


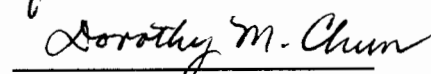
THE ACQUISITION-LEARNING DISTINCTION: IMPLICATIONS FOR
THE THEORY AND PRACTICE OF LANGUAGE TEACHING

DIALECTAL VARIATION IN THE INTONATION OF VERB FINAL
CLAUSES

APPROVED:

Supervisor:


Frank E. Donahue


Dorothy M. Chun

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CLAUSES

by

ANN ELIZABETH BURNES, B.S.

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The Acquisition-Learning Distinction: Implications for the Theory and Practice of Language Teaching

1.0. Introduction

In the course of the change in philosophy in foreign language teaching from the support of the grammar-translation, audio-lingual and cognitive code methods to favoring methods more closely related to communicative goals (the direct and total physical response methods, the communicative competence and proficiency movements) Stephen Krashen's theory of second language acquisition has been accepted by some and has opened up new questions for others to research. This theory is compatible with evidence gleaned from research in applied linguistics and individual experiences of language teachers. It may explain some of the conclusions from this research that have not been explained by any other theory. Indeed as Kari Sajavaara has written: "What makes Krashen's work remarkable is not so much the novelty of the ideas behind it, but it's the first consistent formulation of the overall system" (55). Krashen's writings give ample direction to those who want to apply his theory.

He has judged various language teaching methods on their effectiveness and related their effectiveness to their implementation of his ideas or their lack thereof. His criteria for judging the methods were: 1) whether optimal input is supplied, and 2) whether the role of formal grammar instruction is properly limited. The grammar-translation method fails both criteria. The audio-lingual method has some success because it does supply some comprehensible input. However, this method is severely limited by the fact that teachers' expectations of perfection cause students to over-use the Monitor. The cognitive-code method does supply some beneficial input but the role of grammar is over-emphasized. The direct method provides a good amount of input but it requires perfect grammar. The Natural Approach was designed to satisfy Krashen's criteria and it does. The only limitation is that the classroom limits topics and styles of conversation. The Total Physical Response method rates high with Krashen because it supplies a great deal of input. Drawbacks are that topics and styles of conversation are again limited by the classroom situation and the restriction to imperatives. This method is grammatically based.

Suggestopedia provides good input, excels at lowering student's anxieties and limits the role of grammar.

Krashen concludes from method comparison studies that the older methods, grammar-translation, cognitive-code and audio-lingual, have similarly poor results because they all supply inadequate input and over-emphasize grammar. The newer methods, the direct methods: The Natural Approach, Total Physical Response, and Suggestopedia have better results because they fulfill these two requirements (Krashen, Principles 126-158). The studies that Krashen considered were: Scherer and Wertheimer (1964), Chastain and Woerdehoff (1968), Chastain (1970), Mueller (1971), Olsson (1969), Levin (1972), Von Elek and Oskarsson (1975), Asher (1972), Asher, Kusudo and de la Torre (1974), Asher (Learning Another), Asher ("Children learning"), Krashen, Long and Scarcella (1979), Gary (1975), Postovsky (1974), Swaffer and Woodruff (1978), and Bushman and Madsen (1976) (cited in Krashen 1982:148-158). Krashen has also gone beyond theory to discuss alternatives or supplements to classroom activities to benefit language acquisition such as using subject matter for language teaching, reading for pleasure,

and conversing with native speakers. He has also touched upon issues in testing and gaps in materials.

Working at first separately from, but later with Krashen, Tracy Terrell has developed "The Natural Approach" to language teaching, which meets all of Krashen's requirements for putting his theory into practice. This method has met with success, but, naturally, the application of Krashen's theory like the theory itself, has also been criticized. This paper encompasses a study of Krashen's theory and his recommendations for language teaching based upon that theory, Terrell's application of the theory and response from other scholars to the theory and its application.

2.0. Krashen's Second Language Acquisition Theory

Krashen bases his theory on his observations of children acquiring their first languages. He notes the differences in how adults and children learn languages, specifically adults learning a second or foreign language versus children learning their first language. His goal is to describe a process whereby adults can learn a second or foreign language as well as children learn their first languages. Although there are significant differences

between adults and children, Krashen suggests that tailoring second and foreign language instruction more toward a model of first language acquisition should yield better results than educators have achieved in the past. Krashen's platform can be summarized by the following five hypotheses.

2.1. The Acquisition-Learning Hypothesis

The core of Krashen's observations is the distinction between two components of language learning. Acquisition is the more potent of the two. It is the subconscious accumulation of language ability by which both adults and children gain competence in a language. Within Krashen's theory learning refers to the conscious learning of language rules, a process that is available only to adolescents and adults (because they have reached Piaget's formal operations stage and can reason and think abstractly) (Second 35). Acquisition requires meaningful communication in the target language when the speakers are concerned with the messages they are sending and receiving, not with the form or code of the messages. Acquirers do not necessarily have a conscious awareness of rules (this comes from learning); they may correct their

linguistic output on the basis of a "feel" for correctness. For this reason error correction and the teaching of rules is said to have at best an indirect relationship to acquisition. Learning, on the other hand, connotes teaching of the rules; therefore, error correction, which is supposed to change a learner's mental representation of a rule, can have a direct effect on learning.

2.2. The Monitor Hypothesis

Learning's power is believed to be quite limited for acquisition. It is limited in what can be learned, but more importantly in how well it can improve performance. Our utterances are initiated by our acquired systems; in other words, fluency is dependent on how much has been acquired. Our formal knowledge, learning, is only available to us as a Monitor to adjust the output of our acquired systems before or after actual language production (Krashen, Second 1-2). What we can learn is limited by linguists' lack of knowledge about linguistic systems and our diligence and ability in learning. The small fraction of the linguistic system that we do learn is only applied as a Monitor under specific conditions which are rarely fulfilled. There must also be enough time to Monitor. Of course, the performer must

know the rule (the chances of this are small due to the above mentioned factors) and, most importantly, the performer must focus his attention on the form of his production. Research has shown that use of the Monitor is rare indeed (Krashen, Principles 18). It is actually restricted almost exclusively to grammar tests. Even when performers are told to check their production carefully, they adjust their utterances for the goal of better communication, not better form. Usually we self-correct our production using our acquired knowledge (Krashen, Second 3-4).

Things that can be learned and taken into account by the Monitor are rules that are semantically and syntactically simple. Krashen supports the position that learned knowledge does not become acquired (Krashen, Second 114). The Monitor accounts for different types of performers. The Monitor over-user is so concerned with form that he has no fluency. This may be due to insufficient acquisition. Such a performer may use his native language as an utterance initiator and then apply the rules of the target language that he has learned (=the Monitor) to produce an utterance in the target language. The Monitor under-user is fairly immune to error correction, although he

may acquire a lot and use complex constructions (Krashen, Second 16-18). The optimal Monitor user uses the Monitor when it does not hinder communication (in writing and prepared speech) (Krashen, Second 5). The rare super Monitor user can Monitor while conversing without losing fluency. A talented language teacher might exhibit such an ability.

2.3. The Natural Order Hypothesis

For each language there is a natural order as to the sequence of rules that are acquired. If second language performers are not using the Monitor, then the accuracy of their production shows the natural order (Krashen, Principles 12). If second language performers use the Monitor, then the natural order is disturbed. This shows that the Monitor improves the accuracy of the language production beyond the level of the performer's acquired competence (Krashen, Second 52). Krashen recommends that rules that are learnable and late-acquired should be consciously learned. The natural order does not necessarily progress from simpler to more complex constructions (Krashen, Principles 116).

2.4. The Input Hypothesis

Children acquire their first languages hearing and producing simplified speech. The qualities of this speech could also be effective for teaching second and foreign languages. Based on studies of simple codes (caretaker speech that adults use with children, teacher talk that teachers use in language classes, and interlanguage, a form of the target language that foreigners with different native languages use with each other) Krashen asserts that input for successful acquisition has several characteristics. It is comprehensible by virtue of being simplified and because the acquirer uses context to infer meaning. Because of the help provided by the context the acquirer can comprehend input whose complexity is greater than what has already been acquired, i.e. the acquirer can comprehend $i + 1$, i being what has already been acquired and 1 representing the fact that the complexity of the input is greater than what has already been acquired. For the acquirer to gain greater competence input must be at $i + 1$. If input is equal to or less than 1 , then there is nothing new to acquire. If the level of input is more complex than $i + 1$, then the input will only be so much noise to the acquirer and he will gain nothing.

Input must also be interesting and/or relevant so that dealing with the input is meaningful to the student. Only through meaningful use of the language, when the student thinks in the language, focused on content not form, does the student acquire. Grammar drills, even "meaningful drills" as opposed to "mechanical drills," focus on form, not content, so they cannot fulfill this requirement. Input that fits this requirement is real communication, i.e., a conversation where both speakers are honestly interested in transmitting messages, and written material that the student would also choose to read on his own. Ideally, it should be of that much interest and/or relevance to him.

When acquisition is the goal it is not necessary, and may even be detrimental, to order input grammatically. Ordering input grammatically assumes that all the students of a class are at the same level. Due to differing rates of acquisition, this may not be true. Natural input contains a wide variety of structures so that all students can usually get their $i + 1$ out of the input. With natural input there is built-in review. With a grammatical focus communication always suffers and is less interesting because the input-giver (the teacher, the text) is focused on "contextualizing" a particular form, i.e. the focus is on the form. For

acquisition the focus must be on the message. Comprehensible input automatically follows the natural order. This is because the input-giver will simplify his linguistic input until it is at a comprehensible level for the input-receiver. As the input-receiver acquires competence the level of the input will naturally increase.

Natural input supplies $i + 1$ for all students if it is supplied in sufficient quantity. This is why Krashen favors allowing students a silent period. If rushed out of the silent period, students may use their native language and the Monitor to fake competence that they have not yet acquired. Students will gain more from participating in many conversations than from focused listening comprehension exercises and from extensive rather than intensive reading. Again, focusing on the message rather than the form makes the difference (Krashen, Principles 63-71).

Krashen has described a very interesting phenomenon which supports his input hypothesis. Acquirers may hear a din in the target language in their heads when exposed to comprehensible input that contains $i + 1$. The din begins only after one to two hours of input. Output without input does not activate the din, neither do pattern drills nor

grammar exercises. Aural input seems to be more effective than written input in activating the din, but Krashen lacks an explanation for this. The din makes it difficult for the acquirer to switch into other languages that he does not know well. Krashen speculates that this may be because the language acquisition device favors working on one language at a time. The din has made linguists crave more input and practice. If it does this for people who are not as interested in language as linguists are, then language acquisition can be enjoyable for anyone if adequate input is provided. Determining when the din is activated can tell teachers when their instruction is effective by telling them when adequate input is being provided (Krashen, "The Din" 43-44).

2.5. The Affective Filter Hypothesis

Input can only result in acquisition if the student is open to the input. Affective conditions must be optimal; in Krashen's terms the affective filter must be low. The affective filter covers several affective variables that have been shown to correlate with success in second language acquisition. Factors that contribute to a low affective filter are high motivation, self-confidence, a good self-

image and low anxiety, measured as personal or classroom anxiety (Krashen, Principles 31). These factors appear to become especially problematic as one enters adolescence. At that time, due to Piaget's formal operations stage, adolescents become self-conscious (Krashen, Second 35). Krashen claims then that all the variables which have been correlated with success in language acquisition (aptitude, attitude, exposure, length of residence, age and acculturation - integrative and instrumental motivations) derive from his input and filter hypotheses (Second 19).

2.6. Guidelines for the classroom

Acquisition is the more important factor in attaining competence in a language. Language acquirers have a difficult time receiving comprehensible input from the world, so the classroom has the potential and the responsibility to provide comprehensible input. The classroom has the advantage that it has as its conscious goal the supplying of comprehensible input. It does this through teacher talk, topics of conversation chosen for their interest and relevance to the students and contextual aids to comprehension, such as realia (Krashen, Principles 58). This input must be given in a low anxiety environment

so that the affective filter will allow acquisition. If the focus is on conscious learning of grammar, i.e. the focus on form rather than on content, the affective filter goes up. Consequently, class time should primarily be devoted to acquisition activities: providing comprehensible input in a low anxiety environment (Krashen, Second 133). Such conscious learning as is necessary for the Monitor may be done as homework. As a corollary, error correction, which focuses on form and raises the affective filter should not take place during acquisition activities (Krashen, Principles 117). This has been a point of disagreement with other researchers in this field as will be discussed at the end of this paper. If communication is impaired by language errors, then the teacher should imitate natural conversation and respond as he thinks may be appropriate to the attempted utterance or reformulate what the student said to confirm what the attempted message was. Error correction is of use when the goal is conscious learning, so it should be used in cases when students are supposed to be Monitoring: on written work (Krashen, Principles 119).

3.0. Terrell's Natural Approach

Terrell's method fulfills all of Krashen's requirements for classroom instruction. The only drawbacks according to Krashen's views are inseparable from the classroom situation that is in some ways inherently inferior to a natural environment. The range of topics and types of discourse are more limited in the classroom than in a natural environment (Krashen, Principles 140). Terrell has outlined the tenets of his method, the activities one should use in and outside of the classroom and testing procedures.

3.1. The Class

The purpose of the class is primarily to provide comprehensible input. The teacher uses only the target language (Krashen, Principles 138). The students are allowed a silent period. Comprehension precedes production, so students are not forced to produce before they are ready. In the beginning they may use either the target language or their native language (Krashen and Terrell 58). Krashen argues that premature production causes the student to overuse the Monitor, which prevents the student from ever attaining fluency (Second 68). There is no error correction during acquisition activities unless

communication is obstructed. Homework may include grammar and error correction. The course is designed with semantic, not structural goals (Krashen, Principles 138). It follows from this point that students must become aware that they need to comprehend the gist of what is heard or read (Krashen and Terrell 75). They may need to be taught strategies to use contextual aids to infer meanings. They do not need to understand every word and structural item they hear or read (Krashen and Terrell 138). Vocabulary is more important than grammar (Krashen and Terrell 71). Dwight Bolinger (1970) stated:

"The quantity of information in the lexicon far outweighs that in any other part of the language, and if there is anything to the notion of redundancy it should be easier to reconstruct a message containing just the words than one containing just the syntactic relations." (cited in Terrell "The Natural Approach" 125)

Students should be taught tools for communicative competence so that they can control input from the world so that it will be comprehensible for them. They will need to know how to ask interlocutors to clarify themselves, to repeat and to slow down (Krashen and Terrell 99).

The activities of the classroom allow the students to progress in stages of language production. This avoids premature production. The students are allowed three stages of production through which they may progress at their own rate: pre-production, words and sentences. During the pre-production stage the teacher uses total physical response activities and questions that simply ask for identification of students, for example, "Who is wearing a green skirt?" "Mary". As the students become ready to respond with words in the target language they are asked yes/no, either/or and identification questions (Terrell, "Acquisition" 214). Charts, timetables and ads can be especially valuable as contextual aids to production at this stage. Then to increase production students are given open-ended sentences and dialogues to complete. Eventually they create their own original utterances and dialogues (Krashen and Terrell 81, 83-84). The activities always aim to be of real interest and relevance to the students: affective/humanistic activities that involve information about the students themselves, problem solving, games and content acts (any activities that have as their goal the learning of some topic other than language). The cardinal rule is that activities should be focused on content, not on

form (Krashen and Terrell 101, 108, 121, 123). While oral activities are stressed, reading and writing are also covered, but the extent to which stress is placed on these activities depends on the goals of the course (Krashen and Terrell 149). For homework Terrell suggests pleasure reading, conversations with native speakers, target language radio and television broadcasts, dialogues with routines (memorized whole utterances, such as, "What did you say?") and patterns (partly creative, partly memorized utterances, such as, "What does 'hypocritical' mean?") to be learned to increase communicative competence and learning activities for the Monitor (Krashen and Terrell 155).

3.2. Testing

Terrell also makes detailed recommendations for testing procedures. Tests should be designed such that preparing for the test necessarily aids acquisition. If the goals of the course are communicative, as they should be, then the students should be graded as to their communicative ability, not as to their ability to handle grammatical forms. This emphasis should especially be observed for beginning students (Krashen and Terrell 167, 174). Listening comprehension and reading tests should

measure students' ability to recognize key lexical items and to use contexts to infer meanings. They should be encouraged to seek global meanings rather than detailed information (Krashen and Terrell 1968). An oral interview should elicit different types of language use from the student: questions, comments, commands and requests. One should not worry about grading these interviews subjectively since research has shown that even when judges are told to measure grammar or vocabulary in such instances the ratings always seem to measure communicative effectiveness. Grades should be awarded on the basis of fluency and the student's ability to communicate. When grading writing samples one must differentiate between grading what has been acquired and what has been Monitored. The second category should not be overemphasized. This category should not be graded at all for beginning students, and one should not expect the Monitor to correct all errors.

4.0. Response to Krashen and Terrell

Krashen's second language acquisition theory and "The Natural Approach" have been controversial. This section of this paper will review further developments of the theory

and its application followed by criticism of Krashen and Terrell's work.

4.1. Further Refinements of the Theory

In 1986 Terrell refined the theoretical basis of his method by explaining the theoretical process of acquisition by dividing the process into a binding and an access phase. Terrell defines acquisition of a form as "the process that leads to the ability to understand and produce that form correctly in a communicative context" ("Acquisition" 213). First forms are bound to their meaning. First the form is recognized as something familiar, and the meaning may or may not be recalled. Next, meaning is recognized. Then the meaning of the form is interpreted within the surrounding context. Eventually form and meaning are bound so that the form sounds like its meaning. This process is catered to by a Natural Approach class because the students are allowed three stages of pre-production, production of words and production of sentences. The pre-production stage allows the student to concentrate on binding without the distraction of having to produce forms themselves at that stage. Binding is only one element of comprehension (Terrell, "Acquisition" 214).

To produce language one must (among other things) access, that is, one must be able to express a particular meaning with a particular form. Access does not follow automatically and easily from binding. Access may depend on the strength of the binding process, phonological complexity and how frequently one has had opportunity to access the form in a meaningful context. Meaningful communication leads to fluency if it is repetitive, i.e. if tasks are repeated over time (Terrell, "Acquisition" 215). Access is also aided by the Natural Approach's stages of language production by the students. This allows students to access after they have bound forms and to access gradually, first simply words by themselves, then words in the context of a sentence. Open-ended sentences allow binding of some forms and accessing of others in one utterance. Access is only one element of production (Terrell, "Acquisition" 216).

Students may avoid binding forms, especially morphemes, by using the context around the forms to get the meaning. Therefore the Natural Approach gives input that allows binding of a number of words containing the same form. For example, the teacher may describe his daily activities. The students hear many first person singular

verb forms. First they bind the meaning of "I" to the whole verb. Later they analyze the verbs and bind "I" to the "I" morpheme (Terrell, "Acquisition" 218). Binding of the form follows. Students are also given opportunities to access a certain form in a context where one meaning-form relationship prevails. For example, students might be asked "What did you do today?" to elicit first person singular verb forms. This aids accessing of the given form (Terrell, "Acquisition" 219). This binding/access theory means that both comprehension and production are necessary for acquisition (Terrell 220). Krashen asserted that, theoretically, comprehension is sufficient for acquisition (Principles 60).

Terrell also asserts that binding and access may be conscious or subconscious processes, depending on the acquirer and the situation. He rejects therefore the conscious/subconscious distinction, part of Krashen's acquisition/learning distinction. Fluency may be related to accessing the subconscious. Using the Monitor may then be defined as the accessing of forms which have been learned but not yet bound (Terrell, "Acquisition" 221-222).

Conscious learning of vocabulary and structures may help acquisition in that it focuses attention on the item,

which may then make the item more recognizable and salient when it is heard or read in context. Learned forms in input that contains many unbound elements allow acquirers to infer meaning to the entire piece of input. Since, however, it is much easier to learn new items when they are presented in context than when they are presented out of context, the Natural Approach relies strongly on presenting new material in context. After the new items have been presented in context, then studying them out of context makes their acquisition more efficient. This is true for vocabulary, but not for grammatical structures. If structures are studied before they have been bound, then students may attend too much to form, and their comprehension will suffer (Terrell, "Acquisition" 223-224).

4.2. Applications

Ilona Jappinen explains how a grammatical structure that one might suppose to be a challenge to the Natural Approach can actually be taught to advantage with this method. Since the subjunctive mood requires unreality, it may be thought that this concept will be difficult to acquire for students who rely primarily on a real context provided in the classroom for comprehensible input. Jappinen

explains that since the Natural Approach uses tangible objects in the classroom to create contexts, the absence of these items easily transmits the concept of unreality to the students. She asserts that the strategy of the Natural Approach is first to show the context of a particular structure, then to help students practice using the form (Jappinen 84-85).

Theodore Higgs accepts Krashen's acquisition/learning distinction but argues that "there can be no communication without grammar" and that the best way to avoid miscommunication is to adhere to the grammar. Therefore, language teachers are responsible for teaching grammar. He assigns to the conscious understanding of grammar a more important role in gaining competence in a language than does Krashen (Higgs, "Language Acquisition" 10). Higgs believes that teachers should teach grammar implicitly rather than explicitly. He proposes a scale of strategies ranging from presentation (the most preferable strategy) to explanation, which is, in some cases, more efficient than other strategies and which is sometimes an absolute necessity. How transparently and explicitly a form relates to its meaning dictates how implicitly one can successfully teach the form. Actually, beyond the level of

explanation lie the forms, whose relation to meaning is so opaque that they can only be described, not explained (Higgs, "Language Acquisition" 11). It is easy to see the relation of some forms to their meaning once the relationship is pointed out. It is of value to explain the relationships of these forms to their meanings. This is consistent with Krashen's tenet of comprehension first, which later results in acquiring a certain structure. Students will never acquire the structure if they do not understand the meaning (Higgs, "Language Acquisition" 12).

4.3. Criticism

While Krashen and Terrell have had a major impact on language teaching, their views have also met with ample criticism. The strongest criticisms have doubted the heart of Krashen's theory: the acquisition-learning distinction. Of course, all of Krashen's other tenets and their applications are based on this distinction, thus most of the criticism is directly or indirectly a result of this one controversial idea. Theoretical objections have been raised as a result of Krashen's view on input, the Monitor and the affective filter. Practical criticisms center on the silent period, the danger of fossilization, the fact that adult

language learners expect formal grammar instruction and the challenge of providing interesting input.

4.4. Criticism of the Theoretical Framework

Some critics have rejected the acquisition-learning distinction completely and have proposed other models which purport to better describe the language learning process (McLaughlin, Bialystok). Others object only to certain implications of this distinction. The Input, Monitor and Affective Filter Hypotheses have been attacked. Also Krashen bases his theory for second or foreign language acquisition on first language acquisition, the differences in these situations may be significant. He does not seem to appreciate the difference between second and foreign language learning, and this oversight may invalidate his findings.

