have been better, however, if other ethnicities were taken into account.

Another important limitation has to do with the interview process as a whole. A major difficulty of this study was to design an interview that would yield instances of HRTs. This is different than other studies, which can ask a subject to read a word list or a reading passage in order to elicit the desired linguistic feature. As in any

interview situation, there is an effect on a speaker when someone else is interviewing them. I tried to lessen the possibility of nervousness on the part of the subjects by interviewing in their homes and trying to be as casual as possible (in manner of speech and dress). However, in this study subjects spoke with a microphone in front of their face, which is sure to affect the manner of speech produced. Although I have worked on research projects before, I do not feel that I have enough experience to conduct an interview in which the subject is completely comfortable and relaxed. I tried to compensate for this by interviewing people who knew me at least somewhat. However, some subjects were particularly difficult to get to talk. One aspect that may have influenced this was the sex of the interviewer versus the sex of the subjects. In some studies, only males interviewed males and females interviewed females.

Further Research

Overall, this study would be strengthened if there were real time data to support the current interview data. The data from this thesis will form part of a much larger study on Portland dialects in general. It is the hope of this researcher that with this larger data sample, this study on HRT use may be examined on a larger scale and possibly re-duplicated years ahead using this data as the basis for real-time data.

Implications for Teaching

Teachers of English as a Second Language generally introduce the idea of intonation as it relates to pronunciation. Some instructors teach their students to use rising intonation when asking a question. Although it is not a pervasive linguistic feature of Portland English, it would be useful for students to be aware that rising intonation may occur in different contexts and have functions other than a yes / no question. However, the study of intonational meaning is relatively new and ideas as to the function of intonation within language are varied and often conflicting. It is my opinion that more studies of HRT use need to be conducted in order to create better acoustic, functional, and frequency definitions that would help the language teacher to decide whether to include a discussion of HRT use within his or her curriculum.

Summary

The use of high rising terminal contours in declarative structures is an interesting feature of Portland English, although it is not one that occurs at a particularly high rate. This study helps to define an HRT acoustically through the use of speech analysis software and the measurement of several acoustic features. In addition, the function of HRTs has been explored and a number of questions have been raised about how HRTs are used in Portland speech. The HRTs were used differently by the two speakers analyzed for this study. It is unclear if these

differences are due to gender use or age-group use. What is clear is that HRTs have multiple functions, some that fit those proposed in the literature and some that do not. It may be that HRTs have multiple functions for each example, or that the listener perception of an HRT is yet to be stable. It also may be that women use HRTs in the contexts that have been explored so far, while men use them in other ways that are yet to be explored. Or it may be the case that the young use HRTs in a manner that fits the proposed functions, while adults do not. Impressionistically, I tend to agree that this is the case. I use HRTs in ways that closely match those used by the male speaker in this study. I tend to believe that this is a characteristic of many adult speakers, yet it functions in ways that have not been introduced so far in other studies. An example of a new function lies in the discourse-oriented nature of HRT use, such as a connector, transition, or a shift in frame of reference. The differences in HRT use between teens and adults need to be further explored in order to determine if there are varying functions based on age categories.

Unlike many linguistic features, such as vowel raising, almost everyone I encountered had an understanding of and an opinion about HRT use. Even people who had no background in linguistics were able to say something about who uses HRTs and what they mean to them. It is fascinating that the linguistic feature in question has a definite “stereotypical” user, when it has been shown by this study there are examples that counter this perception. The idea of the “stereotypical” young female user seems to be perpetuated by our American “pop” culture: television

programs and movies. Females who have the least amount of life experience and sophistication are generally teenagers. It is common that when a teenager is portrayed on TV or movies, she has this speech characteristic (e.g., the film American Pie). This signals to the watcher that the character is perhaps not very intelligent, but rather silly, and not to be taken seriously. It is generally thought of as a funny or annoying habit, especially when it's overdone. The fact that most people are not aware that males also use this speech characteristic may be due to the different functions used by different genders. If it is true that females use HRTs within the context of a narrative, generally using rises in succession in order to heighten listener interest, then it may be true that HRT use as such is very noticeable therefore subject to criticism. On the other hand, if males generally use one HRT to signal emphasis or importance, this may be a less noticeable feature and therefore pass without comment by the public in general. It is possible that there may be a latently sexist criticism of young females that would not be leveled at adult male speakers. All in all, the use of high rising tones is a complex speech phenomenon whose analysis can shed insights into gender issues, the relationship between form and content, and language change, which are all topics worthy of further study.