4.5. The Acquisition-Learning Distinction

4.5.1. Other Models

Barry McLaughlin suggests that Krashen's acquisition-learning distinction should be replaced by McLaughlin's theory, which is "more empirically based and ties into a

general theory of human information processing" (318). The Monitor Model says that sometimes performers correct their output using a rule (the Monitor is on), and sometimes they correct by a feel for grammaticality (acquired competence is the basis here). While McLaughlin has felt this difference himself while speaking a foreign language, he points out that this distinction cannot be supported by scientifically valid data. Krashen's studies as to whether performers were correcting by rule or by feel (Krashen, "A Model of Adult Second Language Performance"; Krashen, Butler, Birnbaum and Robertson) were biased, because if the subjects claimed to be using a rule, then they had to state the rule. If they were unable to state the rule, then they may have said that they were correcting by feel. Since the acquisition-learning distinction is thusly not directly observable, and because introspection is notoriously unreliable, Krashen's data is inadequate.

As for the fact that different tests yield different orders (i.e. according to Krashen, tasks completed with the Monitor yield natural orders, tasks completed without the Monitor yield unnatural orders), McLaughlin says that this does not tie into the acquisition-learning distinction. Rather it is simply that different types of tasks elicit

different orders. Some tasks are more oriented toward rules and some more toward communication. Aptitude tests are more oriented toward grammar, attitude tests more toward communication.

Another disagreement between McLaughlin and Krashen is that McLaughlin believes that we approach tasks first consciously thinking of what is to be done; later these steps may become automatic. Krashen feels that the role of the Monitor is so limited that we must acquire some skills right away in order to be able to perform at all.

McLaughlin suggests a distinction that can explain the same data that Krashen attempts to explain, but McLaughlin's distinction is superior to Krashen's in that it is scientifically observable. He favors using the concepts of controlled and automatic processing to explain language acquisition. The difference between the two types of processes is realized in actions, not in states of consciousness, thus it can be observed. Controlled processes require the active attention of the individual, and they use information from short-term memory. Controlled processes are at work when a performer decides to use the correct case for an article because he had learned about it in the last chapter of his language book, for example. These

processes also move information from short-term to long-term memory, thus they are similar to Krashen's idea of conscious learning. An automatic process becomes active as the result of a certain stimulus, and this happens without the active attention of the individual. Automatic processes use information in long-term memory. Developing these processes takes a long time, and once established, these processes are difficult to eradicate (this would seem to support the idea of error correction). These processes are similar to Krashen's idea of acquisition.

In direct opposition to Krashen, McLaughlin asserts that automatic processes are a further development of controlled processes. Learning becomes acquisition! When an individual is new to a task he approaches it consciously with controlled processes. At first he can only complete part of the task accurately. With time these processes become automatic, which frees up the capacity of those earlier controlled processes to increase the skill of the individual. Learners often know the rule to correct their errors; the reason for the error is that that process which activates the rule is not yet automatic, and no attention was given to the controlled process by the performer. Measuring reaction time can test whether an individual is

using controlled or automatic processes by measuring reaction time. Controlled processes require more time than automatic processes.

A child learns a language through interactions of external input with internal systems. Internal systems synthesize external input to create a series of grammars which approximate ever more closely the target language norm. However, the learner fossilizes at some point before the target language norm is realized. This is true for all language learning (i.e. first, second and foreign language acquisition processes). The way in which these grammars are revised is still a great mystery for linguists. McLaughlin believes that there are certain procedures, acquisition heuristics, involved in this grammar development that are universal to all language learners. These procedures affect learning. Others, operating procedures, vary from learner to learner and they affect performance. All of these procedures may be used consciously or subconsciously. Operating procedures are probably more important in learning a second language than in learning a first language. This is shown by the fact that performance of a second language is more varied than performance of a native language (in respect to the rate of

improvement and ultimate proficiency attained) (McLaughlin 314-323).

Krashen notes that this analysis is based on order of acquisition studies. Considerably more of these studies have been done for second language performers than for first language performers. If more of these studies were done for first language performers, then more variation might become evident for that situation (Krashen, "A Response" 162-163).

McLaughlin has shown how the idea of controlled and automatic processing may explain all of Krashen's data. Differences in performers that Krashen explains by the Monitor (over-, under- and optimal Monitor users) are explained by McLaughlin: individuals vary in the extent to which they use controlled processes. Sometimes it appears that McLaughlin and Krashen are saying the same thing, just with different words. What is important is that McLaughlin's theory covers all of human information processing, not just language skills. It is unnecessary to create the Monitor in addition to explain language skills. In this way McLaughlin remains true to the principle of Occam's razor: the simplest theory to explain a set of data is the most probable solution. Child-adult differences are

due to the different operating procedures that performers of different ages use (McLaughlin 326).

One would expect McLaughlin to favor conscious learning activities in the classroom. Yet he favors more communication and less formal rules and error correction in class. For him this is to direct learners to see the language as a useful tool for communication; Krashen's motive for the same preference is to increase opportunities for acquisition.

McLaughlin also questions Krashen's explanation of interference as being a result of the Monitor. McLaughlin asks whether the acquisition process may not also be affected by interference. Another critique is that Krashen provides no evidence for the main hypothesis of the model that only acquired knowledge can initiate utterances, learned knowledge is incapable of doing this (McLaughlin 328-330). Ahn is also unsatisfied with Krashen's claim that conscious learning cannot be the impetus for an utterance. Creating an utterance involves matching semantic intentions with syntactic rules. This must be a conscious evaluation. Ahn remains then unmoved by Krashen's assertion on this point (Ahn 74).

John Schumann sees McLaughlin's and Krashen's views as simply two different outlooks on the same phenomenon. According to him the two outlooks are not contradictory. Incidentally, he prefers his own Pidginization Hypothesis to both McLaughlin's and Krashen's ideas (56).

Krashen accepts the definitions of controlled and automatic processes being based not on states of consciousness, but rather on the "degree to which the skills in question have become routine and established in long-term memory" (The Input Hypothesis 61). Paolo Balboni suggests that Krashen needs to distinguish acquired and routinized competence (151). He does say that "routines and patterns are neither acquisition nor learning" (Krashen and Terrell 43). Routines may lead to acquisition (Krashen and Terrell 50).

The major point of disagreement between Krashen and his detractors is whether learned knowledge can become acquired. There are three positions as to whether learning becomes acquired: 1) it must, 2) it may and 3) acquisition may be aided by learning. One point which helps to refute all of these positions is that even the best learners learn only a subset of the rules of a language. Linguists have not even completely described a single language. The idea is

that the best learners are still performing very well (i.e. close to native speaker levels) without the benefit of these rules, so they must be relying on pure acquisition for what has not yet been described. While learning often precedes acquisition, it need not necessarily help the process (Krashen, "A Response" 157).

As for the first position that learning must precede acquisition (this is the cognitive code viewpoint), Krashen brings up the cases of performers who learn certain rules but do not acquire them. This is common, thus learning does not necessarily lead to acquisition (Krashen, The Input Hypothesis 39). Ahn asserts that these people just did not invest enough time and energy. With effort any learned rule can be acquired (Ahn 73). Krashen responds that some diligent learner might have learned a rule, as shown by the fact that he can use it when given enough time and when he is focused on form. The rule is not acquired, though, because it is beyond the learner's $i + 1$. Others acquire rules that they had never learned. M. Sharwood-Smith (1981) says that in this case the rule was learned and forgotten. It is still the basis of the individual's competence, it just cannot be articulated by the performer (cited in Krashen 1985:40). V. Cook (1973) and A. d'Anglejan

and G.R. Tucker (1975) show that some learners acquire complex rules that are probably never taught (cited in Krashen 1985:41).

Krashen also objects to the second position that learning may become acquired. Krashen feels that this would mean that any rule could then be acquired at any time via conscious learning. This would go against the Natural Order Hypothesis. However, maybe it is the case that rules may be learned at any time, in any order and that they may become acquired, but that they can only go from being merely learned to being acquired in a certain order, i.e. the Natural Order. This would be consistent with the fact that tasks completed without the Monitor yield the Natural Order and that tasks completed with the Monitor yield a distorted order. Many students say that they have consciously learned a rule before they acquired it, but they were also receiving comprehensible input at the same time, so it cannot be determined whether the acquisition resulted from the learning or the input.

Krashen accepts the third position that acquisition can be helped by learning. This may happen in one of three ways: 1) the output of the performer can also act as input for him (this is only true if the output contains $i + 1$), 2)

learned knowledge can help make input comprehensible, and 3) learning can lower some students' affective filters (Krashen, The Input Hypothesis 39-42).

Krashen has other responses to McLaughlin's criticisms. The fact that one cannot observe whether a performer is relying on acquisition for a given utterance does not weaken Krashen's case. The acquisition-learning distinction still predicts many observable phenomena (Krashen, "A Response" 152). Interference is not a direct result of the Monitor, as McLaughlin implies. That is to say, interference is not always present when the Monitor is on. Interference is the result of a lack of acquired knowledge, in which case the Monitor may be used with the first language to outperform one's acquired competence. The Monitor may also be used with acquired knowledge in which case no interference results (Krashen, "A Response" 156).

In their 1983 article "Second Language Learning: An Information-Processing Perspective", McLaughlin, Tammi Rossman and Beverly McLeod used McLaughlin's model to more explicitly explain some of the same phenomena that Krashen had attempted to explain. It is explicitly stated that "greater practice, rehearsal or familiarity with the material" is what allows controlled processes to become

automatic (McLaughlin, Rossman and McLeod 138). Krashen claims that acquisition is what makes creative construction possible and that using the Monitor hinders fluency. McLaughlin et al. assert that relying completely on automatic processes can lead to "rigidity and sterile performance" (141).

Krashen posits that increased time can improve accuracy because the Monitor requires time to determine what rule is being violated and to make the necessary correction. McLaughlin agrees that time increases accuracy because the greater the amount of time available, the more controlled processes may be activated. Test takers may improve their performances if given additional time. The test items are not covered by the automatic processes of the test taker and the controlled processes that he needs to complete the items require more time than automatic processes.

Since a beginning learner of a language is facing a system far beyond his capabilities he will probably use his native language skills to attack the new system. He might use the automatic processes of his first language, superimposing the phonology and lexicon of the target language onto these processes (similar to Krashen's idea of

using the native language as an utterance initiator with the Monitor to outperform one's acquired competence). As the target language becomes more automatic, there is less need to use the native language, i.e. less interference. Interference is more common among beginners or when learners at any level face a task far beyond their capabilities.

The Yerkes-Dodson law also is a factor in second language performance. For any type of task, performance increases in direct proportion to motivation until a certain point at which too great a motivation is accompanied by anxiety, which hinders performance. People differ as to the threshold at which motivation begins to be detrimental. Also the more complex the task, the lower the point at which motivation becomes detrimental for a given performer. Kahneman (1973) and Levelt (1977) have interpreted this law in terms of information-processing workload requirements (cited in McLaughlin, Rossman and McLeod 1983:147). Some performers can handle higher information-processing workload requirements than others. A task may be too complex for a performer, or it may be so easy that he does not attend to it; in either case his performance suffers. In my opinion, this relates to the

Affective Filter Hypothesis and supports the ideas that 1) while too much anxiety is detrimental, too little also has bad results and 2) the optimal affective conditions vary from performer to performer.

Since adults tend to receive more abstract input, abstract learned knowledge benefits their comprehension of this input. Therefore McLaughlin et al. favor only communication activities for children (the input that they receive is usually concrete, thus they do not require abstract learned knowledge), but conscious learning and communication activities for adults. Learned knowledge shortens the learning process because it keeps learners from making some false hypotheses while they are adjusting their internal grammar toward the target language norm.

Directly opposite to Krashen, McLaughlin et al. favor learning for complex rules and acquisition for simple rules. To learn a certain process, repeated use of the controlled process is required before the process becomes automatic. However, this does not mean repeating the same sentences over and over. The structure must be repeated in various situations with the corresponding lexical items. In this way the performer will be able to use the structure

creatively with appropriate semantic details. Repeating the same sentence over and over would only lead to its being acquired as an invariable routine. This shows the difference between McLaughlin et al. and the audio-linguists (McLaughlin, Rossman and McLeod 145-154).

Ellen Bialystok's model of second language acquisition agrees with Krashen's in every aspect except that, as in McLaughlin's model, learning becomes acquisition (Bialystok 71). Michael Long also supports the position that learning becomes acquisition because of findings that "instruction is beneficial 1) for children as well as adults, 2) for beginning, intermediate, and advanced students, and 3) on integrative as well as discrete-point tests (Long, "Does Second" 359). These findings are, according to Long, incompatible with Krashen's theory because of the following corresponding tenets of that theory: 1) children cannot think abstractly, thus instruction should have no effect on their progress, 2) learning affects only simple rules, not the more complex rules which are taught at the intermediate and advanced levels, and 3) instruction benefits the Monitor, which is only available on discrete-point tests. The third connection drawn by Long is tenuous. Some performers use the Monitor during conversation which

is more comparable to an integrative than to a discrete-point test.

T. Pica supports McLaughlin and Bialystok because they can account for a phenomenon that Krashen does not account for. Krashen does not differentiate between the performance of acquirers who have had formal grammar instruction and those who have not had such instruction. McLaughlin's and Bialystok's models can be helpful here. Acquirers with instruction may use more correct morphology because it has been emphasized in class, those without instruction may use less correct morphology because this was not a crucial element in comprehension (like the lexical items are). Acquirers with instruction often overgeneralize rules, those without instruction take in irregular items as unanalyzed chunks and do not try to apply any rules to them (Pica 467).

Hossein Farhady (On the Plausibility 1979) undermines the acquisition-learning distinction when he puts forth that while language performance may be either conscious or subconscious, it does not necessarily hold that conscious performance relies on learned competence and subconscious performance relies on acquired competence. The choice between conscious and subconscious performance may

depend upon other factors. Psychological distance and social distance are two factors that he suggests (cited in Ahn 1989:61).

Consciousness is still not definitively explained by psychologists so it seems tenuous to base the acquisition-learning distinction on the difference between consciousness and subconsciousness. H. Douglas Brown prefers a continuum for acquisition and learning to Krashen's dichotomy (277).

Jeffery D. Stokes provides evidence that:

repeated exposure to the target language over time will provide the student with the experience necessary to allow his or her "learned" knowledge of mode to become "acquired" knowledge (383).

What Stokes refers to here as mode is commonly called mood, i.e. the subjunctive, indicative, infinitive and imperative moods.

4.5.2. Peripheral Issues

Many have expressed their lack of conviction that acquisition is all that much more important than learning. Paul Munsell and Thomas Carr hypothesize that acquirers may be using more conscious rules of grammar than Krashen

supposes they do. Acquirers' mental processes need to be more closely studied (Munsell and Carr 497). Higgs also subscribes to this view ("Language Acquisition" 10).

More study is needed to determine how rules are acquired. Most scholars in this field now agree that manipulation of the rules for their own sake will not lead to communicative language use. Munsell and Carr hypothesize that acquisition of a rule takes place when an acquirer becomes aware of a certain crucial feature of the rule. The acquirer may not, however, need explicit understanding of the whole rule, and the acquirer might not be able to state the rule or explain its significance, but Munsell and Carr feel that acquirers are indeed aware of what is being acquired. This is supported by the fact that introspective analysis can show how rules operate in processing linguistic input.

Munsell and Carr also feel that Krashen's second language acquisition theory should place language learning into a category with human learning of other types. Performances in other areas seem similar to linguistic performance, and performance in these other areas seems to benefit from early conscious rule learning. This perhaps

suggests that language acquisition might benefit from early conscious rule learning (Munsell and Carr 498-99).

Krashen (1978) argues that his theory fits other types of human learning as well, but he argues that these activities benefit from acquisition more than from learning (cited in McLaughlin 1978:316-317). He interprets W.T. Gallwey's analysis of tennis (1974) (cited in Krashen: 1978) as an illustration of Krashen's own ideas. A problem that tennis players have according to Gallwey is that they over-use the Monitor. They need to use acquisition to internalize the game, which is too complex to be handled consciously by the Monitor. To help them do this teachers should not overwhelm their students with rules and error correction (McLaughlin 316-317).

4.6. Criticisms of the Input Hypothesis

Georgette Ioup would like levels of *i* to be specifically defined. Then she would like proficiency measures to be created which would determine at which *i* level a performer is (348). Krashen agrees that this is desirable but he does not use this as a reason to change his ideas. The use of constructs that cannot be measured and can only be tested indirectly, such as *i*, is forbidden by

scientists who attempt to establish laws without exceptions. Paul Davidson Reynolds (1971) posits that such an approach is inappropriate for fields with many variables and causal relationships. Michael Long ("Input" 1983) says that second language acquisition is one of these fields, and that progress is better when such constructs are allowed (cited in Krashen, "Response to loup" 351).

Christian Faltis attacks Krashen's choice of caretaker speech as a model for effective input. He says this model is biased because all of the caretakers in the studies that Krashen used for support in this claim were from mainstream middle-class homes. He gives examples of societies and communities where 1) adults do not simplify their speech for children and do not speak directly to children until the children become realistic sources of information (it seems that this could happen very early, i.e. Do you want a cookie? Cookie with an outstretched hand = yes), 2) language acquisition is not thought to depend upon how or how often caretakers speak with the children (353-355).

Krashen responds that the Input Hypothesis does not require simplified speech, nor speech directed at the child. It requires simply comprehensible input, and that is still

present in all of Faltis' examples. Cultures may vary as to how input is presented and how much is presented but it still seems to be the essential factor for language acquisition (Krashen, "Krashen Responds to Faltis" 357-359).

4.7. Evidence for and against the Monitor Hypothesis

The Monitor has been interpreted as being at work not just among non-native speakers, but also among native speakers. Native speakers may use the Monitor to switch dialects and to make choices between various words and syntactic constructions for stylistics reasons (Sajavaara 57).

Selinger (1979) had subjects perform a task under conditions which should have, according to Krashen, insured the use of the Monitor, and then he asked them to state the rule that they had used in completing the task. Selinger found no relation between the quality of the task and that of the rule explanation. This would contradict the Monitor Hypothesis according to which the quality of a performance should relate directly to the performer's conscious representation of the rule. Selinger's analysis of this finding is that the domain of the Monitor is more limited

than even what Krashen proposed. Logically, a concept that is so limited in its power and application must be inadequate to represent a learner's internal grammar (cited in Ahn 1985:66-67).

Hesitation during speech is interpreted by Krashen as a sign of a Monitor over-user, who is so concerned with grammar that he sacrifices fluency to consciously apply rules. This is not the only possibility. It may be that the speaker is distracted or is not interested in the conversation. Ahn also includes choosing the correct expression as another reason for hesitation that is not equal to using the Monitor (Ahn 77). Sajavaara would include this last option in the capabilities of the Monitor (57). Hesitation may also be due to a lack of active vocabulary and the subsequent necessity to take the time to examine passive vocabulary.

4.8. Criticisms of the Affective Filter Hypothesis

Some of the factors which make up the Affective Filter can be controlled by teachers, others cannot be changed by teachers (Higgs, "The Input Hypothesis" 199-200).

4.9. Criticisms of Krashen's Approach

The fact that Krashen's theory for second or foreign language instruction of adults is based on first language acquisition of children may be an unfair application. First language learners are acquiring a system for expressing their thoughts adequately to others, and adult language learners are acquiring a second way of expressing their thoughts. This must affect cognitive and affective conditions. Adults have mature brains and they understand their culture, which gives them a system to which they can relate language. Adults also have a more highly developed affective filter, which may, in general, be higher than childrens' affective filters (Higgs, "The Input Hypothesis" 198). Related to this, G. Neufeld suggests isolating universal developmental changes in cognitive style from those changes in cognitive style caused by environment (238).

Another problem with Krashen's method of inquiry is that he does not take the differences between second language acquisition and foreign language acquisition into account. He uses research on foreign language teaching to support his second language acquisition theory (The Input Hypothesis, 43, 45-48, 71). He applies his theory of second

language acquisition to foreign language teaching (The Input Hypothesis, 59, 77, 85). Second language acquisition refers to situations where the target language is spoken in the community in which the acquisition takes place. In the situation of foreign language acquisition the target language is not spoken in the community. Jeong Ahn, having learned English as a foreign language, is particularly sensitive to Krashen's failure to distinguish these two situations and to realize the significance of their contrast in his theory. He describes the foreign language learner's method. He has negligible access to comprehensible input outside of class, so learning plays the dominant role in his education. He learns the rules in school, and if he is interested, may receive input from a target language radio or television broadcast. The programs are broadcast fluently, so the learner does not have time to analyze what is being said. He will begin to listen consciously and try to understand each of the broadcaster's words. He is unable at this point to get the gists of whole groups of words, so he is forced to attend to each word. Naturally this prevents him from keeping up with the flow of the broadcast. With time, though, he will reach a point where certain common words no longer require conscious attention to be

understood. These items become automatic (acquired) in his listening and speaking. Learned knowledge becomes acquired! This same process is present in other types of skills (Ahn 72-73).

The idea that simple codes are roughly tuned to the level of the listener is based on ESL research (Ahn, 76). It would seem that this is much less the case for foreign language learning situations. Second language learners have a much higher percentage of input from the real world, which the language learner will control to a point at which he can understand it. This is because he knows that this input is often vitally important for him. The learner in a foreign language classroom may only care that he understand enough to pass the class, thus, he does not work so hard to control the input. The result is that a teacher might give a lot of input that is nowhere near the learner's $i + 1$ level.

4.10. A Criticism of Krashen's Logic

K.R. Gregg criticizes Krashen for his inconsistency. On the one hand Krashen calls for simplified input, but he also says "Rich input provides the acquirer with a better sample to work with, more opportunities to hear structures he is

ready to acquire" (The Input Hypothesis 27). Yet structures are acquired in a natural order, so fine-tuning of input should increase the frequency of a given structure in input at the correct time. Fine-tuning should aid acquisition. Still, Krashen calls for rough-tuning (118).

4.11. Criticisms of Krashen's Evidence

Farhady found high correlation coefficients between discrete-point and integrative tests. Since these tests may yield the same results, he concluded that discrete-point tests are not always completed with the Monitor, and integrative tests are not always Monitor-free. Thus results which were to show the working of the Monitor have been challenged (Farhady, "The disjunctive fallacy" 352-256).

The Natural Order Hypothesis is limited because of it is based on results from tests of English (Ahn 76).

4.12. Criticism of the Practice

Practical criticisms mention that Krashen ignores the difference in active and passive competencies when he supports a silent period for language learners. Teachers fear fossilization and attribute this to Krashen's ban on error correction (during acquisition activities). The role of

grammar in the language class is a related issue. Other problems in the classroom include the suspicion that relying more on aquisition than on learning might be inefficient, the fact that students expect conscious learning rather than acquisition activities, and the challenge of providing interesting input.

4.13. Silent Period

Krashen's theory ignores the different competencies that are hypothetically necessary to, on the one hand, comprehend language and, on the other hand, to acquire it. We are so unsure as to how language is acquired that this assumption seems tenuous. Barry McLaughlin hypothesizes that acquirers take in input, make series of interim grammars, each of which is a closer approximation of the underlying grammar of the target language. Acquirers fossilize before reaching the underlying grammar (McLaughlin 320-321). This theory is compatible with the commonsensical idea that we make hypotheses about the target language on the basis of the input we receive. We then test these hypotheses by producing language. According to the effectiveness of our production we keep or change our hypotheses. Krashen, however, cites evidence

(Gary, Postovsky) to show that a silent period has no negative effect on developing foreign language skills (cited in Krashen 1985:15). R. Brown and C. Hanlon (1970) found no significant difference in responses to children's well-formed utterances as opposed to their ill-formed utterances. There was also no connection between parental approval of children's utterances and the correctness of those utterances. Brown and Hanlon concluded then that feedback cannot be the source of children's alterations of their internal grammars. The only other option is that this progress toward the target language norm's grammar occurs because of differences that the child perceives between his current hypothesized grammar and input that he receives (cited in Krashen 1985:35). K. Hirsch-Pasek, R. Treiman and M. Schneiderman's 1984 study supports these findings (cited in Krashen 1985:35).

If it were true that learners' hypothesized grammars were refined as a result of feedback on their utterances, then each aspect of the grammar would have to be separately tested. This seems impossible. According to Krashen this hypothesis testing does take place, but it happens subconsciously and it does not require production on the part of the learner (The Input Hypothesis 36).

Krashen believes that given enough comprehensible input acquirers will begin to speak naturally (The Input Hypothesis 52). From his experience Terrell shares the observation that the idea that students will not voluntarily begin using the target language is a product of the students' fear of error correction. He has seen that peer pressure from the first students who begin using the target language successfully is usually a strong factor in getting students to begin speaking the target language (Terrell, "A Natural Approach" 168).

Some people claim to be able to understand a language well but to be unable to speak it. This is explained by one of two problems: 1) they do not actually understand - they have not received enough comprehensible input, or 2) they have strong inhibitions against speaking the language because they had been discouraged from speaking it. This may be the case if this person interacted with speakers of the target language who were intolerant of this person's errors, or this situation may result from an individual-specific reason (Krashen The Input Hypothesis 52-54).

Spoken language happens so quickly that comprehension depends on the listener constructing a hypothesized ending to each utterance from all possible

clues while the utterance is still being produced. The listener then checks and modifies his hypothesis in accordance with the rest of the utterance as he hears it. This scenario is the same for reading. Since this process entails creative construction maybe output is actually theoretically unnecessary for developing complete competence (Sajavaara 54).

Krashen does assert that output is theoretically unnecessary, but in practice he recommends it for error correction on homework to improve the use of the Monitor and in conversation to teach communicative competence, which invites input (Krashen, Principles 60-61). Terrell encourages output to practice accessing ("Acquisition" 220).

4.14. Fossilization

4.14.1. Error Correction

The biggest objection to Krashen's theory is his downplaying of error correction. Critics fear that this will lead to fossilization. Krashen's objection to error correction is that it raises the affective filter. This all depends on how fragile the self-image of the student being corrected is; therefore it is difficult to reach a conclusion

that is binding for all. If the student is too sensitive, error correction will not be fruitful. Other students may accept correction without becoming defensive. It is for the individual teacher to decide what and when to correct. Another problem is that if errors are not corrected, students who notice the errors may lose faith in the rule, the teacher and themselves, or they may become frustrated. This raises the affective filter and prevents acquisition. Krashen asserts that if he condoned error correction and the role of learning grammar, then language teachers would begin to emphasize this side of instruction over acquisition activities. However, it does seem that teachers should use their judgement and walk the tightrope between fossilization and too much focus on form. Related to this, Munsell and Carr call for studies to determine whether early heavy use of the Monitor (which having a silent period avoids) has as detrimental an effect on fluency as Krashen maintains (Munsell and Carr 497-498).

4.14.2. The Role of Grammar

The idea of a semantically- rather than a grammatically-ordered syllabus causes Higgs to fear fossilization ("The Input Hypothesis" 201). Students

working with such a syllabus would be producing semantically correct but perhaps grammatically incorrect language. One could use judgement and correct errors that appear likely to fossilize. The other side of this argument is that using a grammatically based syllabus leads to contextualized meaningful drills, which, by covertly placing the emphasis on form, reduce the potential for acquisition. These drills concentrate several examples of a certain structure in a "realistic" context. In reality this context would not have the high concentration of the form. The result is artificiality that moves the focus from the message to the form. Contextualization is a challenge to elicit certain structures in a meaningful way. It is not authentic communication, thus the interest and relevance of the exchange is likely to be limited (Krashen, Principles 69).

Earl W. Stevick recommends having students carry out limited comprehension tasks with readings and oral materials that are not simplified to the students' level. Students then gain credit for using clues from typography, tone of voice and grammatical constructions that have not yet been covered by formal instruction. This helps to avoid a situation where teachers weed out constructions that

they consider difficult that may actually not be beyond the students natural $i + 1$. Texts that have not been tampered with provide "richer, better integrated sensory images" (Stevick 283).

When Krashen and H. Selinger did a study of the role of formal instruction in successful adult second language teaching methods they concluded that the universal and presumably essential values of formal instruction lie in the "1) isolation of rules and lexical items of the target language, and 2) the possibility of error detection or correction" (Krashen and Selinger, "The Essential Contributions" 173).

In 1976 Krashen and Selinger found that acquirers who had had more instruction were more proficient than others who had had less instruction. Exposure to an informal environment alone did not insure proficiency (cited in Ahn 1985:70). Superficially contradictory results of J. Upsher (1968) and C. Mason (1971) that instruction did not help develop proficiency while exposure to an informal environment did may be reconciled with Krashen and Selinger's research because the effects of instruction could have been limited to areas not tapped by Upsher's and Mason's tests (cited in Ahn 1985:70).

In summary, Krashen concludes that all research in this area is consistent with the idea that instruction helps when it is the primary source of comprehensible input. Instruction is most helpful for beginners who can hardly comprehend input from the outside world and for foreign language learners who do not have sources of comprehensible input other than the language class. Upsher's and Mason's results that ESL classes for foreign students of American and Canadian universities were of little benefit are consistent with this conclusion. These students were advanced learners who could get adequate input from the outside world (Krashen, Terrell, Ehrman and Herzog 271).

4.14.3. Krashen's Explanation of Fossilization

Krashen attributes fossilization to one of four causes: 1) an inadequate quantity of input, 2) an inadequate quality of input, i.e not containing $i + 1$, 3) problems with the affective filter, or 4) problems with the Output Filter. The problem with the Affective Filter could be that the learner is able to communicate adequately with the competence that he has, thus he has no motivation to acquire more competence. To cure this case of fossilization it is

necessary to increase the communication demands on the learner. The Output Filter inhibits acquirers from using the rules that they have acquired in performance. To short circuit the Output Filter we need the same conditions that are required for a low Affective Filter (which refers only to the Filter which might prevent input from reaching the Language Acquisition Device). The focus of the performer must be on content, not on form, and the affective conditions must be right: low anxiety. The Output Filter seems to be especially crucial when it comes to pronunciation. This covers the same phenomenon that the Yerkes-Dodson law explains.

A source of fossilization for some acquirers are deviant forms that they acquire. If acquirers receive almost only deviant input, then they will acquire these forms, and it will be difficult to overcome these shortcomings because the automatic subconscious associations of acquisitions are long lasting. Acquirers may be subjected to this fossilization in a situation where they are learning the language as a foreign language, and the small amount of input that they receive (from their teacher, most often a non-native speaker of the target language, and from their classmates) is flawed. Another scenario for this

type of fossilization is the person whose communication demands far outweigh his competence. Typically, he will use his native language with the Monitor to control the input that he receives. This both reduces the quantity of input that he receives and simplifies that input. Therefore he is getting little input that contains $i + 1$. If others are in his same situation, then their imperfect output may develop into a pidgin, which would then further reinforce deviant forms.

When deviant forms are heard by someone who is getting adequate input they will be discarded when they are not heard again. When someone hears these deviant forms repeatedly the language acquisition device has no way of knowing that they are not the target language norms, so it processes them.

If someone has acquired a deviant grammar, it will be very difficult to change that grammar. To acquire the target language at that point one could think of, rather than trying to change the deviant grammar already acquired, acquiring another dialect of the target language. Then one could acquire separately the target language norm's grammar (Krashen, The Input Hypothesis 43-49).

While Krashen values simple codes for making input comprehensible, he notes that caretaker speech usually contains many command and question forms while teacher talk and foreigner talk both typically have a higher percentage of declarative statements. Could this difference contribute to fossilization? He says that if an acquirer's input is limited to simple codes, then fossilization is inevitable because teacher talk is limited by topic, and interlanguage is limited by the competence of its speakers ("The Theoretical and Practical Relevance" 14).

4.14.4. Another Theory of Fossilization

Ahn supports the view that learning becomes acquisition. His explanation of fossilization is that, depending on the case, either 1) a certain routine or pattern has not been practiced enough to become acquired, or 2) a certain rule has not been practiced enough to become acquired. According to Krashen only simple rules can be learned; complex ones must be acquired. Ahn claims that, given enough practice, complex rules can also be acquired. He states further that most learners approach all rules consciously at first and practice them to acquire them. Complex rules require more practice than simple ones, the

reason for complex rules remaining unacquired is lack of practice (Ahn 75).

4.15. Efficiency

Relying on acquisition and downplaying learning is said to be inefficient. It is inefficient for the acquisition of grammatical accuracy. It is more efficient than other approaches in getting students to create with the language. Successful communication requires both elements.

Children take a long time to learn their first languages, more time than most adults (both learners and teachers) are willing to devote to language study. Adults' time is more precious to them because they feel that their time has a greater economic worth to them than children's time does to them. Learning a language is also a higher priority for children because it gives them a way to interact with and to form an understanding of the world. Adults already have one way to do this, and a second language is merely another option of expression rather than the essential connection to the world that a child's first language provides.

4.16. Student Expectations

Through years of educational training students expect to learn rules to apply to new tasks. They may feel that they need these rules and be closed to or frustrated with an acquisition approach that does not emphasize the formal learning of rules. Maybe someday in the future Krashen's acquisition theory will be applied to education in general, and these expectations will no longer be a problem. In the meantime, teachers may teach formal grammar if it is felt to be necessary due to student expectations, but these grammar explanations should, according to Krashen, be in the target language. In that way a perfect opportunity for providing comprehensible input is created. The focus is on the content, the teacher is focused on speaking so that the students will understand the content of what he is saying, and the students are focused on figuring out what he is saying, not on how he is saying it. For the students who demand grammar instruction this input is interesting and relevant. And it placates teachers who are leary of an acquisition approach, who feel that formal grammar should continue to play a role in the classroom (Krashen, The Input Hypothesis 58). These explanations in the target language require a lot of time. It is more efficient to explain these

rules in the first language of the students (assuming that most of the students share one language) and to use the time thus saved for other input or communicative activities in the target language.

4.17. Providing Interesting Input

To provide interesting input to a class of individuals seems to be a great challenge. Higgs believes that almost anything can be made interesting to students if its presentation directly involves the students and encourages them to participate actively in the presentation. Thus it is not so much a matter of choosing interesting topics to interest all of the students as of involving the students in the topics (Higgs, "The Input Hypothesis" 200).

5.0. Conclusion

Krashen's theory of second language acquisition and Terrell's application of it have pioneered ideas that have been widely accepted as well as ideas that have caused controversy and the need for additional research. Krashen's recommends patterning the classroom after the natural environment in which a child acquires his first language. The idea is also the basis for direct methods of language

teaching. Due to this shared idea some of the problems of Krashen's approach are common to direct methods. Both lead to fossilization. Topics of conversation in the classroom are limited. Real communication is stressed but abstract thought and speculative thought are neglected. His inspirations from first language acquisition include using caretaker speech, giving a lot of input before expecting any output, and focusing on communication, i.e. simplifying teacher talk to transmit a message, using real, that is interesting and relevant topics of conversation.

Since the acquisition-learning distinction is based on unobservable states of consciousness, researchers have been dissatisfied with this premise and have proposed other models for second language acquisition. A key dilemma has been whether or not learning may become acquisition. McLaughlin has been Krashen's main rival, applying a general theory of human information processing to language acquisition. He represents those who posit that learning can become acquisition. Critics have objected to Krashen's positions on input, the Monitor and the Affective Filter. Krashen has also come under attack for the facts that he uses children's first language acquisition as a pattern for adult second or foreign language acquisition and that he

does not account for the difference between second and foreign language acquisition in his theory.

Children take a long time to acquire their first languages, and second language acquirers are usually unwilling to invest so much time. Finding the right balance of error correction to avoid fossilization and a focus on form that may impede acquisition is a challenge with no fail-safe guidelines. It is only afterward that one discovers if one has leaned too close to one extreme or the other. The choice between a semantically- and a grammatically-ordered syllabus is a similar dilemma. A semantic orientation may lead to fossilization, while a grammatical orientation involves a covert (and sometimes overt) focus on form that may make the communication so unnatural that the students ignore the meanings involved and focus simply on the forms. This helps only learning, not acquisition. While at this point the results of choosing between error correction and avoidance thereof and between grammatically- and semantically-ordered syllabi seem to be apparent only on an individual basis after the fact; further study on these questions may yield conclusive results. At the least, Krashen and Terrell contributed to the

field in goading further speculation and research on the points that they have raised.

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Dialectal Variation in the Intonation of Verb Final Clauses

1.0. Introduction

Intonational patterns (intonation here referring to the suprasegmental characteristics of pitch, duration and intensity) may be the largest source of variation among dialects of German. It is important to ascertain what these dialectal differences in intonation are in order to: 1) describe dialects more precisely, and 2) discover sources of misunderstanding among speakers of different dialects. That little research has been done on dialectal variation in intonation follows from the fact that until the last half century phoneticians and phonologists focused on segmental characteristics of speech.

During the last five decades researchers have begun looking beyond the segment, the word, and the sentence to the larger picture; text linguistics and discourse analysis are examples of this movement. Phonologists and discourse researchers have begun to study intonation but two factors have made this a difficult task. First, scholars have been unable to agree on one way to describe systems of intonation. They may all measure frequency, duration and intensity but there are three main approaches to analyzing these measurements. William Moulton represents those who

describe intonation with sequences of phonemic pitch levels. These levels are relative and are usually numbered 1 to 4, with 1 representing the lowest pitch and 4 the highest. What is important is the relation of pitches to each other in a sequence and the patterns of these sequences that occur in a language. For example, a common pitch sequence in both English and German statements is 2 '3 1. The stressed syllables are underlined.

2 '3 1 *Es regnet.* 2 '3 1 It's raining.

(Moulton 131)

Anthony Fox represents those who describe pitch contours on sense groups. In this case the change in pitch and the direction of the pitch movement is the most important factor. Sense groups are groups of words that belong together semantically. They may or may not coincide with syntactic divisions but they are usually separated by pauses in speaking or by punctuation in writing. The pitch contours which he calls intonation groups consist of a nucleus, the most prominently stressed syllable, a head, the syllable(s) preceding the nucleus, and a tail, the syllable(s) following the nucleus. Fox posits two types of nuclear intonational patterns, one ends on a low pitch, one on a high

pitch. An example of the low-ending type is (the stressed syllable is underlined):

—
 . . . — schön ist es hier

In this case there is a tail so pitch is high on the nucleus and there is a jump down to the tail (Fox 12-13).

Janet Pierrehumbert introduced the idea of describing intonation in a binary manner: there are high tones and low tones and a complex set of rules combining sequences of relative high and low pitches. The set of rules is comparable to transformation-generative rules of grammar. The rules turn phonological representations into phonetic representations. Pierrehumbert asserts that local context-sensitive rules determine the actual pitch levels. Thus the overall trend of a contour is generated by local rules. The three components of Pierrehumbert's explanation of intonation are a grammar which generates allowable sequences of high and low tones, the stress patterns of the utterances, and the rules that match the utterance with its pitch contour (10-11). An example of one of the simplest rules is:

If a metrical foot has a pitch accent, then any foot of equal or stronger strength in the phrase also has a pitch

accent except that there are no pitch accents after the nuclear stress of the phrase (Pierrehumbert 37).

For example, the word California has two feet with primary stress on the right. When it is produced in isolation it may have either one pitch accent on the nuclear stress or a pitch accent on both feet. This leads to the possible contours:

California	or	California
H L L		L H L L

(Pierrehumbert 38).

Second, intonation is completely dependent on context and discourse and descriptions of intonation must include reference to these extra-linguistic aspects. In spite of these difficulties, a great deal of work has recently been done on intonation and a few studies have specifically linked intonation with dialect study. This new focus on intonation in dialects is a potentially worthwhile area of research because it may help to clear up misunderstandings between native German speakers.

Previous studies of dialectal variation in intonation looked at suprasegmental features in general (Zwirner, Maack and Bethge; Pilch) or at one type of statement within a specific geographic area (Guentherodt, "Der Melodieverlauf"; Guentherodt, "A Prosodic Isogloss";

Guentherodt, "Der Tonhöhenverlauf"). Ingrid Guentherodt's work has been particularly significant in establishing an intonational isogloss. Her research showed that speakers of dialects north of the isogloss tended to use falling terminal contours for questions, while speakers of dialects south of the isogloss tended to use rising terminal contours for questions ("A Prosodic Isogloss" 32). The experiment described in this paper investigated whether the southerners' predilection for rising terminal contours for questions was also present for other constructions, specifically for two types of subordinate clauses: clauses begun by subordinate conjunctions and clauses begun by relative pronouns.

The subjects who were recorded for this experiment either spoke a southern German dialect or their speech was at least colored by southern German influences. Their speech was compared with that of a subject from Hamburg, who spoke 1) a relatively standard variety of German and 2) Missingsch, one of the Hamburg dialects. She was recorded as she spoke in each of these two varieties of German and both samples were analyzed for this study. The southern dialect speakers spoke somewhat extemporaneously to questions put to them by the interviewer. While they knew

that they were being taped for a study on dialects, they did not know that the focus of the study was intonation (specifically pitch), nor that the specific object of investigation was verb final clauses.

Only pitch was considered in this experiment and significant results were obtained. The speakers from southern German dialect areas did show some similarities in the pitch patterns used with both types of subordinate clauses and did, as a whole, differ from the speaker of "standard German." The southerners did favor rising contours for both types of clauses. The trend was significantly more pronounced for the relative clauses than for the clauses begun by subordinate conjunctions.

2.0. Background

Previous research on dialectal variation in intonation may be divided into two groups. The first two studies by Zwirner et al. and Pilch described general intonational patterns of dialects, the second group of studies by Guentherodt described the intonational patterns of a specific structure in dialects. Zwirner, Maack, and Bethge examined the duration and intensity of vowels and diphthongs and of pitch contours as realized in six dialects.

Pilch studied pitch contour and stress patterns as well as the segmental elements of Basel German. Guentherodt examined the terminal contours of questions in dialects in Lorraine and the Palatinate. She established an isogloss, north of which speakers used more falling contours for questions, south of which speakers used more rising contours for questions.

2.1. Zwirner et al.

Eberhard Zwirner, Adalbert Maack and Wolfgang Bethge investigated the pitch, duration and intensity patterns found in the speech of speakers of six different dialects or dialectally colored colloquial styles of speech. By having more than one speaker of some dialects they intended to avoid differences being attributed to the dialect that were actually attributable to an individual speaker's idiolect or to a certain context brought about in the data collection situation. Each subject spoke for about ten minutes; 60-70 seconds per subject were analyzed. Zwirner et al. failed to indicate how the 60-70 seconds were chosen. The material encompassed the following samples:

1. East Prussian Dialect: Story of a young girl in the dialect of the Elch delta.

2. Low Saxon Dialect 1: Story of a coal miner from the Harz in his hometown dialect.
3. Low Saxon Dialect 2 and 3: Conversation of an old retired person from the Harz in his dialect with a person from Brunswick.
4. Upper Saxon Colloquial 1 and 2: Conversation of a Saxon employee of the Justice Ministry (1) with his wife (2) (both middle-aged) in the Dresden colloquial.
5. Silesian Colloquial: Story of a middle-aged Silesian specialist in the Breslau colloquial.
6. North Bavarian Dialect: Conversation of two musicians in the Passau dialect.
7. South Bavarian Colloquial: Story of a young waitress in the Mittenwald colloquial (Zwirner, Maack and Bethge 14 -15).

The recordings were compared with recordings from Phonometrische Forschungen which have often been used as standard references for dialect studies (cited in Zwirner, Maack, and Bethge 1956:15). The excerpts chosen from Phonometrische Forschungen were: 1) an excerpt from "Gösta Berling" read by a speaker from Silesia, 2) an excerpt from Nadler's Literaturgeschichte read by the same speaker, 3) the excerpt from "Gösta Berling" read by a speaker from Bavaria, 4) a monologue from an old retired man originally from Silesia who had lived in Berlin since he was twenty, and 5) questions from the first speaker from Silesia to this last speaker. These five additional recordings brought the total number of recordings to fourteen.

From the recordings the researchers then made phonetic transcriptions and calculations as to duration, accent and melody. Only vowels and diphthongs were studied. The authors claimed that consonants show such variation as to duration and intensity that making generalizations about the dialects from data from the consonants would be overly complex. A pitch tracker was used to evaluate the data. The results proved to be statistically significant.

Since the duration of individual sounds is very dependent upon the individual speaker and the context, durations of various vowels showed no dialectal patterns, and Zwirner et al. decided then to study ratios of long to short vowels rather than individual vowels. The difference between long and short vowels was greatest in the central and northern German dialects. The difference found in eastern German dialects was less and that of southern German dialects still less. Zwirner et al. noted that according to their results Low Saxon had especially short short vowels. Upper Saxon had especially long long vowels and especially long short vowels. East Prussian was similar to Upper Saxon. These observations were limited due to the small amount of data. The data illustrated the

fact that lengthening of open syllables started with Low Saxon and moved north and south: the farther away from Low Saxon, the smaller the difference between long and short vowels. Upper Saxon was an exception here.

Stress, similar to duration, is greatly influenced by context and can be controlled at will by the speaker. Results also depend on how close the speaker was to the microphone! The researchers thus chose to compare ratios of stressed to unstressed vowels as to their intensity rather than intensities of individual vowels. The central and northern dialects again had larger ratios than the eastern and southern dialects.

In analyzing melody in the different dialects the researchers calculated the difference between the average rise in pitch and the average fall in pitch.