REFERENCES

- Aitchison, J. (1991). Language change: Progress or decay? (2nd ed.). Cambridge: Cambridge University Press.
- Bailey, G., Wikle, T., Tillery, J., & Sand, L. (1991). The apparent time construct. Language Variation and Change, 3, 241-264.
- Britain, D. (1992). Linguistic change in intonation: The use of high rising terminals in New Zealand English. Language Variation and Change, 4, 77-104.
- Brown, P. & Levinson, S. (1987). Politeness: Some universals in language use. Cambridge: Cambridge University Press.
- Bryant, P. (1980). Australian questioning intonation: An addition to speakers' response-seeking repertoire. BA thesis, Australian National University.
- Carver, C.M. (1987). American regional dialects: A word geography. Ann Arbor: The University of Michigan Press.
- Chambers, J.K., & Trudgill, P. (1980). Dialectology. Cambridge: Cambridge University Press.
- Chambers, J.K. (1995). Sociolinguistic theory. University of Toronto: Blackwell Publishers.
- Ching, M.K.L. (1982). The question intonation. American Speech, 57.2, 95-106.

- Couper-Kuhlen, E. & Selting, M. (1996). *Prosody in conversation: Interactional studies*. Cambridge: Cambridge University Press.
- Crystal, D. (1985). A dictionary of linguistics and phonetics. New York: Basil Blackwell, Ltd.
- Cruttenden, A. (1986). Intonation. Cambridge: Cambridge University Press.
- Guy, G., Horvath, B., Vonwiller, J., Daisley, E., & Rogers, I. (1986). An intonational change in progress in Australian English. Language in Society, 15, 23-50.
- Guy, G. & Vonwiller, J. (1989). Social and occupational variation: The high rising tone in Australian English. Language in Society, 21-34.
- Horvath, B.M. (1985). Variation in Australian English: the sociolects of Sydney. Cambridge: Cambridge University Press.
- James, E., Mahut, C. & Latkiewicz, G. (1989). Investigation of an apparently new intonation pattern in Toronto English. Information Communication, 10, 11-17.
- Johnson, K. (1997). Acoustic and auditory phonetics. Cambridge: Blackwell Publishers.
- Labov, W. (1963). The social motivation of a sound change. Word, 19, 273-309.
- Labov, W. (1966). *The social stratification of English in New York City*. Washington DC: Center for Applied Linguistics.
- Labov, W. & Waletzky, J. (1967). Narrative Analysis. Seattle: University of Washington Press.

Labov, W. (1972). Language in the inner city. Philadelphia: University of Pennsylvania Press.

Labov, W. (1981). What can be learned about change in progress from synchronic description? Variation Omnibus, 177-199.

Labov, W. (1994). Principles of linguistic change: Internal factors. Cambridge: Blackwell Publishers.

Labov, W., Ash, S., Boberg, C., Bowie, D., Banuazizi, M., Albergottie, J., & Maciejewski, T. (1999). Phonological Atlas of North America. Available: http://www.ling.upenn.edu/phono_atlas/home.html.

Ladd, R.D. (1978). The structure of intonational meaning: Evidence from English. Bloomington: Indiana University Press.

Ladd, R.D. & Cutler, A. (1983). Introduction to Prosody: Models and Measurements (Springer Series in Language and Communication 14).

Ladefoged, P. (1962). Elements of acoustic phonetics. Chicago: University of Chicago Press.

Lakoff, R. (1973). Language and a women's place. Language in Society, 2, 45-80.

McGregor, R.L. (1979). High-rising tone in non-question forms in Sydney Australian English. MA thesis, Macquarie University.

Milroy, J. & Milroy, L. (1978). Belfast: change and variation in an urban vernacular. In Trudgill (1978).

Milroy, L. (1980). Language and social networks. Oxford: Blackwell.

Milroy, J. & Milroy L. (1998). Mechanisms of change in urban dialects: the role of social class, social network and gender. *The sociolinguistics reader: Multilingualism and variation* (volume 1). London: Arnold.

Milroy, J. (1992). Linguistic variation and change: On the historical sociolinguistics of English. Cambridge: Blackwell Publishers.

Trudgill, P. (1974). The social differentiation of English in Norwich. Cambridge: Cambridge University Press.

APPENDIX A. TELEPHONE SCREENING

Introduction: This is a study that is being done by two graduate students in linguistics at Portland State University. The study was designed to learn about the experiences and the speech of native Portlanders. I have some questions to make sure that you are eligible to participate in the study.

Were you born in Portland / move here before the age of 4 years? Y / N

Do you live in Portland, or in an outlying suburb and commute into the city for either work or school? Y / N

Participant Name: _____ Male / Female

Age: _____ YT OT YT YA OA

Contact Phone Number: _____

When would you like to be interviewed? _____

Where would you like to be interviewed? Address and directions:

What is your occupation: _____

What is your annual income: _____

Which best describes your situation:

I own my house.

I rent my house.

I rent an apartment.

I rent a room or share a living space with roommates.

Did you graduate from High School? Y / N

Have you taken any college courses? Y / N

Are you a college graduate? Y / N

APPENDIX B. INTERVIEW QUESTIONS

When we talked on the phone, I asked some questions to determine that you would be eligible to participate in this study and to learn a bit about you. I would like to review the information that I collected to make sure that I got it right.

You were born in Portland, or moved here before the age of 4?

Where are your parents from?