The data show dialectal patterns (Zwirner, Maack and Bethge 15-20):

<u>Pitch range</u>					
Difference between Average Rise and Fall	Dialect Falls	Rises Cases	# of Cases	# of	
I. According to the pitch tracker					
34,6	Upper Saxon colloquial 1	+ 16,3	67	-18,3	84
37,9	East Prussian dialect	+ 17,1	57	-20,8	123
41,5	Upper Saxon colloquial 2	+ 19,3	46	-22,2	82
43,1	Low Saxon dialect 2	+ 24,3	49	-18,8	103
49,7	Low Saxon dialect 3	+ 27,7	43	-22,0	33
50,0	Low Saxon dialect 1	+ 26,4	85	-23,6	87
51,3	Silesian colloquial	+ 28,0	149	-23,3	148
51,9	North Bavarian dialect	+ 24,2	117	-27,6	152
55,7	South Bavarian dialect	+ 28,3	144	-27,3	200
II. According to the Kymogramm (<u>Phonometrische Forschungen</u> results)					
16,6	Silesian Berlin colloquial	+ 7,3	205	- 9,3	367
23,5	Silesian colored std. colloquial		+11,2		51
	-12,3	46			
44,1	Std. with Bavarian coloring	+23,4	504	-20,7	410
51,8	Std. with Silesian coloring 2	+23,0	277	-28,8	241
53,7	Std. with Silesian coloring 1	+23,5	292	-30,2	489

The last three samples were texts that were read aloud.

(Zwirner, Maack and Bethge 21)

Two exceptions in the grouping, however, were from the Phonometrische Forschungen results. Both the first speaker from Silesia and the last speaker originally from Silesia (resident of Berlin) exhibited very little range of rise/fall. The data from the first speaker, though, consisted entirely of questions that this speaker put to the older gentleman. These short, quick, monotone questions should probably not be compared with the other recordings which are all monologues or dialogues. Zwirner et al. concluded that the monotonous tone of the older gentleman seemed to be a personal characteristic.

For all the speakers a correspondence in amount of rise and fall was evident: speakers whose melody rose a great deal also fell a great deal. The difference between amount of rise and amount of fall was greatest in the south; this difference gradually decreased the farther north the dialect area (Zwirner, Maack and Bethge 20-21). Maack had earlier asserted that the melody of diphthongs differs from that of monothongs (145). Here Zwirner et al. hypothesized that diphthongization is closely related to the melody and that in some cases changing the melody of a monophthong precedes its diphthongization. The diphthongization of long

<<i>>, <<u>>, and <<ü>> began in Carinthia so it seems to make sense that there should be more melody in the southern dialects. Zwirner et al. wanted to investigate the melodies of the languages that border on Carinthia to see if this increase in melody came from these other languages.

The data from both Upper Saxon informants yielded small differences in the amount of rise and amount of fall. The actual amounts of rise and fall were also small, which led to the conclusion that the sing-song of the Saxon dialects is not caused by great falls and rises of pitch.

Zwirner et al. speculated that the sing-song of Saxon might be attributed to sharp changes in the overall range of pitch of the monologue. When one reads aloud there are often changes in the overall range of pitch, while each individual utterance remains within a smaller range. This phenomenon is even stronger in conversation because after an interruption, when continuing a speaker will begin again at a new pitch. Zwirner et al. looked for this phenomenon but did not find evidence of it in their data. They concluded that the sing-song quality must be due to frequent changes of register by speakers within each utterance. They were not yet certain whether or not this is a peculiarity of Saxon.

In summary, Bavarian, Low Saxon and Silesian showed great differences in the amount of fall and rise of pitch and East Prussian and Saxon showed little difference in this category. From their material the researchers did not find intonational contours to be dialect-specific. All the sentences fell in pitch at the end, except for one question and one incomplete utterance which had rising terminal contours. They did not doubt that certain melodies are specific to certain dialects, but the material that they collected was insufficient to make any hypotheses in this area.

Zwirner et al. calculated that fifteen of the possible thirty-six differences, obtained by pairing each dialect with every other dialect, were statistically significant. The calculations do not mean that the remaining twenty-one differences were not real, just that they were not statistically significant.

The differences noted by Zwirner et al. between the dialects have been statistically proven to result for the most part from the qualities of the dialects rather than from the qualities of the individual speakers or contexts. Zwirner et al. saw the need for several expansions of their work. These include sonographs made of individual sounds,

more speakers from each dialect to separate dialectal from individual speaker differences, and more dialects included in order to determine exactly where isoglosses and transition areas lie. Zwirner et al. also planned to expand their investigation to consonants and their relations to vowels and diphthongs (21-30). As of yet no further studies on this topic have been published.

2.2. Pilch

For his study of the Basel dialect Herbert Pilch took a unique approach. He analyzed the corpus of speech material with a top-down rather than a bottom-up approach. He looked first at the suprasegmental features, then he looked at the segmental elements as parts of the suprasegmentalia.

He observed spontaneous, colloquial speech in cafes, stores and the public transportation of Basel. He brought his observations to ten Swiss subjects (eight were native speakers of the dialect, two were native speakers of other Swiss German dialects) who confirmed or rejected these findings. They also provided Pilch with minimal pairs to illustrate his findings. Pilch then made further observations in the cafes, stores and public transportation

of Basel. If he heard what he had heard before, then it was confirmed. If he did not hear a certain phenomenon again, then it was rejected. He also listened to a record of the dialect.

His explanation for using a top-down approach was quite logical. His informants, like everyone else, did not speak in words or sentences but rather in paragraphs. Therefore a phonology of words or of sentences was inappropriate; what was necessary was a phonology, wherein the segmentals were interpreted as elements integrated into a suprasegmental pattern.

The object of his study was the dialect of the city, not the canton of Basel. He made no comparisons of the dialect with standard German or with other dialects. This dialect has many loan pronunciations from standard German, i.e. *Schweizer Bankverein* 'Swiss Bank', with the <<ei>> in *Schweizer* pronounced [al] as in standard German, not [i] as in the dialect. On the other hand, many technical terms from standard German use the dialect's pronunciation. French loanwords come from contacts that the people of Basel have with France, from loans that standard German makes and from loans that other Swiss dialects make.

First Pilch looked at the intonational contour. He divided it into the head, nucleus and tail. The nucleus is spoken more slowly than the head and tail. In cases of emphasis the nucleus can be made to last even longer while the head and tail are spoken more quickly. If there is no pause between a tail and a head, then it is necessary to determine the end of a contour by syntax. The nucleus begins at the point of primary stress. Secondary accents may appear anywhere within the contour.

For Basel German, Pilch categorized the nucleus with one of five melodies. He described the nucleus with its secondary accents, if any, and with combinations of the following terms: falling, rising, sustaining, concave, smooth, stepped. And he included topical contexts in which each nucleus would be used. The first nucleus was concave, rising, smooth. It was at first even, then it rose concavely, then flattened out and then had a gradual descent. This was the most usual nucleus. The second nucleus was concave, falling, smooth. It began evenly, then had a gradual convex descent. This nucleus was used for the last item in a series and for particles that express agreement, i.e., *ja* 'yes', *jawohl* 'yes indeed'. The third nucleus was convex, falling, smooth. It fell steeply and was used for questions, wishes,

i.e., *gute Besserung* 'speedy recovery', and contradictions, i.e., *ich bin kein Kleinkind*. 'I am not a child'. The fourth nucleus was convex, rising, smooth. It began evenly, then rose ever more steeply. The tail stayed at the high pitch or returned to a medium pitch. It was used for greetings, questions, feedback to an interlocuter's monologue, and for emphasis. The last nucleus was falling, stepped. It required at least two syllables, with all syllables equally stressed. Each step rose concavely then flattened out. This nucleus was used for short announcements, i.e. to say good-bye, to state a price, to announce a train station.

Pitch remained fairly even within heads and tails, although pitch often changed at word boundaries. The different heads seemed to be phonemically equivalent. Heads often had the same contour as the nucleus that they preceded. Different tails were also phonemically equivalent. They usually moved from the last pitch of the nucleus to a more medium pitch (Pilch 165-174).

2.3. Guentherodt

Ingrid Guentherodt discovered an intonational isogloss for the terminal contours of questions. Otto von Essen had proposed that two intonational patterns for questions.

Order-questions, i.e., *Bezahlte er heute ?* 'Is he paying today?' have rising terminal contours. Word-questions, i.e., *Wer bezahlt heute ?* 'Who is paying today?' have falling terminal contours (von Essen 44-45). In her first dialect study Guentherodt investigated three issues related to the terminal contours of questions. First, do dialects have the same two contours for order- and word-questions that standard German does? Secondly, in cases that do not fit into this pattern, what is the relationship between stress and contour? Thirdly, are patterns of intonational contours for questions distinctive characteristics of dialects?

Guentherodt concentrated her first tape recordings on two towns in German-speaking Lorraine: Volmerange, the northern town which is on the French-Luxembourgish border, in the Moselle Franconian dialect area, north of the *dat/das* 'the' line and Haut-Clocher, the southern town on the Alsace-Lorraine border, in the Alemannic dialect area on the *pund/pfund* 'pound' line. Both towns are on the French-German border. She also made a few recordings in towns between Volmerange and Haut-Clocher and south of Haut-Clocher.

Because she did not expect to get enough examples of both types of questions in free conversation, Guentherodt

gave her subjects a prepared dialogue of questions and answers to perform. The questions and answers were each repeated a few times with different stress; the word to be stressed was indicated by Guentherodt. The subjects would practice the dialogue in their dialect, then record it. One subject would read the questions, one the answers. In each town two different pairs of speakers would record the dialogue on two different days to avoid differences due to the individual speakers. The stressed word was said as in standard German, thus no sentence was done completely in dialect or completely in standard German. The dialogues included everything from very short questions with only two possible stresses to complicated questions with adjectives, adverbs and four possible stresses.

Over a thousand questions and answers were phonetically (with IPA) and impressionistically transcribed. Cases that did not fit into the pattern were analyzed by an Oscillomink. Sixty-four characteristic cases were analyzed by a pitch tracker to provide sixty-four intonation contours.

For this first study Guentherodt developed a way to describe the contours that she used for her subsequent studies. She assigned each pitch a number, from 1 to 4, 1 being the lowest relative pitch of each sentence. Usually

only 1 to 3 were used. She also observed the primary and secondary stresses. Duration was shown in the IPA transcription. She categorized each contour as rising or falling according to the direction after the last stressed syllable. First she described all the sentences with this system. This gave her an overview of the results. Then she chose the sixty-four most characteristic, sent them through the pitch tracker and used the resulting contours for her calculations and conclusions. Of all the transcribed sentences, 546 were questions and 541 were answers (Guentherodt, "Der Melodieverlauf" 156-161).

	Volmerange	Haut-Clocher
Total Number of Questions and Answers: 257		227
Questions:	111	128
Those usable for the study:	107	128
Of those a) Order-questions	58	65
b) Word-questions	49	63

(Guentherodt, "Der Melodieverlauf" 161)

	Standard German	Volmerange # of questions	Haut-Clocher # of questions
Order-questions	rising	52 falling (90%) 6 rising (10%)	62 rising (95%) 3 falling (5%)
Word-questions	falling	40 falling (82%) 9 rising (18%)	58 rising (92%) 5 falling (8%)

The percentages are rounded.

(Guentherodt, "Der Melodieverlauf" 161)

In Haut-Clocher the majority of questions had rising contours regardless of the type of question. In Volmerange the majority of questions had falling contours regardless of the type of question. The dialects, then, did not distinguish the two types of questions by intonation as standard German does.

Fifteen of the sentences for Volmerange did not fit into the pattern. They had rising contours. Of these, eleven were stressed on the last element of the sentence. In standard German if order-questions were echo questions, then they had a rising intonation. Nine of the fifteen exceptions to the tendency of falling intonation were order-questions. Only one was stressed so that it was definitely an echo question. Thus, this phenomenon explained only one of the rising contours.

Of the eight exceptional cases from Haut-Clocher three were word-questions, five were order-questions. The word-questions were all stressed on the second element. Of the order questions two were stressed on the first word, two on a word in the middle of the sentence and one on the last word. Thus there was no regular pattern of relationship between stress and melody here. Guentherodt noted that one speaker provided all eight exceptions, this one speaker was unusually tired at the time. Perhaps this influenced the results. Unfortunately when this was discovered it was too late to redo the recording.

Of the eight sentences only one was stressed on the last element of the sentence. Guentherodt suggested that maybe after stress early in the sentence there was not enough energy to raise the pitch, so it fell. Dialects with mostly falling contours were most likely to have exceptions in sentences with stress at the end. Dialects with mostly rising contours were most likely to have exceptions in sentences with stress at the beginning or in the middle. Guentherodt hypothesized that when stress is at the end of a sentence that increased energy, momentum, may cause the pitch to automatically rise. When the stress is at the

beginning or middle of a sentence, the ebb in energy after the stress may cause the pitch to automatically fall.

To summarize, unlike standard German, Guentherodt's limited research suggested that dialects do not differentiate word- and order-questions with intonation. Stress at the beginning of a sentence may cause pitch to rise. Some dialects have a majority of falling contours for both types of questions, some have a majority of rising contours for both types. Here the northern town had mostly falling contours, the southern town had mostly rising contours. Naturally more data are needed; especially interesting would be data from the transition area between Volmerange and Haut-Clocher (Guentherodt, "Der Melodieverlauf" 161-163).

Next Guentherodt undertook further recordings to see if she could find an isogloss between the tendency toward falling terminal contours for questions in the north versus the tendency toward rising terminal contours in the south that she had observed in Lorraine. She was unable to continue her work in Lorraine so she looked for an area on the same latitude. She chose the eastern Palatinate, the area between the Rhine on the east and the Palatinate forest on the west, between the French border on the south

and the Palatinate-Rhein-Hessen border on the north. She concentrated on towns on the northern and southern ends of this territory because those in the south are, like Haut-Clocher, part of the Alemannic dialect area and those in the north are influenced by Franconian.

She used thirty-two subjects from twelve villages: five in the northern area, five in the southern and two in the middle. In two of the villages in the northern area and two in the southern she made two recording sessions rather than the usual one. She used the same method and the same dialogue that she had used in Lorraine. Usually one subject gave about thirty-two order-questions and thirty-two word-questions. The partner gave the same number of answers. This time after the dialogues Guentherodt had her subjects ask each other some extemporaneous questions which they then answered. These are also recorded.

She recorded 1026 questions and 1026 answers which she then transcribed phonetically and impressionistically as before. Six months later she edited the transcriptions. She found it difficult to assign a falling or a rising contour to fifty-six contours so she had these analyzed by an Oscillomink. For many of these however it was still difficult to determine the direction of the contour from the

oscillogram. Finally she played the recordings of these fifty-six questions for four people to get their opinion. Of the four people one was from northern Germany, one from southern Germany, one was from the Midwest of the United States and knew no German but had a good ear from musical training, and the last was an American who spoke good German and had studied in Tübingen. The listeners seemed to be biased by what kind of intonational patterns they were used to. The southern German and the American who had been in Tübingen heard more rising contours than the other two listeners. Guentherodt warned that researchers should keep their own background in mind in similar situations ("Der Tonhöhenverlauf" 272-276)!

The results that Guentherodt obtained are as follows:

		<u>Pitch Contour</u>			<u>Pitch Contour of</u>	
	Total	F : R	F : R	W : O	Word	Order
	# of q's	abs.	in %	abs.	F : R	F : R
NORTH						
Mauchenheim	64	55: 9	86:14	31:33	28: 3	27: 6
Bischheim (E)	61	51:10	84:16	31:30	26: 5	25: 5
Bischheim (K)	61	49:12	80:20	29:32	23: 6	26: 6
Stetten (K)	64	53:11	83:17	31:33	28: 3	25: 8
Stetten (H)	62	46:16	74:26	31:31	24: 7	22: 9
Obersülzen	63	42:21	67:33	32:31	22:10	20:11
Großkarlbach	59	46:13	78:22	29:30	21: 8	25: 5
Kallstadt	66	34:32	52:48	35:31	17:18	17:14
Geinsheim	59	20:39	34:66	29:30	14:15	6:24
Dörrenbach	64	15:49	23:77	30:34	3:27	12:22
Niederotterbach (G)	53	24:29	45:55	29:24	9:20	15: 9
Niederotterbach (N)	70	20:50	29:71	36:34	6:30	14:20
Rechtenbach	71	12:59	17:83	35:36	5:30	7:29
Schwiegen (H)	69	18:51	26:74	36:33	4:32	14:19
Schwiegen (C)	69	9:60	13:87	33:36	1:32	8:28
Schweighofen	<u>71</u>	21:50	30:70	35:36	7:28	14:22
SOUTH						
	1026					

(Source: Guentherodt, "Der Tonhöhenverlauf" 275)

Abbrevs: W=word, O=order, R=rising, f=falling.

Note: Towns that had two recording sessions have the initial of the informants after the town name.

The Terminal Intonation	<u>Falls</u>						<u>Rises</u>					
	Word-q's			Order-q's			Word-q's			Order-q's		
NORTH												
Mauchenheim	12	9	7	5	14	8	0	0	3	0	2	4
Bischheim(E)	7	11	8	6	12	7	2	0	3	0	0	5
Bischheim(K)	8	9	6	5	13	8	0	0	6	0	0	6
Stetten(K)	14	7	7	5	14	6	0	0	3	2	2	4
Stetten(H)	8	10	6	5	10	7	0	1	6	0	4	5
Obersülzen	11	7	4	5	9	6	0	1	9	0	3	8
Großkarlbach	8	10	3	5	11	9	0	0	8	0	1	4
Kallstadt	5	9	3	3	12	2	5	3	10	1	4	9
Geinsheim	7	7	0	0	4	2	3	1	11	5	10	9
Dörrenbach	2	1	0	1	6	5	6	8	13	4	9	9
Niederotterbach(G)	5	4	0	0	11	4	8	3	9	3	2	4
Niederotterbach(N)	3	2	1	2	11	1	9	8	13	2	5	13
Rechtenbach	4	0	1	2	3	2	7	8	15	4	13	12
Schweigen(H)	3	1	0	2	10	2	6	10	16	3	7	9
Schweigen(C)	1	0	0	1	6	1	9	9	14	4	10	14
Schweighofen	3	4	0	0	11	3	8	10	10	4	10	8
SOUTH												

(Source: Guentherodt, "Der Tonhöhenverlauf" 276)

Note: The three columns are for, left to right, questions with the primary accent at the beginning, middle and end of the question.

The same relationship between stress and melody that was observed in the first investigation was also present here. In the northern area, where the tendency was for the contours to fall, the word-questions whose contours rose were almost all stressed at the end of the question. In this area only four of the 135 questions that were stressed at the beginning or middle of the question had rising contours. Two were at the beginning of a tape so may have been more

influenced by standard German. The other two had a heavy secondary accent on the last words of the questions so they could have been added to the group of questions with stress at the end. Their rising contours might thus be explained by the theory that increased energy, momentum, causes the pitch to automatically rise.

The data from two towns seemed quite exceptional. Großkarlbach with 78% falling contours had more northern characteristics than Obersülzen which had 67% falling contours. However, Großkarlbach is south of Obersülzen! This can be explained by facts about the towns and their informants. Since Obersülzen is near a city, this may distort the pattern. The informant from Obersülzen was a salesman, so his speech was probably distorted from the true Obersülzen dialect. Großkarlbach is isolated, and the informant was a woman who was quite restricted to that town. The data from this informant were thus more reliable.

There was more variation in the southern area, while the data from the northern area was quite regular. The difference in contours between the two recording sessions in the northern town that had two sessions was under ten percent. The difference in contours between the two

recording sessions in the southern town that had two sessions was over ten percent (see bold print figures in the table on p. 104). In the southern town of Schweigen a person in his early forties had 74% rising contours. An informant from the same town in his late sixties had 87% rising contours. Thus, quite different data from the same town were obtained. Perhaps this was due to the age difference. More complete data would be necessary to answer this question decisively.

Another deviation might be traceable to having the informants read prepared dialogues. In Schweighofen, a town south of Schweigen, one would expect even higher percentages of rising contours. Here only 70% of the contours rose. The informant, who was in his early forties, had difficulty reading. The informant from Niederotterbach who had only 55% rising contours had even greater difficulty reading. Perhaps due to poor reading ability these informants misread questions as declarative statements. This would lower the frequency of rising contours.

As far north as the town of Geinsheim the tendency of rising contours prevailed. Guentherodt surmised that the isogloss separating rising from falling contours lie between

Dörrenbach and Geinsheim, but acknowledged that more data from this area was needed to confirm this idea.

Since the standard German pattern is for word-questions to fall in pitch and order-questions to rise in pitch, Guentherodt examined the number of falling and rising contours of each type of question separately. She looked at the results from each town to see whether order-questions showed a greater tendency to rise than the word-questions did. This would indicate the influence of standard German. For the northern towns order-questions showed the same tendency to rise as the word-questions did. Thus, no influence from standard German was detected. However, in the southern area, only one town, Rechtenbach, showed an equal tendency for both types of questions. This can be seen in the table on page 18 by looking at the last two columns. For all the southern towns the order-questions showed a much greater tendency to fall than the word-questions do. However, this does not indicate standard German influence. If standard German influence were present the order-questions would have shown a greater tendency to rise.

The southern town of Niederotterbach had an exceptionally high number of order-questions with falling contours. Eleven of these fifteen questions ended with the

word *Bier* 'beer'. The contours for these questions were all very similar: they reached their highest pitches at the beginning of the last word and then fell. In the dialects of this area *Bier* was pronounced [bi:ə] or [bi:ɐ]; it had two vowels: [i:] and the vocalised allophone of /r/. Also in Niederotterbach there were a great many questions with falling contours which ended with the word *Wirtsfrau* 'female innkeeper'. The fact that all of these questions ended with two-syllable words could not account for their falling contours because the contours for *Bier* and for *Wirtsfrau* were different. The contour for *Wirtsfrau* did not reach its highest pitch until the second syllable, then the pitch fell.

Guentherodt then examined whether there was a relationship between the last word of the question and the direction of the contour. The questions ended with the following words: *kommt* 'comes', *du* 'you', *das* 'the', *Wirt* 'male innkeeper', *Wirtsfrau* 'female innkeeper', *heut* 'today', and *Bier* 'beer'.

The following table gives the ratios of falling to rising contours for questions stressed, left to right, at the beginning, middle or end of the question (Guentherodt, "Der Tonhöhenverlauf" 276-286):

LAST WORD OF THE SENTENCE

	<u>das</u>	<u>Wirt</u>	<u>heut'</u>	<u>Bier</u>	<u>W'frau</u>	<u>kommt du</u>
A	3:0 3:0 0:3	3:0 5:2 1:4	3:0 2:0 3:0	2:0 5:0 3:0	2:0 4:0 4:0	1:0 1:0 1:0 1:0
B	2:1 4:0 0:3	2:0 8:0 0:5	2:0 3:0 2:0	3:0 5:0 2:0	3:0 3:0 9:0	0:1 1:0 1:0 1:0
C	3:0 3:0 0:3	2:5 5:0 1:7	2:0 3:0 3:0	2:0 4:0 3:1	2:0 4:0 4:0	1:0 0:1 1:0 1:0
D	5:0 2:0 0:3	4:0 4:2 1:4	2:2 3:0 2:0	3:0 5:0 3:0	1:0 5:0 4:0	3:0 1:0 1:0 1:0
E	3:0 4:0 0:3	2:0 1:5 0:7	2:0 5:0 2:0	2:0 5:0 3:0	2:0 3:0 4:0	1:0 1:0 1:0 1:0
F	3:0 2:0 1:2	3:0 3:1 0:9	2:0 4:0 0:2	4:0 3:1 2:2	2:0 4:0 4:0	1:0 0:1 1:0 2:0
G	3:0 3:0 0:3	2:0 5:1 0:6	2:0 3:0 2:1	2:0 5:0 3:0	1:0 4:0 4:0	1:0 0:1 1:0 1:0
H	1:2 0:3 0:3	0:3 2:3 0:6	2:0 4:0 0:2	1:0 7:0 0:2	2:0 4:0 5:1	1:1 0:2 1:0 0:1
I	1:2 2:0 0:3	2:2 2:2 0:6	0:2 2:1 0:3	1:1 3:4 0:2	2:0 2:2 2:2	1:0 0:1 0:1 0:1
J	0:2 0:3 0:5	0:3 0:7 0:7	0:2 0:3 1:2	2:0 3:2 1:2	1:1 3:1 2:2	0:1 0:1 0:1 0:1
K	0:3 0:2 0:3	0:5 1:2 1:2	0:1 3:1 1:2	3:0 6:0 2:0	3:0 3:0 0:1	0:1 0:1 0:1 0:1
L	0:2 0:3 0:5	0:5 4:3 0:9	2:0 1:2 0:3	2:0 2:4 0:3	1:1 4:1 0:6	0:1 1:0 0:1 0:1
M	0:3 0:2 0:4	3:0 1:5 0:7	0:2 1:3 0:3	1:1 0:6 0:2	1:2 1:3 0:4	0:1 0:1 0:1 0:1
N	0:3 0:4 0:3	0:2 0:6 0:8	1:1 1:1 0:4	2:0 3:4 0:2	2:1 5:1 1:6	0:2 0:1 0:1 0:2
O	0:3 0:3 0:3	0:3 2:6 0:9	0:2 1:1 0:4	1:1 2:3 0:4	1:2 0:5 0:3	0:1 0:1 0:1 0:1
P	0:3 0:3 0:3	1:2 7:2 0:5	0:1 0:5 0:3	2:2 0:7 2:0	0:2 6:0 0:3	0:1 0:1 0:1 0:2

(Source: Guentherodt, "Der Tonhöhenverlauf" 286)

Note: W'frau = Wirtsfrau

Legend:

- A - Mauchenheim
- B - Bischheim (E)
- C - Bischheim (K)
- D - Stetten (K)
- E - Stetten (H)
- F - Obersülzen
- G - Großkarlbach
- H - Kallstadt
- I - Geinsheim
- J - Dörrenbach
- K - Niederrotterbach (G)
- L - Niederrotterbach (N)
- M - Rechtenbach
- N - Schweigen (H)
- O - Schweigen (C)
- P - Schweighofen

The fall in pitch at the end of the last word of a question did not occur in words that end with a voiceless consonant. Since there was no voice, there was no way to change the pitch. Words that ended in vowels or voiced consonants were able to change the pitch during the last sound because there was voice. The table did show a north-south pattern and there seemed to be a division between Kallstadt and Geinsheim. More data is needed from that geographic area.

Among the exceptional cases of falling contours in the southern area one pattern was evident, especially when questions were stressed in the middle. In the following sentences the stressed syllable is underlined.

1 '2 3 2 *Ist das der Wirt?* 'Is that the innkeeper?'

After the primary accent the pitch rose, then fell to pitch 2. This was a small pitch change so it was often difficult to tell whether the contour rose or fell at the end. This pattern is prevalent on the border to Alsace but it is uncommon both farther north and in standard German. It may be due to Alemannic influence and it is similar to an intonational pattern that French questions may exhibit.

Further research as to whether this one pattern is common to French and some German dialects that border on French-speaking areas is necessary.

Finally, Guentherodt undertook to describe the most common contours. With increasing numbers of syllables and possibilities for stress placement, the contours became more and more complex so this cataloguing was very difficult. She classified the intonational patterns according to whether they were from the northern and central towns or from the southern towns, according to the number of syllables and the stress pattern and according to whether the contour ultimately rose or fell.

When in standard German intonation is a redundant signal, this signal is often deleted in the dialects. For example, in standard German order-questions are distinguished from declarative statements by their syntax and by their intonation. The northern towns of this study deleted the intonational signal in this case, the southern towns retained the signal. In standard German, word-questions and order-questions are differentiated by syntax (verb position, the presence or absence of a question word) and by intonation. All the dialects of the study deleted that differentiation by intonation.

In these dialects, intonation of questions was very dependent on the stress pattern of the question. Intonation functioned in these dialects not to distinguish types of questions but rather to emphasize the most important information. In the northern area, which tended to have falling contours, emphasis was indicated by a higher pitch. In the southern area, which tended to have rising contours, changes in pitch were seldom used to emphasize information. However, if the information to be emphasized was at the beginning of the question, then this information may have been spoken at a low pitch, the rest of the sentence at a higher pitch. If the information to be emphasized was in the middle of the question, then the question often began at a higher pitch, fell during the stressed syllable, then rose again. If the information to be emphasized was at the end of the question, then duration was the method of stress, and the contour rose during the syllable after the primary stress.

The last word of a question was very important to a contour as described above. Whether the final sound was voiced or not could change the direction of a contour. If the pitch fell at the end in such a case in a southern dialect,

then it only fell to pitch 2. Only rarely would it fall to pitch 1 as was common in the northern dialects.

Ideas for research future inspired by this study included further investigation of the effect of the individual sounds on intonation. Also questions which in standard German are equivalent in syntax to declarative sentences and which are distinguished from declarative sentences solely by rising contours should be added to the prepared dialogue (Guentherodt, "Der Tonhöhenverlauf" 287-294).

In 1973 Guentherodt established an isogloss for the terminal contours of questions. The data supporting the isogloss were collected in four different field trips. She began the first field trip of 1966 with a dialogue of twenty-four questions and twenty-four answers. Half of the questions were word-questions, the other half order-questions. At the beginning no stress patterns were indicated. During the field trip she added four questions and indications of primary stress to the dialogue. The second field trip used a dialogue with fifty-four questions with up to four possible placements of primary stress. Each group of questions began with a question for which the informant could choose the stress pattern. During the last two field

trips informants added their own questions and answers. The dialogue for the last trip had sixty-five questions, including assertive questions and four imperatives.

The same recording method described above was used for all the data. A recording session took about two hours and produced seven minutes of taped data. Pitch and intensity contours were obtained for especially difficult examples using an Oscillomink and a pitch tracker. Sometimes, particularly with low-pitched voices, neither listening nor the machines could determine the direction of a contour.

During her third and fourth field trips in the Palatinate, Guentherodt investigated: 1) the location of the isogloss, 2) exceptions, and 3) the contours of the transition region. The isogloss is based on over 3300 questions from forty-five towns in the Palatinate. The isogloss runs from the German-French border southwest of Pirmasens to the Rhine near Ludwigshafen. Guentherodt had expected to find a transition area. In the West Palatinate the isogloss passes between two villages, Walshausen (80% rising) and Bottenbach (76% rising). The Eastern Palatinate does have a transition area. At the center of this area

approximately equal percentages of both contours were used.

The isogloss is similar in location to isoglosses from the *Pfälzische Wörterbuch* 'Palatinate Dictionary'. The rising contours found south of the isogloss seemed to indicate a relation to Alemannic and southern German, while the falling contours north of the isogloss related to Franconian and Central German. The only other isoglosses of sentence intonation are for question intonation in East Germany (Schädlich and Eras).

The exceptions of rising contours north of the isogloss were almost all in cases of primary syntactic stress on the last word of the question. The exceptions of falling contours south of the isogloss were usually in cases of primary stress at the beginning or middle of the question.

Guentherodt also played tapes of assertive questions from northern speakers for informants in the south. They understood them as statements rather than questions. It could be beneficial to determine how much the misunderstanding of intonation may cause prejudice among different dialect groups (Guentherodt, "A Prosodic Isogloss" 29-34).

2.4. Summary

Zwirner et al. examined the vowels and diphthongs of six dialects in regard to duration, intensity and pitch contours. To reduce individual speaker influence the researchers compared ratios of long to short vowels rather than durations of individual sounds. The central and northern dialects showed the largest differences between long and short vowels. Eastern and southern dialects showed smaller differences. Since stress can also be greatly influenced by the individual speaker Zwirner et al. compared ratios of stressed to unstressed vowels. The larger ratios were again shown by the northern and central dialects. Smaller ratios were typical of the eastern and southern dialects. To study pitch Zwirner et al. calculated the difference between average rise and fall in pitch for each speaker. The larger differences belonged to the southern dialects. The differences decrease, the farther north the dialect. The amount of rise and fall for each individual speaker tended to be approximately equal. All the sentences fell in pitch at the end. Zwirner et al. did not isolate any intonational contours as dialect-specific. Their calculations indicated that southern dialects tended to use a greater range of pitch than northern dialects did.

Dialectal patterns were thus found for duration, intensity and pitch of vowels.

Pilch described Basel German by first noting its suprasegmental features and then explaining the segmental features as they related to the suprasegmentalia. He divided intonational contours into heads, nuclei and tails and he isolated the five melodies that the nuclei of Basel German exhibited. Basel German, a southern German dialect in the Alemannic dialect area, is one to which Guentherodt related her results. The southern towns of both Alsace and the Palatinate are influenced by Alemannic. Pilch did not calculate what percentage of questions had falling contours and what percentage had rising contours, but if he had, then his study might have provided further support for Guentherodt. According to Pilch most other statements had falling contours. This is indeed interesting for a southern dialect. Again, percentages are lacking.

Guentherodt's isogloss is one of the very first to divide dialects on the basis of intonation. Her data and conclusions provide a solid basis for other researchers because they were extensive and well-documented. It has been established that dialects north of the isogloss favored falling contours for questions while dialects south of the

isogloss favored rising contours. Unlike standard German the dialects did not use intonation to differentiate types of questions when the distinction is clear from syntax. In the dialects, the function of intonation function was to emphasize information. The exceptions in her data have been accounted for by the relationship of stress placement to melody. Stress at the beginning or middle of a question caused pitch to rise at the end and stress at the end of a question caused the pitch to fall at the end, regardless of the dialect's general tendency. It has been shown that the last sound of a question could influence the contour, depending on whether that sound was voiced or voiceless.

The next step in gaining a more precise description of the still nebulous field of dialectal variation in intonation is to investigate patterns for other structures. Thus, the experiment described below observed the variety of intonational patterns for a structure as yet unconsidered: verb-final clauses. High German dialects (East Franconian, Austro-Bavarian) were observed and compared to standard German and a Low German dialect (Missingsch). The direction of terminal contours was noted and the goal was to see whether the southern affinity for rising contours

noted by Guentherodt for questions was also present for verb-final clauses.

3.0. The experiment

The goal of the experiment was to test the hypothesis that southern German dialects tend to use more rising terminal contours than falling terminal contours for subordinate clauses. The opposite trend was hypothesized for standard German and northern dialects. Contours were classified as **rising**, **falling** or **sustaining** based on auditory perceptions of the author. The informants were tape recorded but no additional machinery was used to analyze the collected data. Further, only verb final clauses and only a limited number of these per speaker (approximately the first twenty that occurred and were able to be positively assigned to one of the three categories) were taken into account. Verb final here refers to the finite verb occurring at the end of the clause. The contours of these clauses were then tabulated separately, depending on whether they were introduced by subordinate conjunctions or relative pronouns.

3.1. Method

Previous dialect studies (Bethge and Bonnin) relied on older informants, who are typically the best age group in which to find dialect speakers. Informants were asked to speak about: their hometown, their childhood and "the war." Since results from this experiment would be compared with the results from previous studies the questions for the present experiment were based on those of the previous studies. I asked the following general questions and allowed the subjects to speak for as long as they wished:

Please describe your hometown!

Please describe your family!

What were you like as a child, what did you like to do?

What things do you miss from home now that you are living in the United States?

Do you want to live in Germany or Austria again? If yes, what do you want to do there?

While natural speech is the idealized subject of study, the data collected here were not optimal examples of natural speech due to the nature of the situation: informants were talking to a stranger and into a microphone in a soundproof room, knowing that the data would be analyzed for a study of the dialect spoken. To make the

situation as natural as possible, it was decided to aim for conversation, rather than having informants read material. Actually the type of speech elicited is essentially monologues. This limited the naturalness of the speech samples since unlike an every day conversation, interaction between the two interlocuters was restricted and the subjects could not ask questions. Comparing the data to news broadcasts was rejected because broadcasts are generally read.

It was preferable to have the informants give almost a monologue so that they would not be thinking about adjusting their speech (toward the standard). Adjusting toward the standard is a typical reaction to speaking with a foreigner and perhaps with anyone from outside one's own dialect area. For that reason I did not attempt to manage the conversation. The informants were encouraged to speak as they wished, i.e., within the broad topics chosen by the author, the subjects were free to expand on sub-topics of their choice and were given no time restrictions. I did have questions to ask in case things stalled; I did pose additional questions or make comments on topics that seemed to be of interest to the participants and this gave them an added impetus to expand on those topics. I felt it preferable to

let them get involved in what they were saying rather than how they were saying it (which in general is a good technique for oral interviews if they are for linguistic research or for language testing), rather than to try to keep the topics of conversation uniform among participants.

After the conversations I asked each participant to say the sentence *Ich habe dir das Geld gegeben* 'I gave you the money' with the following emotions: neutral, irritated, condescending, angry, threatening, expecting.

The participants were found through the German Department community and were asked to complete a questionnaire. The questionnaire form and the responses can be found in Appendix B. When looking at dialects, a specific question is whether in addition to factors that may be causing distortion (from natural speech, for example) factors are also present that are distorting the purity of the dialect.

On the questionnaire the participants were asked their age and occupation. The more educated a person is, the more likely he is to have used standard German a great deal. Thus his dialect may be distorted by standard German. This is also true for people who need to be careful about using standard German in their work. All of the participants in

this study were fairly homogenous in their responses to these two items. They were between twenty-four and thirty-three years old. All were college students with the exception of one who was a lecturer at a college.

The participants were asked where they had lived and how long they had lived at each address. If they had lived away from their hometowns for a long time, then their dialect had probably been distorted. In particular, participants who had lived outside of the German-speaking area for a long time felt that their dialect competence/performance had been affected: comments about these responses follow below. They were asked what dialect their family spoke and what form of German they used with family members, since the family has the greatest effect on the dialect one will speak at home and outside of the home and the hometown.

They were asked about their opinion of their own dialect. Some Germans have a positive opinion of their dialect and consciously use it whenever possible. This makes their data more reliable. Others have a negative opinion of dialect and consciously try to use standard German at all times. They have probably lost some of the

qualities of their dialect even when they, on occasion, want to speak it.

Since all the participants were living in the United States it was important to know how much they used German and English (and other languages) in their daily life here. This gave an impression as to how reliable their speech remained as a measure of German although they had been living outside the German-speaking area. They were asked what contact they had with German speakers, how much they read and listened to German, and how much they spoke to their family and friends at home (in the Federal Republic of Germany or Austria). They were asked what language they used with the people with whom they lived.

The participants and the data were thus not totally homogeneous: the speakers were from different areas, spoke different dialects, and each individual speaks differently anyway. In addition, the role of context cannot be overemphasized. The topics of conversation, the intentions and emotions of the speakers, the shared knowledge between informant and researcher, and their attitude toward the experiment were some of the contextual factors that differ from participant to participant and within each participant's data.

I listened to the direction of the pitch contour of each verb final clause from the last stressed syllable to the end of the clause. For example Participant F said (the stressed syllable is underlined):

die jetzt Jus machen 'those who study law'

The last stressed syllable was Jus and pitch rose on *mach-* and remained high on *-en*. The contour was classified as rising. This is the same method of description that Guentherodt used, thus comparisons between her data and my data are valid ("Der Melodieverlauf" 160). If there were changes in the direction of the pitch contour after the last stressed syllable, then I classified the contour as rising, sustaining or falling depending on what the pitch did on the final syllable of the clause. For example, Participant F said (the stressed syllable is underlined):

daß viele nach dann eben Studienabschnitt gewechselt hab'

'that many of them transferred after reaching the upper division'

The pitch fell after the stressed syllable *Stu-* until *ge-* where it began to rise. It rose until the end of the clause so the contour was classified as rising.

In analyzing the data without machinery a researcher must make every effort to be objective. Thus it is preferable, during the analysis of data, to have a certain aspect of the data in mind but no theory as to how that data will look. One potential source of bias in this experiment was the fact that I spent one year in Austria and only a few days in northern Germany and thus was probably more likely to assign a clause a rising contour than a falling one. In order to increase my objectivity I did not include any sentences in my tabulations for which I was unsure as to the direction of the terminal contour. This was approximately 5% of the sentences.

3.2. Results

3.2.1. Dialectal Results

Three participants came from the Würzburg area, three from Austro-Bavarian-speaking areas (one from near Landshut, one from near Salzburg, and one from Linz) and one from Hamburg. German is traditionally divided into two broad dialect groups: the Low German dialects, which cover the northern German-speaking area, very roughly north of Düsseldorf, and the High German dialects which cover the rest of the German-speaking area, i.e., very

roughly south of Düsseldorf, including Austria and Switzerland. The participants from Würzburg spoke Eastern Franconian and the speakers from Upper Bavaria and Linz spoke Austro-Bavarian. Both of these dialects belong to the High German dialect group. The participant from Hamburg spoke Missingsch which is a northern Low Saxon dialect and which thus belongs to the Low German dialect group.

First as to the speakers from Würzburg: Participant B had lived in the United States for five years and spoke mostly English here. Participant C had lived in the United States for three years, was an English teacher and spoke mostly English here. Participant A had only been here nine months, used English at the university but did use German quite a bit due to his living at the German House. As for the speakers from Bavaria and Austria: Participant D had only been here nine months; she came from rural Bavaria and spoke quite an extreme dialect. Because her dialect was so extreme she could only speak it with a very limited group of people. She used English at the university and with her roommate but did choose to use German extensively, whenever she could, in her job at the German Department and with any German speakers that she came into contact with. Participant E had been here only nine months, he used

English at the university but did use German quite a bit due to his living at the German House. Participant F had only been here nine months. He used both languages in almost equal amounts here. Participant G, from Hamburg, had lived here for several years but she feared losing some of her ability in German so made a conscious effort to speak German if at all possible. She said that she worked to keep her German language ability at a high level.

3.2.2. Intonational Results

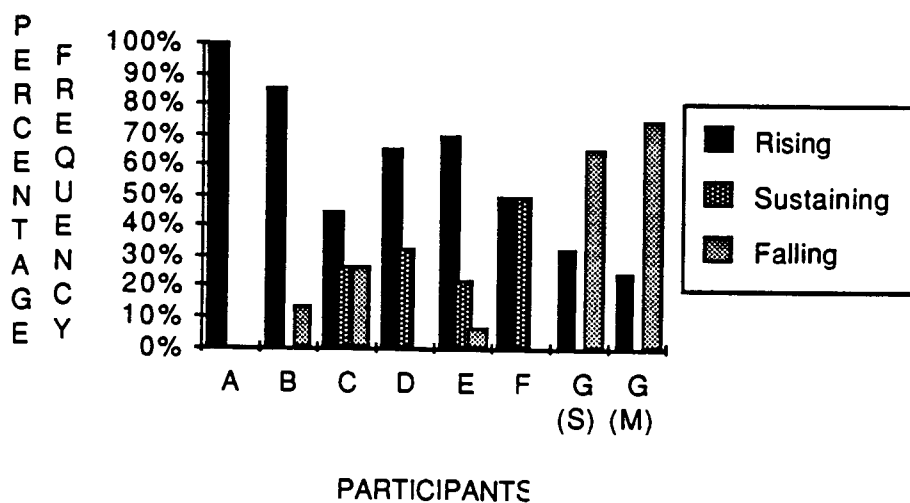
3.2.2.1. Relative Clauses

The data on relative clauses is clear cut (see Figure 1): the speakers of southern dialects used more rising contours than falling contours. Five dialect speakers, Participants B, C, D, E, and F used on average 63.2% rising contours (i.e., 24 out of 38 relative clauses in the data). Note that Figure 1 shows Participant A as having 100% rising contours; this is based on a single relative clauses uttered and therefore was not averaged in with the other dialect speakers. Speakers B, C, D, E, and F used on average 26.6% sustaining contours (i.e., 9 out of 38 relative clauses in the data) and 9.6% falling contours (i.e., 5 out of 38 relative clauses in the data). The speaker of the standard,

whose data was limited, Participant G, used more falling (66%, i.e., 6 out of 9 relative clauses in the data) than rising contours (33%, i.e., 3 out of 9 relative clauses in the data). When this speaker used her northern German dialect (Missingsch), labeled G(M) on the figures (this data was also limited) she also used more falling (75%, i.e., 3 out of 4 relative clauses in the data) than rising (25%, i.e., 1 out of 4 relative clauses in the data) contours. Data tables may be found in Appendix C. Percentages have been rounded.

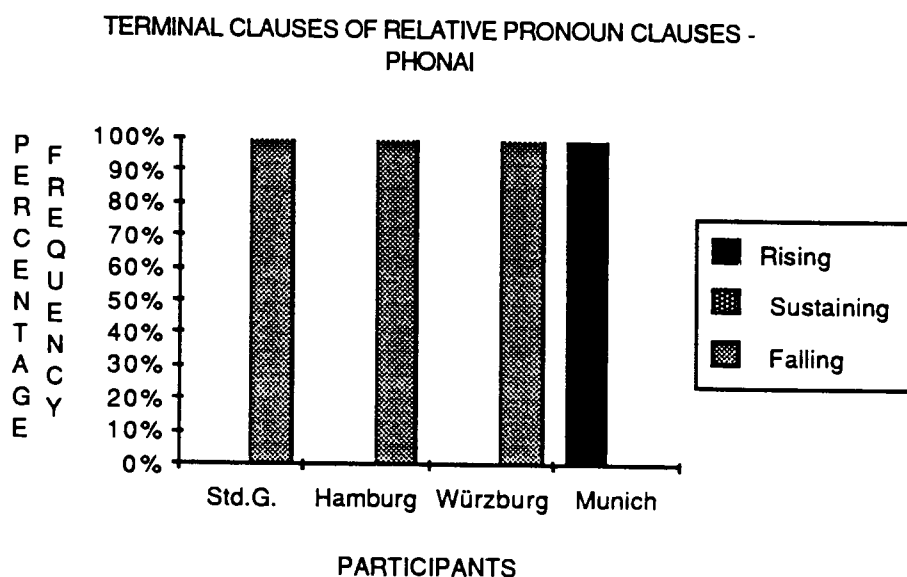
FIGURE 1.