Have you always lived in _____(i.e. the SE area, Milwaukie, Downtown, etc.)?

What other areas have you lived in? What areas of Portland do you like and why?

You work as a _____. How long have you done that? Do you like it? Is your annual income about _____?

You rent / own, your house / apartment / room. How long have you lived here? Do you like it?

You did / did not graduate high school. Did / Do you like school? What are / were you studying?

- ☐ Have you ever done anything that you are really proud of?
- ☐ Have you ever been in an accident? Really been hurt / ill / at a hospital?
- ☐ What is something that you really like to do?
- ☐ Has there ever been a time that you were really scared, when you thought that you were going to die?
- ☐ Is there a place that you think is really beautiful? Can you describe what it looks like?
- ☐ What was your favorite vacation? Tell me about it.
- ☐ Tell me something important or complicated about your work.
- ☐ Have you ever done anything that you are really proud of?

APPENDIX C. FREQUENCY COUNT DATA

Abbreviation Index:

Young Teen – YT

Older Teen – OT

Adult – AD

Older Adult – OA

Middle Class – MC

Working Class – WC

Male – M

Female – F

1. YT, MC, M

	NO HRT	HRT
Narrative	130	
Description	14	1
Explanation		
Opinion	3	
Fact	3	

2. YT, WC, M

	NO HRT	HRT
Narrative	91	1
Description	8	1
Explanation		
Opinion		
Fact		

3. YT, WC, F

	NO HRT	HRT
Narrative	160	9
Description		
Explanation		
Opinion		
Fact		

4. YT, MC, F

	NO HRT	HRT
Narrative	78	23
Description	15	12
Explanation	8	
Opinion	12	2
Fact	23	8

5. OT, MC, M

	NO HRT	HRT
Narrative	105	2
Description	8	
Explanation		
Opinion	8	
Fact		

6. OT, WC, M

	NO HRT	HRT
Narrative	70	1
Description	31	1
Explanation		
Opinion	1	
Fact		

7. OT, WC, F

	NO HRT	HRT
Narrative	123	7
Description	38	1
Explanation	6	
Opinion	38	2
Fact	13	

8. OT, MC, F

	NO HRT	HRT
Narrative	271	7
Description	15	
Explanation		
Opinion	5	
Fact		

9. AD, WC, M

	NO HRT	HRT
Narrative	208	8
Description		
Explanation		
Opinion	2	
Fact	2	

10. AD, MC, M

	NO HRT	HRT
Narrative	196	23
Description		
Explanation	3	
Opinion	7	
Fact	3	

11. AD, MC, F

	NO HRT	HRT
Narrative	92	3
Description	8	
Explanation		
Opinion	8	
Fact	2	

12. AD, WC, F

	NO HRT	HRT
Narrative	240	2
Description		
Explanation		
Opinion		
Fact		

13. OA, MC, M

	NO HRT	HRT
Narrative	176	10
Description	35	6
Explanation	5	
Opinion		
Fact		

14. OA, WC, M

	NO HRT	HRT
Narrative	170	2
Description	25	
Explanation		
Opinion	15	
Fact		

15. OA, WC, F

	NO HRT	HRT
Narrative	225	
Description	45	
Explanation		
Opinion	1	
Fact	1	

16. OA, WC, F

	NO HRT	HRT
Narrative	250	5
Description		
Explanation		
Opinion	12	
Fact		

APPENDIX D.

PORTLAND DIALECT STUDY – Informed Consent

I, _____, agree to take part in this research project on _____.

I understand that the study involves a tape-recorded interview that will take approximately 45 minutes. I understand that my voice will be analyzed by speech analysis software, and that the results of this study may be published on an Internet web site.

Jeff Conn / Rebecca Wolff has told me that the purpose of the study is to learn about the experiences and speech of people in Portland, Oregon.

I may not receive any direct benefit from taking part in this study, but the study may help to increase knowledge that may help others in the future.

Jeff Conn at 725-4105 or connj@nh1.nh.pdx.edu / Rebecca Wolff at 295-1118 or wolffrebecca@hotmail.com has offered to answer any questions I have about the study and what I am expected to do.

He / She has promised that all information I give will be kept confidential to the extent permitted by law, and that the names of all people in the study will be kept confidential.

I understand that I do not have to take part in this study, and that this will not affect my course grade or my relationship with Portland State University. I understand that I may also withdraw from this study at any time without affecting my course grade or my relationship with Portland State University.

I have read and understand the above information and agree to take part in this study.

Date: _____ Signature: _____

Signature of Parent (if under 21 years) _____

Date: _____ Signature of Witness: _____

If you have concerns or problems about your participation in this study, please contact either the Human Subjects Research Review Committee, Office of Research and Sponsored Projects, 111 Cramer Hall, Portland State University, (503) 725-8182, or Jeff Conn at 1015 SE 17th, Portland, OR 97214 / Rebecca Wolff at 1110 SW Clay #55, Portland, Oregon, 97201, (503) 295-1118.