TERMINAL CONTOURS OF RELATIVE PRONOUN CLAUSES
EXPERIMENT DATA



All the clauses for the very limited Proben deutscher Mundarten data were also analyzed by the author (see Figure 2). The relative pronoun clauses yielded 100% falling contours for the standard, Hamburg and Würzburg samples (i.e., 6 out of 6 relative clauses in the data) and 100% rising for the Munich sample (i.e., 1 out of 1 relative clause in the data).

FIGURE 2.



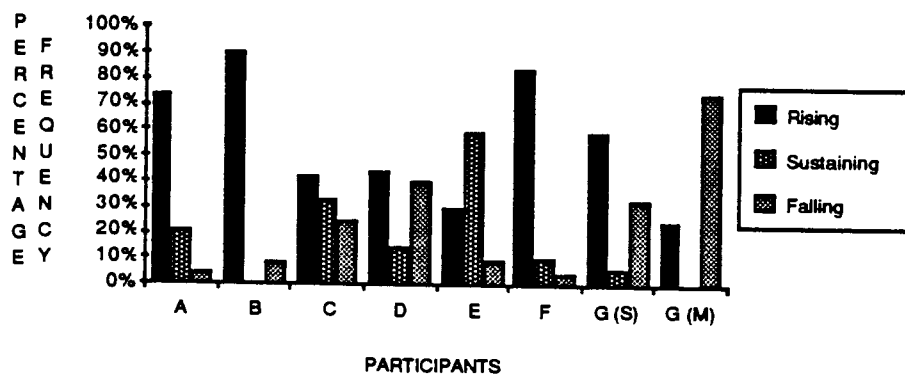
3.2.2.2. Subordinate Clauses

The results for subordinate conjunction clauses undifferentiated by conjunction or sentence position were not consistent with other dialect patterns (see Figure 3). The southerners had percentages for rising contours ranging between 30% (i.e., 3 out of 10 subordinate conjunction clauses in the data) and 91% (i.e., 10 out of 11 subordinate conjunction clauses in the data), for falling contours ranging between 5% (i.e., 1 out of 19 subordinate conjunction clauses in the data) and 40% (i.e., 8 out of 20 subordinate conjunction clauses in the data). On average they had 63% rising (i.e., 57 out of 91 subordinate conjunction clauses in the data), 21% sustaining (i.e., 19 out of 91 subordinate conjunction clauses in the data) and 16% falling contours (i.e., 15 out of 91 subordinate conjunction clauses in the data). The standard German sample had a similar percentage of rising contours: 60% (i.e., 9 out of 15 subordinate conjunction clauses in the data). It also had 7% sustaining contours (i.e., 1 out of 15 subordinate conjunction clauses in the data) and more falling contours: 33% (i.e., 5 out of 15 subordinate conjunctions in the data). The Missingsch results stood out with a trend toward

falling contours though the data sample was very small: 25% rising (i.e. 1 out of 4 subordinate conjunction clauses in the data) and 75% falling contours (i.e., 3 out of 4 subordinate conjunction clauses in the data).

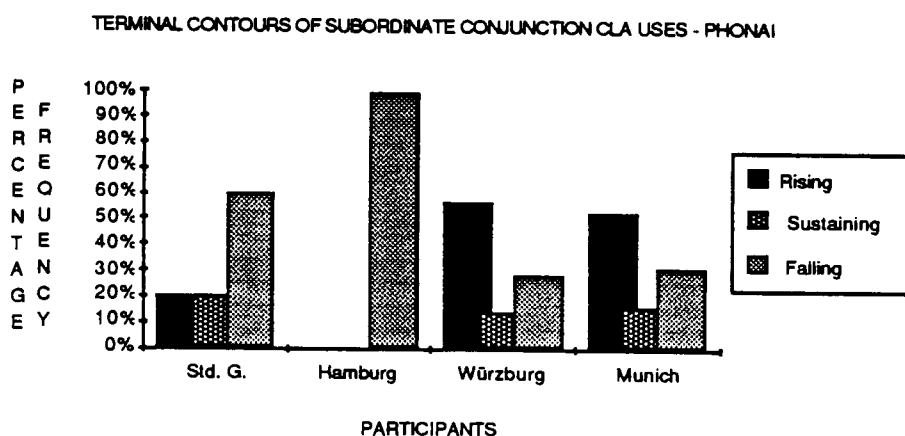
FIGURE 3.

TERMINAL CONTOURS OF SUBORDINATE CONJUNCTION CLAUSES - EXPERIMENT DATA



The Proben deutscher Mundarten results were more easily explained by dialectal patterns though again for a very small data sample (see Figure 4). The Hamburg sample favored falling contours: 100% of the clauses were falling, (i.e., based on 5 subordinate conjunction clauses). The standard had 20% rising, 20% sustaining, and 60% falling contours (i.e., based on 5 subordinate conjunction clauses). The southern dialects favored rising contours with averages of 54% rising, 15% sustaining and 31% falling contours (i.e., based on 26 subordinate conjunction clauses in the data).

FIGURE 4.



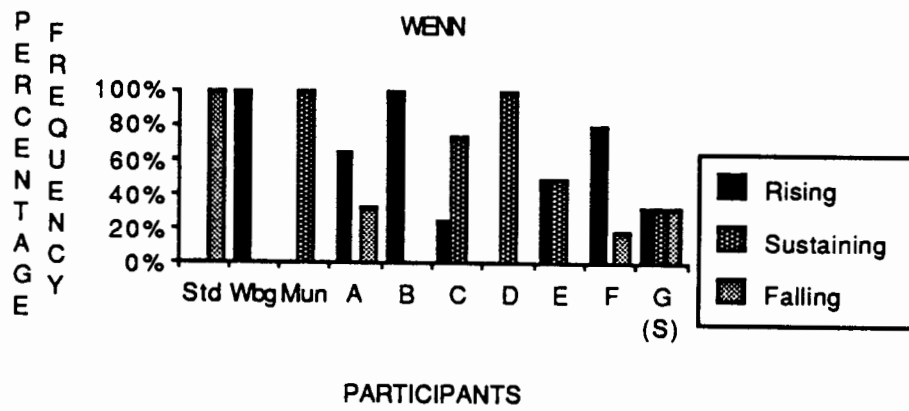
3.2.2.2.1. Subordinate Clauses by Individual Conjunctions

Subdividing the subordinate conjunction clauses according to individual conjunctions did not reveal any significant pattern in the intonational data.

The very limited number of *wenn* clauses in the Proben deutscher Mundarten data yielded 100% falling contours for the standard sample (see Figure 5). The Würzburg sample yielded 100% rising contours (i.e., 1 out of 1 *wenn* clause in the data) and the Munich sample yielded 100% sustaining contours (i.e., 2 out of 2 *wenn* clauses in the data). The experiment data revealed a trend toward rising contours in the south with an average of 48% rising, 30% sustaining (i.e. based on 23 *wenn* clauses in the data). The limited data from the standard sample was evenly split with 33% of each type of contour (i.e. based on 6 *wenn* clauses in the data).

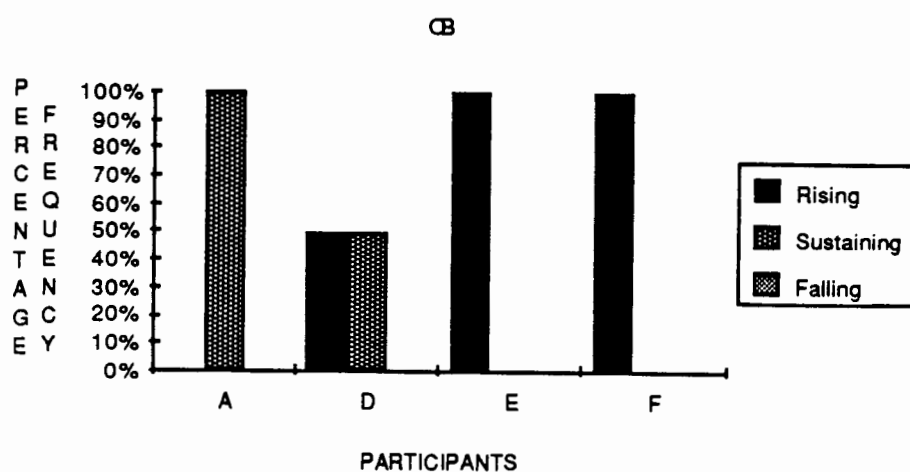
(Figure 5 follows on next page)

FIGURE 5.



If the very limited experiment data for *ob* clauses did not strongly demonstrate a tendency toward rising contours by the southerners they at least did not exhibit falling contours in this instance. Participants E and F had 100% rising contours (i.e., 2 out of 2 occurrences), Participant D had equal amounts of rising and falling contours (i.e., 1 of each type in the data) and Participant A had 100% sustaining contours (i.e., 1 out of 1 *ob* clause in the data).

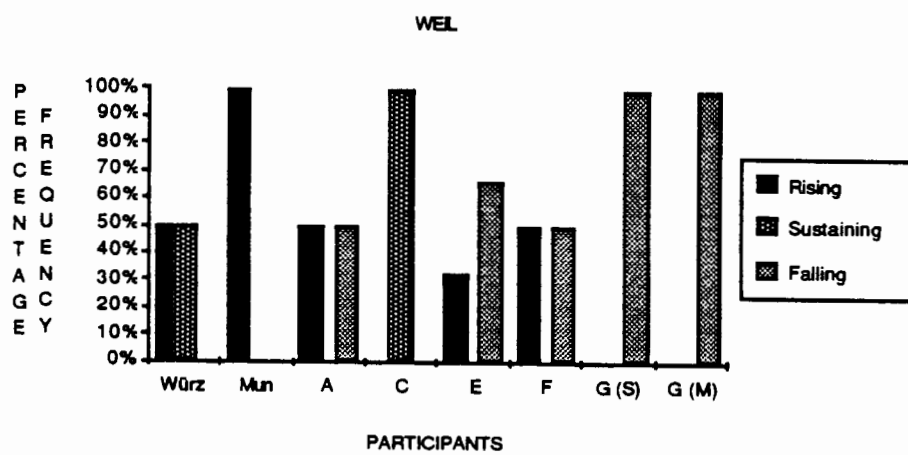
FIGURE 6.



The *weil* clauses showed almost no pattern (see Figure 7). The small number of Proben deutscher Mundarten samples had equal amounts of rising and sustaining contours for Würzburg (i.e., 1 of each type of clause in the data) and 100% rising contours for Munich (i.e., 3 out of 3 *weil* clauses in the data). The experiment data showed no pattern among the southern dialect speakers. The tendency was toward using equal amounts of rising and falling contours. The also limited number of standard (i.e., 2 out of 2 *weil* clauses in the data) and Missingsch (i.e., 1 out of 1 *weil* clause in the data) samples fulfilled expectations with 100% falling contours for both samples.

(Figure 7 follows on next page)

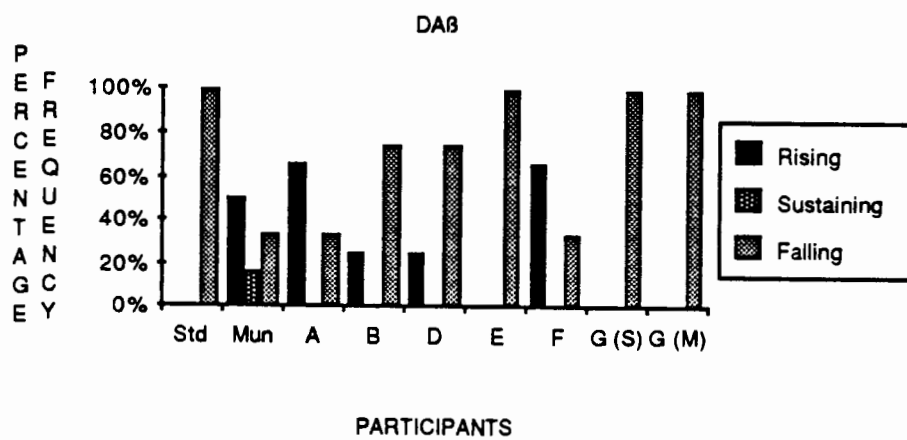
FIGURE 7.



For the *daß* clauses the limited Proben deutscher Mundarten data followed the trend (see Figure 8). The standard sample had 100% falling contours (i.e., 2 out of 2 *daß* clauses in the data), the Munich sample had 50% rising, 17% sustaining and 33% falling contours (i.e., based on 6 *daß* clauses in the data). The experiment data for the southern dialects varied greatly. Three of the samples had more falling than rising contours, two had more rising than falling contours. Both the limited standard sample (i.e. 1 out of 1 *daß* clause in the data) and the limited Missingsch sample (i.e. 4 out of 4 *daß* clauses in the data) had 100% falling contours .

(Figure 8 follows on next page)

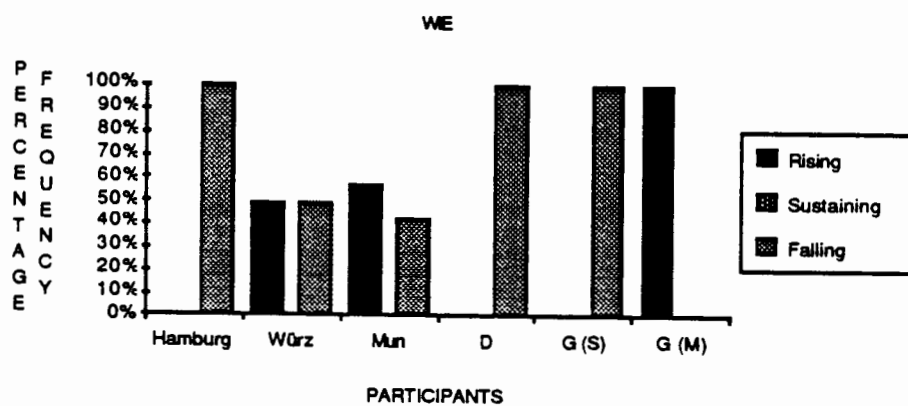
FIGURE 8.



The limited Proben deutscher Mundarten data for *wie* clauses showed regularity (see Figure 9). The Hamburg sample had 100% falling contours (i.e., 1 out of 1 *wie* clause in the data), the Würzburg and Munich samples exhibited a trend toward rising contours, with an average of 54% rising (i.e., 5 out of 9 *wie* clauses in the data), 0% sustaining (i.e., 0 out of 9 *wie* clauses in the data) and 47% falling contours (i.e., 4 out of 7 *wie* clauses in the data). The limited experiment data were completely opposite to the hypothesized affinity of the southerners for rising contours and that of the northerners for falling contours. The one southern sample from Participant D (Austro-Bavarian) exhibited 100% falling contours (i.e., 1 out of 1 *wie* clause in the data), and the Missingsch sample sample exhibited 100% rising contours (i.e., 1 out of 1 *wie* clause in the data).

(Figure 9 follows on next page)

FIGURE 9.



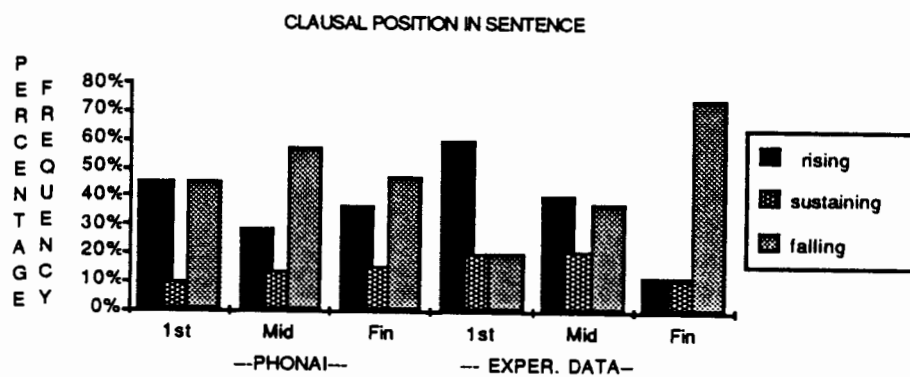
Thus, in general, categorizing the clauses by individual conjunction did not reveal strong evidence for any trends.

3.2.2.2. Subordinate Clauses by Sentence Position

Categorizing the clauses as to where they occurred in the sentence, on the other hand, revealed tendencies for the clauses in general and corroborated dialectal tendencies. Figure 10 shows the overall trends from both the Proben deutscher Mundarten data and the experiment data, regardless of dialect. In general the data exhibited a tendency for more rising contours for first clauses and more falling contours for final clauses. Middle clauses exhibited no set pattern. The results also manifested dialectal patterns. The tendency of falling contours for final clauses was strongest for the northern samples. The southern samples were more likely to have higher amounts of rising contours in all three positions: first, middle and final.

(Figure 10 follows on next page)

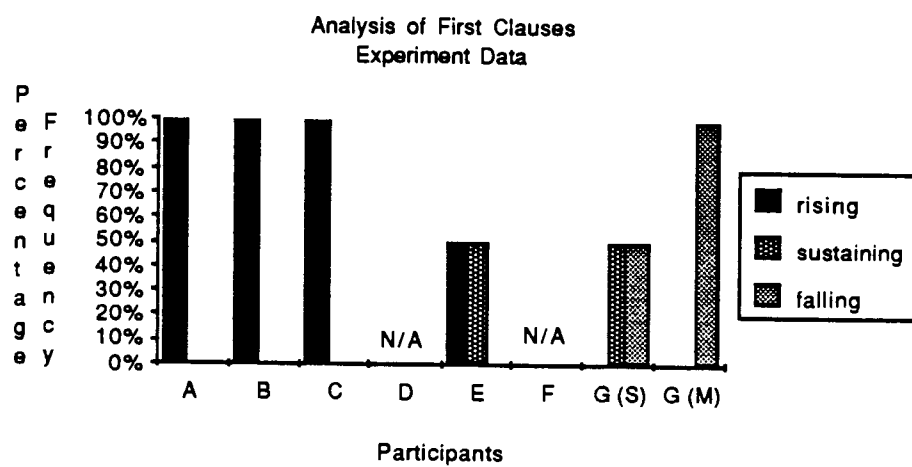
FIGURE 10.



100% rising contours (i.e., 5 out of 5 first clauses in the data). Participant E had equal amounts of rising and sustaining contours (i.e., 1 of each type in the data). On average 85.7% of the contours rose and 14.3% (i.e., based on 7 first clauses in the data) of the contours were sustaining. The standard sample had equal amounts of falling and sustaining contours (i.e., 1 of each type in the data), the Missingsch sample had 100% falling contours (i.e. 1 out of 1 in the data). Thus these results strongly suggested the southern predilection for rising contours and the northern trend toward falling contours.

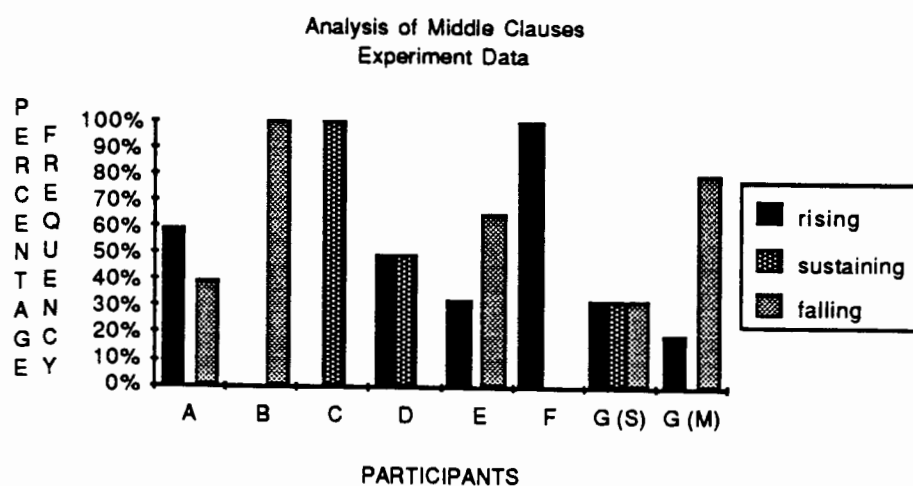
(Figure 11 follows on next page)

FIGURE 11.



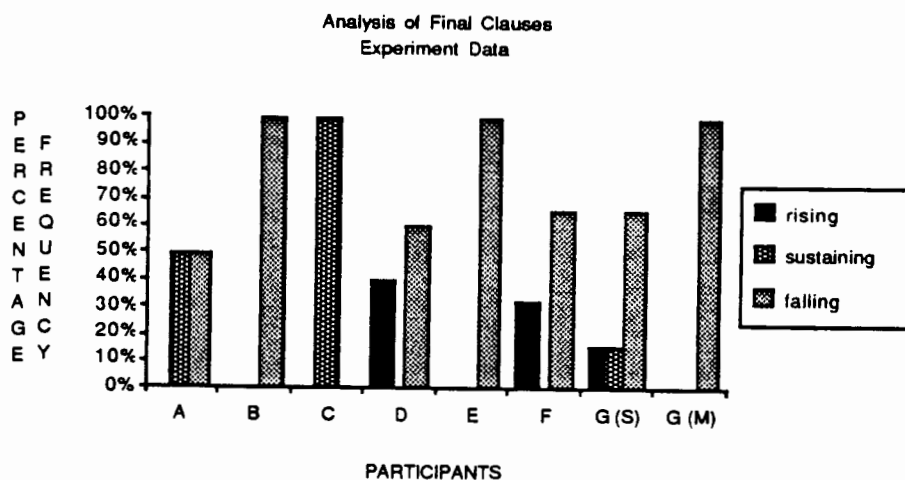
The contours of the middle clauses showed no pattern (see Figure 12).

FIGURE 12.



The final clauses tended to fall in pitch (see Figure 13). The southern dialects exhibited on average 20% rising, 13% sustaining, and 67% falling contours (i.e, based on 15 final clauses in the data). The limited standard sample had 16.6% rising, 16.4% sustaining and 67% falling contours (i.e., based on 6 final clauses in the data). The limited Missingsch sample had 100% falling contours (3 out of 3 final clauses in the data). These clauses also exhibited the dialectal bias. The northern dialect had 33% more falling contours in this category than the southern dialects. The southern dialects had 20% more rising contours in this category than the northern dialect.

FIGURE 13.



The Proben deutscher Mundarten data also revealed the dialectal bias (see Figure 14). The standard sample had higher percentages of falling contours in all positions but especially in final position. The limited Hamburg sample had only falling samples in all positions (i.e., 5 out of 5 clauses in the data). The Würzburg and Munich data had higher percentages of rising contours in all positions, but especially in first position.

FIGURE 14.

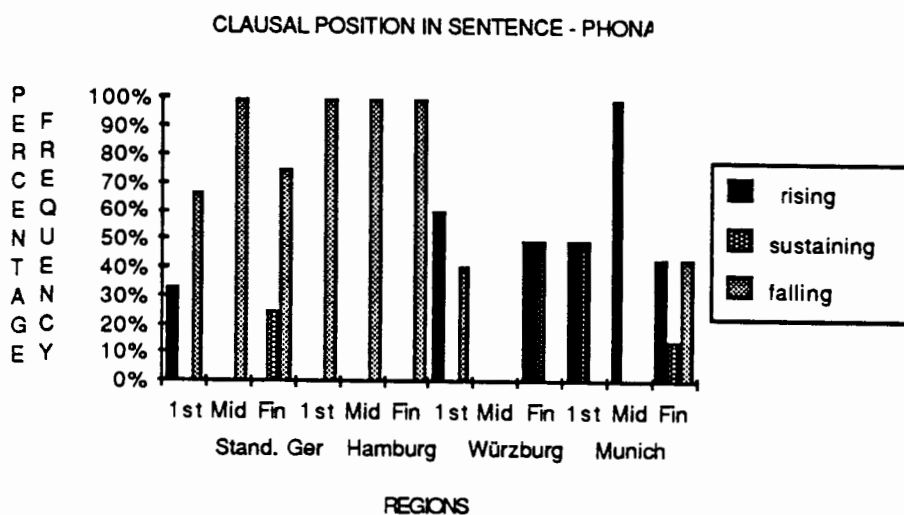


Figure 15 summarizes the experiment data by region. The rule of higher percentages of falling contours at the end of a sentence and higher percentages of rising contours at the beginning was seen in all cases. Still the southern dialects had overall higher percentages of rising contours, while the northern dialect favored falling contours.

FIGURE 15.

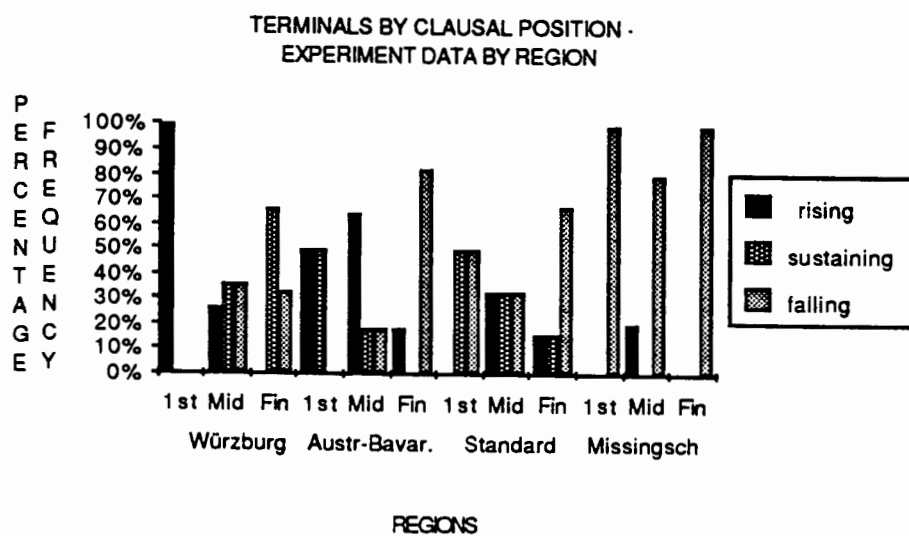
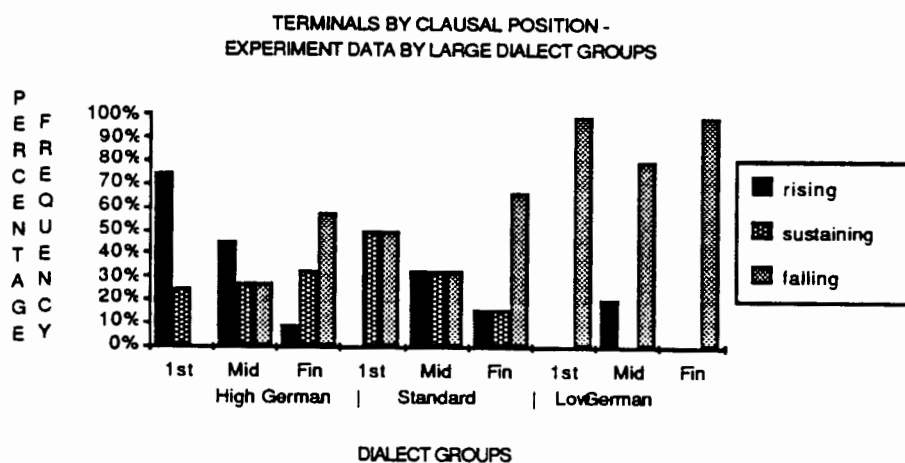


Figure 16 combines the data for different regions to illustrate the difference between the large dialect groups High German, Low German and the standard. Again High German had higher percentages of rising contours in each position than the standard and was even more pronounced than Low German. Still the patterns of falling contours to be prevalent at the end of a sentence and rising contours to prevail at the beginning held across dialect boundaries.

FIGURE 16.



3.3 Discussion

3.3.1. Dialect Distortion/Retention

The questions asked of the informants about the past were answered quickly and briefly. The questions about the present and the future were better at getting them talking. All of them expressed difficulty in repeating the sentence *Ich habe dir das Geld gegeben* six times, using different specified emotions. I thus judged them to be naive with respect to intonation.

Three of the informants were teachers of German. Native Germans complain that teaching beginning German classes causes their own German to decline to a simplified level. Also, as one of the participants mentioned, teaching causes one to use a clearer and/or more standard pronunciation and manner of speaking in class (regional expressions and constructions disappear;) this distorts their natural speech also.

Two of the informants had each been away from Germany for five years. Participant G, the standard German speaker, was one of these two. However, she spoke German whenever possible (she was a graduate student of German literature and this allowed her to speak German most of the

time). She consciously worked at keeping the quality of her German at a high level. Therefore, I concluded that even though she had lived in the United States for five years the influence of English on her German was relatively small. Even participant D, who still spoke the strongest dialect, who had been here only eight months at the time of the recordings and who used German quite a bit during her time abroad, said that she knew (and had been told by her family) that she was then unable to speak her dialect to the extent that she would be able to, were she at home. In addition, how much English and how much German one speaks here and in which situations one uses each language also contribute to the way in which one's language is distorted.

Again participant D explicitly stated what I had suspected. During our first conversation she delivered a half hour monologue about her home in a strong form of her dialect. During our next conversation I was more involved in speaking with her and her dialect was not so strong. She said that during our first conversation she did not think of me, she just thought about what she was saying (i.e., not how she was saying it). During our second conversation she was conscious of adjusting her speech somewhat toward standard German because I was more involved in the

conversation and she felt that I needed to understand what she was saying.

I also noticed that when she spoke of things at home, i.e., her family or *die Trachtenverein* 'the folk dance group', she spoke a stronger dialect. She attributed this to the use of certain dialectal expressions either necessary because the concepts expressed by them are only found in that dialect situation or they are terms always said in dialect in that situation. Using these terms must cause one to use one's dialect more strongly just to make one's speech more homogeneous and easier to produce. The other participants, however, were uninterested in speaking about their homes. Also, since they were from larger towns one could surmise that their experiences were less exotic (i.e., not very different from mine as an American) and therefore that they considered them not really worth talking about. Their experiences at home were probably more cosmopolitan and therefore less likely to induce strong dialect forms anyway. Talking about their lives in America was more interesting to them but less conducive to a study of dialect. This is exemplified by the occasions when they would use English words because they could not think of the German equivalent or there was not an appropriate equivalent.

3.3.2. Intonation of Subordinate Clauses

The limited data in this study containing relative pronoun clauses clearly support the hypothesis that southern dialects favor rising contours and northern dialects favor falling contours. At first glance the experiment data from the subordinate conjunction clauses do not support this hypothesis nor do they suggest a different pattern. There seems to be no direct relationship between the direction of the contour and the dialect area. However, the Proben deutscher Mundarten data for this category would support the above-mentioned hypothesis.

When tabulated according to conjunction the experiment results were too varied to support the above-mentioned hypothesis or to suggest another one. The results from Proben deutscher Mundarten when separated according to conjunction, however, were more regular. The conjunctions: *wenn*, *daß*, *weil* and *wie* represented in that data all yield results that could be interpreted as supporting the hypothesis. The difference in results between the experiment data and the Proben deutscher Mundarten data cannot be explained by differences in the type of data collected, but perhaps by the differences in the

informants and the interview situation. Both sets of data came from spontaneous monologues or conversations. The Proben deutscher Mundarten results might be more reliable for several reasons. The informants were older, better sources of dialect material. They probably did not adjust their speech as much as the experiment's informants did. The Proben deutscher Mundarten subjects were speaking with a native German speaker, the experiment's subjects were speaking with a native English speaker. Lastly, the experiment's subjects are known to have lived in a foreign country, in fact the recordings were done during that time abroad.

However, subdividing the clauses by their sentence position produced more regular results. Since the data were collected in the form of spontaneous monologues it was difficult to set sentence boundaries. During the tabulation particular attention was paid to whether a clause had another clause preceding or following it that could be part of the same sentence. An overall trend for more falling contours at the ends of sentences was apparent regardless of dialect. It seems reasonable for there to be more falling contours at the ends of statements. The results also support the hypothesis of a tendency toward rising contours

for the southern dialects. They had more rising contours in all three positions than the northern dialects and the standard.

4.0 Conclusion

The results obtained from this investigation shed some light on the previous studies of dialectal variation in intonation. Low German, to which the Hamburg dialects belong, is often characterized by its sing-song quality. The informant for Missingsch did show this quality. Zwirner et al. concluded (for Saxon) that this quality is not due to great falls and rises of pitch. Apparently it is also not attributable to especially high proportions of either rising or falling contours: the Hamburg results in the present study greatly favored falling contours. Perhaps this quality is caused by frequent changes in direction of pitch.

Zwirner et al. also noted that all the complete sentences of their recordings had falling terminal contours. This is consistent with the tendency observed here for falling terminals to prevail for sentence final subordinate conjunction clauses.

Guentherodt observed that the dialects that she studied often did not differentiate questions by intonation

if the difference was made clear by syntax. My original hypothesis was that the intonation of subordinate conjunction clauses might differ depending on the conjunction. The tabulations of my data did not bear this idea out.

The results of this experiment follow the pattern set by Guentherodt's isogloss. The southern tendency for rising contours for the questions in Guentherodt's data is upheld in the relative clauses in this study as well. The northern tendency is for falling contours for relative clauses as seen in the questions in Guentherodt's data. However, the difference in intonation for subordinate conjunction clauses between the northern and southern areas is not so clear cut. All the dialects tend to have more falling terminals for sentence final clauses than for sentence initial clauses. The southern dialects, however, tend to have greater absolute percentages of rising contours for subordinate conjunction clauses than the northern dialects exhibit, regardless of whether the dialects have a majority of rising contours for a certain position. Subordinate clauses are dependent clauses, i.e. they cannot stand alone, they are incomplete thoughts. Thus, it is reasonable to expect subordinate clauses, like questions, to have higher

proportions of rising terminal contours than independent clauses have. Guentherodt observed that when intonation is a redundant signal it is often deleted in the dialects. That is the case here for the northern dialects which delete the rising intonation for subordinate clauses. The distinction between subordinate and main clauses is clear from syntax, intonation is a redundant signal, thus it is deleted in the north. Geographically this study differs from Guentherodt's results in that her isogloss divides an Alemmanic area from a Franconian area. This study divides a much larger area, namely the major dialect groups of High German from Low German.

APPENDIX A: TRANSCRIPTION OF RECORDINGS

The following transcriptions encompass: 1) the data from Proben deutscher Mundarten for a speaker of standard German from near Kiel and dialect speakers from Hamburg, Würzburg, and Munich, and 2) one- to two-minute excerpts from each participant's recording made for the experiment described in this paper. The direction of terminal contours of subordinate clauses is indicated. A transcription of the complete recordings is available from the author.

I. Proben deutscher Mundarten

HOCHDEUTSCH, Norddeutsch gefärbt, Kreis Südtondern
Großmutter war in ihrem ganzen Leben noch nicht krank gewesen. Sie hatte eine urwüchsige Gesundheit. Aber als es sie nun wirklich einmal erwischte, (rising) da war es gleich so schlimm, daß sie ins Krankenhaus mußte. (falling) Sie hätte sich damit abgefunden. Sie war geduldig. Aber daß der Arzt ihr zu essen verbot, (falling) wonach ihr der Sinn stand, (falling) das war ihr nicht recht. Und vor allen Dingen - als sie an einem Tag ein

Verlangen hatte (sustaining) nach Rundstücken (Brötchen) mit guter Butter. Als ihre Tochter zu Besuch kam, (falling) sagt sie es zu ihr. "Ja, aber Mutter," sagte die Tochter, "das ist doch nicht schlimm! Rundstücke mit Butter, das will ich dir doch gerne besorgen. Ich gehe schnell rauf ins Dorf und hole dir, was du willst". (falling) "Das kommt gar nicht in Frage", sagt Großmutter. "Hier im Hause sind so viele Leute! Die laß man laufen. Stell dir vor: jeden Morgen kommt der Arzt hier zu mir und fragt nur: 'Wie geht es dir?' Das ist alles, was er sagt. (falling) Und dann - nicht damit alleine abgetan, aber dann hat er einen ganzen Schwarm Lehrlinge mit. Lehrlinge! Alle im weißen Kittel! Die laß man laufen, mir Rundstücke zu besorgen." (Bethge and Bonnin 10)

NIEDERDEUTSCH/NORDNIEDERSÄCHSISCH, Halbmundart, Kreis Altona

Sprecher: Erntefest, das war hier früher ganz groß, aber in den letzten Jahren hat der DGB das übernommen, und seit das hier von dem DGB gelenkt wird, (falling) ist das natürlich hier für Hamburg - für uns - fällt das natürlich flach. Wir haben den Kram nicht mehr mitgemacht.

Frager: Wie ist denn das früher zugegangen? Können Sie nicht davon mal ein bißchen was erzählen -- wie so ein Erntefest damals war?

Sprecher: Ah -- da muß -- wie -- das Erntefest war ja früher sehr schön, wie das noch war zwanzig, fünfundzwanzig Jahren, da...war ein -- war -- war der Bauer, und die Frau und die Tochter, die saßen auf dem -- wenn der Umzug gewesen war, (falling) hier immer Reden, der Bauer, die Bauersfrau, auch die Tochter. Dann schmissen sie den...Erntekranz unter das Volk, und ein Mordsfest war achteran. Die ganzen Landarbeiter und Köchinnen, die haben den Kram mitgefeiert in den Trachten, und war alles bestens. Aber heute, heute ist das natürlich alles...Die Stadt, die kommt uns hier immer dicther auf den Leib. Und - man -- snackt hier auch... und man hat hier teils Land verkauft für zwölf und fünfzehn und zwanzig Mark per Quadratmeter. Und seit der Zeit ist auch das ganze Zusammenhängen unter den Bauern - ist flach gefallen, also da ist nur Neid, und Streit und - Unrast ist dadurch gekommen, wo das früher von zehn und fünfzehn Jahren bestimmt hier einen ... eine Einigkeit unter dem Dorfe war, (falling) wie das überhaupt nicht besser sein konnte. (falling)

Frager: Wirkt sich das nun auch auf die Sprache hieraus?

Sprecher: Ja, die Sprache auch -- die plattdeutsche Sprache, die geht hier so langsam -- am Eimer hätte ich beinahe gesagt. Denn durch die Flüchtlinge und durch alles das, was hier neu zugekommen ist (falling) - man fiel da mehrmals auf, wenn man überhaupt noch Plattdeutsch snackt. (falling) Und mitunter dann wird es einem bereits selber schwer, wenn man dann überhaupt noch mitmachen muß. (falling) (Bethge and Bonnin 18-20)

OBERDEUTSCH/OSTFRÄNKISCH, Vollmundart, Kreis Würzburg (Erlach)

Ja also, als wir so Buben waren, (falling) sind wir immer auf die Jagd mit hinaus gegangen, weil mein Vater ja die Jagd gehabt hat. (rising) Und...da haben wir immer gern Treiben gemacht, und wenn die große Treibjagd war, (rising) da sind die sämtlichen Jäger in der Umgegend sind eingeladen worden, und auch von der Stadt noch, von Würzburg, sind die Jäger gekommen. Da sind die noch nicht mit den Autos gekommen, sondern mit...mit Pferdefuhrwerken, mit so Landauern sind die gefahren gekommen. Und da ist... um zehn Uhr ist es hinaus gegangen, und da war dann eine M...eine Mordshallo! Und wie wir dann

das erste Treiben gemacht haben, (rising) war da ein junger Kerl dabei -- es war auch darunter, die ein wenig "spitzfindig" waren (falling)...und da war ein Treiber dabei, der hat zu seinem Schützen gesagt: "Da sitzt einer!" - "Wo, wo?" - Also bauff! bauff! - "Noch mal drauf, dann springen die besser!", hat er gesagt. Na ja, wie sie nachher ein wenig zugegangen waren, (rising) auf einmal sagte er, " Da sitzt schon wieder einer!" Da hat der Nachbarschütze - war der Lehrer von Nachbarortschaft - der hat dann wieder: bauff!... und der Hase ist nicht herausgesprungen, weil es überhaupt keiner war. (sustaining) Es war bloß ein Misthaufen! Wie sich noch weiter gegangen waren, (falling) hat er seinem Nachbarschützen auf der anderen Seite zugerufen: "Da sitzt einer!" Da hat der wieder: bauff! bauff! "Jetzt trifft der auch nichts", hat er gesagt. (Bethge and Bonnin 94)

OBERDEUTSCH/MITTELBAIRISCH, Münchner Umgangssprache, München

Ja, das ist so: ich bin natürlich in die Lehre gekommen und zwar als Sattler. Und da habe ich die Gelegenheit gehabt, daß da ein Gehilfe da war, (rising) und der hat mir natürlich was erzählt vom Schuhplattlern. Dann habe ich den natürlich gefragt, den Bonifaz: "Sag einmal, kann man

das vielleicht lernen? "Nun sagt der zu mir: "Warum denn nicht? Das ist nicht so schlimm; du mußt bloß fleißig sein und feste üben, dann kommst du schon darauf, wie das vor sich geht." (falling) Na, sage ich: "Ja -- das mußt du mir natürlich schon sagen, weil -- da kann ich nicht widerstehen, daß ich das nicht auch zusammenbrächte." (falling) Na, hat er gesagt: "So, also dann müssen wir schon warten, bis eben Feierabend ist." (falling) Na ja, jetzt ist dann Feierabend gewesen, da sind wir so in der Werkstatt..., weil wir dort auch bei der Sattlerei gleicherzeit gewohnt haben, (rising) hat er gesagt: "Wenn wir jetzt dann gegessen haben, (sustaining) dann gehen wir nochmal in die Werkstatt, und da tun wir dann nochmal probieren, wie das geht." (rising) Und na, hat der mir gleich so die Formen gezeigt; ich habe da geschwitzt dabei. Der hat recht gelacht, weil ich geschwitzt habe. (rising) Ihn ist aber auch warm geworden, weil er immer wieder gesehen hat, (rising) wenn ich einen Fehler hinein gebracht habe, (sustaining) dann ist er mich wieder her und hat mir wieder herausgeholfen. Und so hat sich das entwickelt. Nun hat er sich -- mich mitgenommen, zu so einem Trachtenverein, und da habe ich natürlich gesehen, wie das vor sich geht. (falling) Da ist natürlich auch die

Grundbedingung, daß man eine richtige Tracht hat, (falling) denn -- heut kann ich ja das besser verstehen wie damals, aber die Alten, wo dort unsere Tracht so gepflegt und gehegt haben, (rising) die haben natürlich schon mir die Anweisung gegeben, wie ich mich anziehen muß. (falling) Und zwar braucht man da eine originale Tracht, wie sie eben dieser Verein dort trägt. (rising) Und zwar... - es gibt eine Miesbacher Tracht, es gibt eine Inntaler Tracht, es gibt die Werdenfelser Tracht und so weiter, die -- wie sich eben die Trachten gestalten. (rising) Das liegt in den Gauen, den Bezirken. Und da ist es so, da waren wir bei den Ruhpoldingern, und später bin ich zu einem Verein, zu den Inntalern gekommen, und zwar haben sie die "Naibara" geheißen, und da bin ich so richtig aufgewachsen damit. Und die haben mir auch gezeigt, wie man sich anzieht. (rising) Man muß einen echten Trachtenschuh haben, echt handgestrickte Strümpfe und dazu eine hirschlederne oder eine gamslederne schwarze Hose, so moosgrün gestickt, und einen Janker dazu, einen grauen, ebenfalls ausgenäht und ein bißchen einen Schmuck. Und bei den Dirndeln ist es auch so. Die tragen die Inntaler grünen Hüte mit diesen langen Schleifen am Rücken herunter. Eine schwarze Tracht und grünes Seidenzeug -- das wirkt! Und da, wenn wir halt noch

jetzt eine Plattler haben gemacht, das war halt für uns junge Kerle ganz was! Und ein solcher Reiz ist da dran, daß man immer mehr gemacht hat, (rising) immer mehr. Und -- die Dirndel haben gedreht, daß die Röcke geflogen sind. (sustaining) Und zwar ist das heute so, daß ich jetzt schon zehn Jahre als Gauvorplattler von unserem Isargau die Wirkung in den Händen habe, (rising) und somit weiß ich da ganz genau Bescheid. (Bethge and Bonnin 120-122)

II. Experiment Data

Participant A:

Sprecher: Nach einer gewissen Zeit hat man sich einen gewissen, einen Notwortschatz zusammengebaut, daß man nach einem Zimmer fragen kann, (rising) daß man das Taxi nicht zum überteuerten Preis bekommt (rising)

Frager: (unterbrechend) Wie macht man das eigentlich?

Sprecher: Ah -- muß vorher den Preis aushandeln. Und dann sag entweder "Wir nehmen's nicht" oder "ist ok", aber man darf sich nicht 'reinsetzen und fahren und dann ist zu spät, weil da ist kein Zähler eingebaut (falling) und die merken natürlich schon gleich ob es ein Ausländer ist (sustaining) oder nicht. Das ist kein Problem von der Hautfarbe, vom

Aussehen und ja und. Wenn man dann weiß, (rising) man muß, am besten fragt man zuerst einen Einheimischen, der draußen steht, (rising) wieviel kostet's von da, weil die wissen ganz genau die Preise und den Preis. Wenn er dann teurer sagt, (rising) dann fährt man nicht, oder man sagt eben, man kann handeln mit ihm, weil die merken es ja auch, (rising) wenn man den Preis weiß, (falling) daß man sich erkundigt hat. (falling)

Participant B:

Ich muß sie immer wieder erinnern, daß sie Deutsch reden sollen, (falling) und nicht einfach Englisch 'reinplappern, (falling) was sie ständig machen, (falling), ja...Das ist einfach, das ist einfach quasi vielleicht eine Gruppe von Studenten, die wirklich alle auch sehr ruhige Naturen sind, (falling) ja, die kaum was sagen, (falling), und. Wenn die, wenn die, so eine Konstellation zusammengewürfelt wird (rising) in einem Kurs, in einer Klasse, ja, dann ist es halt schwer, die all irgendwo mitzuziehen, ja. Da fehlen ein paar Leute drin, die wirklich aufgeweckt sind (rising), die die ganze Klasse wirklich aufheitern würden, (rising), mitreißen würden, (rising) ja. Außer, daß ich immer vorne

herumspringe, (rising) und den Entertainer spiele.
(falling)

Participant C:

Würzburg war dann die, die Großstadt in der Nähe, wo es
eben Kinos und Theater und Konzerte gibt (rising) usw.
Würzburg selbst ist eine relativ konservative Stadt. Es ist
eine Beamtenstadt. Es gibt wenig Industrie. Es ist also der
Regierungssitz von Unterfranken und Würzburg ist eine
schöne Stadt, wenn man sich für bestimmte Dinge
interessiert, (sustaining) klassische Musik, etwa. Aber in
anderen Bereichen ist es auch ein bißchen schläfrig und
provinziell. Es hat einige sehr schöne Baudenkmäler: die
Residenz, die Festung und diverse Kirchen, also sehr von
Barock geprägte Stadt, aber. Wenn man dort wohnt,
(rising) nimmt man das natürlich eigentlich kaum mehr
wahr. Man fährt dann an Kirchen und Schlössen vorbei und
sieht die kaum, nur, wenn dann Freunde kommen,
(sustaining) und man die also durch die Stadt fährt,
(sustaining) dann merkt man erst wieder, was es
eigentlich in Würzburg alles gibt. (falling) Die Innenstadt
von Würzburg ist allerdings ziemlich neutral und kühl, weil
die im Krieg praktisch völlig zerstört wurde, (sustaining)

und dann wieder aufgebaut würde, (sustaining) es ist also diese Betonarchitektur der fünfziger Jahre.

Participant D:

Sprecher: Also ich bin in eine richtige Dorfschule gegangen. Ich bin schon in meine eigene Klasse gewesen. Also das hat's bei mir niemals gegeben, daß erste bis achte so beiander gewesen ist. (rising) Aber --- es hat nur einen Lehrer gegeben für alle Fächer. Also und, und einen Pfarrer! Der hat da sein müssen! Religionsunterricht war ja die große Attraktion, weil wir einen anderen Lehrer gehabt...Das ist eigentlich kein Lehrer gewesen. Er war nicht ausgebildet als Lehrer. Er war eigentlich gerade -- der war halt Pfarrer und ist gekommen. Wir waren alle begeistert. Ja, und der andere Lehrer hat alles unterrichtet. Sagen wir's so: wir haben halt...

Frager: War es nur ein Zimmer, oder?

Sprecher: Ja, ja. Eine Turnhalle haben wir überhaupt nicht keine. Das war im Schulhof. Der Schulhof war eigentlich...Du hast 'raus können und du hast soweit laufen können in den Pausen, wie du willst. (falling) Ich meine, da hat's keine Grenzen gegeben, weil da war halt nichts. Da war keine Straße. Oder auf der anderen Seite war die

Straße, aber da ist der Lehrer gestanden, und hat gewartet bis die Kinder kämen. Es ist leider, ist die aufgelöst worden die Schule, und zwar jetzt ist alles zentralisiert. Und...

Frager: Und fahren sie jetzt mit Bussen, oder?

Sprecher: Ja, die Kinder werden abgeholt. Aber die Kinder haben unwahrscheinlich lang zum Schulyard. Das ist so dumm. Weil von einem Hof bis zum anderen fährt man und bis man sie dann irgendwo in der nächsten Kleinstadt oder in der nächsten größeren Dorf trifft, (rising) es dauert eine Stunde. Ich bin auch ja eine gute halbe Stude 'rein auf der Straße. Im Sommer bin ich dann mit 'm Radl ins nächste Dorf gefahren oder so. Das ist schon gegangen, aber, wenn man es jetzt vorstellt, (sustaining) da ist die Zentren nur weiter weg da brauchen die Kinder noch viel länger in die Schule zu kommen. Das ist eigentlich schad', daß das zusammengelegt worden ist. (falling) Das war so romantisch. Da war eigentlich eine Volksabstimmung bei uns im Dorf, ob jetzt die Schule ins nächste Zentrum verlegt wird, (rising) oder ob sie jetzt da auf dem Dorf bleibt (sustaining) und wir haben uns so dafür gesetzt, daß es da bleibt. (falling) Aber es hat nichts geholfen. Die Eltern waren mehr oder weniger dafür, daß die Kinder ins nächste Zentrum kämen. (rising) Das wirkt dagegen die Isolation,

die draußen ist. (sustaining) Ich meine, es ist schon gut, aber es ist auch schade.

Participant E:

Frager: Was fehlt dir jetzt, da du in Amerika wohnst? von Deutschland?

Sprecher: ...Manchmal so eine gewisse Gemütlichkeit, wenn man in Kneipen geht (rising) oder ich meine es gibt halt hier in den USA gibt es wenig Stellen, wo man sich wirklich wohl fühlt. (sustaining) oder gemütlich, wo es gemütlich ist. (sustaining) oder ein Platz, wo sich Leute treffen, (sustaining) also auch in der Stadt, das es ein' Art Stadtplatz oder so etwas fehlt hier meistens. Und gerade hier in Texas, was mir halt gar nicht so gefällt, (sustaining) wenn man aus der Stadt 'raus kommt, (sustaining) ist alles eingezäunt. Also man kann von der Stadt nicht nicht weg, weil alles eingezäunt ist. (falling) Und man kann, zum Beispiel, nicht ohne weiteres mit 'm Fahrrad 'rumfahren oder 'rumwandern, weil alles Privatbesitz ist. (falling) Das ist mir halt ziemlich aufgefallen.

Frager: Ist das vielleicht besonders ein Problem für dich -- ich kann mir vorstellen, daß du vielleicht gerne die Steine anguckst?

Sprecher: Ja, das auch, ja, weil ich durch das Geologiestudium, ah, würde ich gern einmal irgendwo einfach 'rum, 'rumlaufen und das geht halt, geht halt nicht. Oder ich bin auch -- ich habe schon ein paar mal Fahrradtouren gemacht, auch nach Enchanted Rock 'raus, und es ist halt unheimlich schwierig einen Zeltplatz zu finden, weil halt alles eingezäunt ist, (rising) und teilweise sind die Farm, ist die Farm aber soweit weg, daß man gar nicht fragen kann, (falling) oder gar nicht rein kann, (falling) ob man das Zelt aufschlagen kann (falling) oder so.

Participant F:

Frager: Die Universität in Wien ist nicht viel besser als die in Salzburg?

Sprecher: Man muß unterscheiden also welche , welche Fachrichtung dann es gibt einzelne Institute, die haben in Wien einen besseren Ruf, und andere Institute, die in Salzburg haben wieder einen besseren Ruf also das kommt, das kommt ganz darauf an welche Fächer man hat. Es gibt auch also, das war die typische Reaktion vieler Studenten,

die jetzt Jus machen, (rising), daß die den ersten Teil, ah, in Salzburg machen, (rising) weil er leichter ist, und den zweiten Teil in Wien machen, (rising) weil er dort leichter ist. (falling) Oder so war das Gerücht eben, daß viele nach dann eben Studienabschnitt gewechselt hab', (rising) weil es dort leichter oder besser oder sonst irgendetwas wäre. (falling) Aber, ah sonst muß man eben sehen was für Fakultät. Es gibt in Salzburg ein paar sehr gute und es gibt in Wien ein paar sehr gut, neh? Daran muß man sich orientieren.

Fragter: Und welche sind die sehr guten?

Sprecher: Germanistik ist in Salzburg eigentlich sehr gut, die haben dort sehr gute Leute. In Wien ist es auch heißt nicht, daß es in Wien schlecht wäre. (falling) Es ist auch sehr gut, aber Salzburg hat, ah, hat einen sehr guten Ruf eigentlich, ah, auch der Anglistik, zum Beispiel, ist, hat Salzburg nicht so einen besonderen Ruf gehabt, da ist Wien wiederum besser. Was dann Amerikanistik betrifft, (rising) ist also dieser Teil in Salzburg war auch viel besser und ähnlich, ähnlich gut wie wahrscheinlich in Wien. Also das ist ganz unterschiedlich.

Participant G (Standard German):

Die Aussprache wird klarer, wenn man unterrichtet, (falling) Und man unterrichtet so bewußt, daß die Sprache, die man im Unterricht benutzt, (sustaining) dann oft zur Sprache wird, (falling) die man selbst spricht, (falling) um verstanden zu werden... Es ist schon was anders, wenn ich mit Amerikanern Deutsch spreche, (sustaining) oder eben mit Deutschen. Ich höre mich selber, wenn ich jetzt mit meiner Mutter telefoniere, (rising) oder mit Hamburg telefoniere. (rising) Ich spreche anders. Und ich kann das kontrollieren, wie ich mit wem spreche. (falling) Wenn ich mit meiner Mutter spreche, (falling) dann verschlucke ich mehr Vokale und Silben, ganze Silben, weil das eben westfälisch ist. (falling) Und wenn ich mit Hamburg spreche, (falling) dann spreche ich sehr viel klarer. Ich habe eine Freundin in Ohio, die ist aus Hamburg, und wir verfallen oft in diesen Sing-Song. Es dauert eine Weile, weil wir erst uns daran gewöhnen müssen. (falling) Aber dann kommt ein Wort nach dem anderen und dann sind wir wieder im alter Tonfall, was schön ist. (falling)

Participant G (Missingsch):

Sprecher: Meine allererste Erfahrung war eigentlich, daß ich in New York ankam (falling) und die haben mich falsch eingescheckt, da in ein falsches Flugzeug gesetzt, und dann bin ich in Orlando gelandet. Und hab' gedacht Orlando wäre der Name vom Flughafen in Houston. Ich wollte nach Houston. Und dann hab' ich gefragt, wann der nächste Bus in die Stadt fährt (falling) und die haben geguckt und meinten "Heute nacht fährt da gar kein Bus mehr da gibt's ja gar kein Bus." Da mußte ich mit Greyhound quer durch die Lande fahren. Und es war eine witzige Geschichte. Dann kam der Pilot, und alle lachten gerade, und haben aber doch den Ernst der Lage begriffen, weil ich einfach zu blöd war (falling) zu wissen, daß Orlando in Florida ist. (falling) Und dann sagt der Pilot: Ja, hmm, da haben wir uns aber ein bißchen vertan, nicht?" Der konnte ein bißchen Deutsch. Also das ist mir ganz recht gewesen. Und dann hat der mich in Hotel gebracht. Und hat dafür gesorgt, daß ich am anderen Tag doch nach Houston flog. (falling) Das war ganz nett. Hab' eine schöne Erfahrung gehabt. Konnte ich von Orlando -- wir sind also weggefliegen um zehn oder so -- konnte ich dieses -- ich weiß nicht mehr, wie das Ding heißt, (rising) da

dieses Epcot irgend so ein Ding. Nee, das war wirklich ein tolles Erlebnis.

Frager: Und dann als du in Houston ankamst?

Sprecher: Das war auch toll. Ich wußte nicht wohin, nicht? Und hab' , da Sonntag war, (falling) und ich am Montag schon unterrichten sollte (falling) da hab ich den jemanden aus dem Department angerufen, privat, und das war dann, ah, wart einmal, das war einer von den Professoren, und der ist eigentlich dafür verantwortlich gewesen, daß wir rechtzeitig ankämen, (falling) was wir, meine ich, mit einer Ausnahme taten. (falling)

APPENDIX B: QUESTIONNAIRE RESULTS

Name:

Alter:

Beruf:

Wo und für wie lange hast du dort gewohnt?

Welche Mundart spricht deine Familie?

Was ist deine Einstellung zu deiner Mundart? Sprichst du sie gern oder benutzt du lieber eine "gehobene" Redeweise?

In welchen Situationen benutzt du sie?

Wie lange hast du in den USA gewohnt?

Welche Kontakte hast du zur Zeit mit Deutschsprachigen?

Liest du eine deutsche Zeitung oder Zeitschrift? Wie oft liest du auf deutsch? Hörst du deutsche Radioprogramme, usw. manchmal an? Wie oft? Wie oft sprichst du mit deiner Familie und Freunden in Deutschland, bzw. Österreich?

Benutzt du mehr Deutsch oder Englisch hier? In welchen Situationen benutzt du beide Sprachen? Wenn du verheiratet bist, benutzt du Englisch, Deutsch oder eine andere Sprache mit deiner/m Frau/Mann? Welche Sprache benutzt du mit den Leuten, mit denen du wohnst?

Participant A, 24, Student, hat 23 Jahre in Gerolzhofen/Würzburg und 3/4 in Austin gewohnt. Seine Familie spricht Unterfränkisch. "Unsere Mundart ist nicht so ausgeprägt." Er hat viele Kontakte mit Deutschsprachigen durch das Deutsche Haus. Er liest ab und zu die Süddeutsche Zeitung, sonst liest er nicht so oft auf deutsch. Er hört keine deutschen Radioprogramme an. Er spricht zweimal im Monat mit seiner Familie. Er benutzt mehr Englisch als Deutsch hier.

Participant B, 28, Student, hat 24 Jahre in Würzburg und Umgebung und 5 Jahre in Austin gewohnt. Seine Mutter spricht Fränkisch, und sein Vater spricht ein Gemisch von Fränkisch und Böhmisches. Klaus spricht seine Mundart zu Hause und mit Bekannten aus derselben Umgebung. Hier spricht er zu Hause nur Englisch, bei der Arbeit Deutsch und Englisch, und er spricht einmal im Monat mit seiner Familie.

Participant C, 31, Dozent, hat 1951-1977 in Marktbreit/Unterfranken, 1977-1978 in Cochem/Mosel, 1978-80 und 81-87 in Würzburg, und 1987-89 in Austin gewohnt. Seine Familie spricht Fränkisch (Mainfränkisch).

Er sieht Mundart als etwas Natürliches. Durch seine Ausbildung ist er in viel Kontakt mit Leuten aus anderen Bereichen gekommen, und er schätzt die Verschiedenheit der Mundarten. Er liest Die Zeit, etwa alle 2 Wochen. Er hört keine deutschen Radioprogramme an. Er spricht mit seiner Familie etwa alle 4-6 Wochen. Er benutzt mehr Englisch; meist hält er die Sprachen getrennt. Er spricht zu seiner Frau meist Englisch, worüber sie sich beklagt.

Participant D, 24, Studentin, hat 1965-1985 in Straß, 8311 Neufranhofen, 1975-85 in Landshut (Niederbayern), 1985-1988 in Würzburg, und August 88 - Mai 89 in Austin gewohnt. Ihre Familie spricht Bayrisch. Sie spricht viel lieber Mundart. Möglicherweise ist das aber eine Reaktion darauf, daß sie seit Jahren wenig Gelegenheit dazu hat. Ihre Mundart kann sie ausschließlich in ihrem Heimatort sprechen, oder wenn sie mit Leuten aus dieser Umgebung in Kontakt kommt. Während ihres Teilzeitjobs (Deutschdepartment) hat sie mit zu vielen Deutschsprachigen zu tun(!). Insgesamt benutzt sie beide Sprachen im gleichen Umfang. Mit ihren deutschen Freunden spricht sie weiterhin Deutsch, obwohl sie manchmal auch englische Ausdrücke miteinbaut. Mit zweisprachigen Leuten

spricht sie unterschiedlich je nach Sprachfähigkeit der anderen, Deutsch oder Englisch. Sie tendiert auch dazu, einen Mix aus beiden zu sprechen. Um sich ganz klar auszudrücken, benutzt sie lieber Deutsch. Ein- bis zweimal die Woche liest sie deutsche Zeitungen und Zeitschriften. Ansonsten liest sie ausschließlich Englisch.

Participant E, 27, Student, hat 26 Jahre in Burghausen und 3/4 Jahr in Austin gewohnt. Seine Familie spricht Bayerisch. Er hat eine positive Einstellung zur Mundart, spricht zuhause immer Bayerisch, und nur mit Leuten, die aus Norddeutschland kommen, spricht er Hochdeutsch. Er trifft relativ viele Deutsche im Deutschen Haus. Er liest und hört praktisch nie deutsche Sachen. Er telefoniert alle 2 Wochen mit seiner Mutter. Er benutzt Deutsch mit Deutschen und spricht Englisch mit Amerikanern. Im Deutschen Haus wird mehr oder weniger zweisprachig gesprochen.

Participant F, 33, Student, hat 59-78 in Linz, 78-88 in Salzburg, 84/85 in Ohio und ab 88 in Austin gewohnt. Seine Familie spricht Oberösterreichisch. Er spricht meistens Hoch'österreichisch'. Mundart spricht er, wenn er länger bei

seiner Familie oder Freunden, eventuell auch in Streßsituationen oder in stärkeren Emotional-situationen ist. Er liest deutsche und österreichische Zeitungen und Zeitschriften, auch 2 Bücher/Woche. Er hört keine deutschen Radioprogramme, aber er hört deutsche Musikkassetten (manchmal). Er telefoniert 2-3 mal pro Monat mit Österreich. Er spricht hier 40% Deutsch und 60% Englisch. Er benutzt beide Sprachen im Department und mit seiner Freundin (mit ihr spricht er selten Deutsch).

Participant G hat keinen Fragenbogen ausgefüllt. Doch durch unser Gespräch hat sich folgendes ergeben: sie ist Studentin, 31 Jahre alt. Sie ist in Hamburg aufgewachsen, hat 1 Semester in Hamburg, 2 Semester in Siegen, 2 Semester in Bielefeld, 7 Semester in Houston und 2 Jahre in Austin studiert. Ihr Vater hat Missingsch gesprochen, was sie von ihm gelernt hat. Ihre Mutter spricht Westfälisch, mit ihr spricht sie Hochdeutsch. Sie spricht Missingsch zu Hause mit Freunden, die das können, auch mit einer Freundin, die jetzt in den USA wohnt. Ansonsten spricht sie Hochdeutsch. Sie versucht, wenn immer es möglich ist, Deutsch zu reden, und zwar bemüht sie sich, einen hohen Standard des Deutschen beizubehalten. Sie

spricht ungern Englisch und meint, daß ihr oft englische
Ausdrücke fehlen.

APPENDIX C

Percentages have been rounded.

TABLE 1

	SUB. CONJ.		CL REL. PRO. CL.	
	#	%	#	%
Phonai				
Standard German:				
rising terminal contours	1	20%	0	0%
sustaining terminal contours	1	20%	0	0%
falling terminal contours	3	60%	3	100%
total terminal contours	5	100%	3	100%
Hamburg:				
rising terminal contours	0	0%	0	0%
sustaining terminal contours	0	0%	0	0%
falling terminal contours	5	100%	2	100%
total terminal contours	5	100%	2	100%
Würzburg:				
rising terminal contours	4	57%	0	0%
sustaining terminal contours	1	14%	0	0%
falling terminal contours	2	29%	1	100%
total terminal contours	7	100%	1	100%
Munich:				
rising terminal contours	10	53%	1	100%
sustaining terminal contours	3	16%	0	0%
falling terminal contours	6	32%	0	0%
total terminal contours	19	101%	1	100%
Experiment Data				
Würzburg:				
Participant A:				
rising terminal contours	14	74%	1	100%
sustaining terminal contours	4	21%	0	0%

falling terminal contours	1	5%	0	0%
total terminal contours	19	100%	1	100%

Participant B:

rising terminal contours	10	91%	6	86%
sustaining terminal contours	0	0%	0	0%
falling terminal contours	1	9%	1	14%
total terminal contours	11	100%	7	100%

Participant C:

rising terminal contours	5	42%	5	45%
sustaining terminal contours	4	33%	3	27%
falling terminal contours	3	25%	3	27%
total terminal contours	12	100%	11	99%

Bavaria:**Participant D:**

rising terminal contours	9	45%	2	66%
sustaining terminal contours	3	15%	1	33%
falling terminal contours	8	40%	0	0%
total terminal contours	20	100%	3	99%

Participant E:

rising terminal contours	3	30%	9	70%
sustaining terminal contours	6	60%	3	23%
falling terminal contours	1	10%	1	7%
total terminal contours	10	100%	13	100%

Linz:**Participant F:**

rising terminal contours	16	84%	2	50%
sustaining contours	2	11%	2	50%
falling terminal contours	1	5%	0	0%
total terminal contours	19	100%	4	100%

Participant G-Std. German

rising terminal contours	9	60%	3	33%
sustaining terminal contours	1	7%	0	0%
falling terminal contours	5	33%	6	66%

total terminal contours	15	100%	9	99%
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Participant G-Missingsch

rising terminal contours	1	25%	1	25%
sustaining terminal contours	0	0%	0	0%
falling terminal contours	3	75%	3	75%
total terminal contours	4	100%	4	100%

TABLE 2

Tabulated according to conjunction:

These results were tabulated only for the excerpts from the recordings that are transcribed in Appendix A. Since "als" was only represented by two speakers, "seit" by one, "bis" by one and "da" by one, these results were eliminated.

WENN			DAB		
Phonai	#	%	Phonai	#	%
Std. G.			Std. G.		
rising	0	0%	rising	0	0%
sustaining	0	0%	sustaining	0	0%
falling	3	100%	falling	2	100%
total	3	100%	total	2	100%
Würzburg			Munich		
rising	1	100%	rising	3	50%
sustaining	0	0%	sustaining	1	17%
falling	0	0%	falling	2	33%
total	1	100%	total	6	100%
Munich			Exper. Data		
rising	0	0%	Participant A		
sustaining	2	100%	rising	2	67%
falling	0	0%	sustaining	0	0%
total	2	100%	falling	1	33%
Exper. Data			total	3	100%
Participant A			Participant B		
rising	2	67%	rising	1	25%
sustaining	0	0%	sustaining	0	0%
falling	1	33%	falling	3	75%
total	3	100%	total	4	100%
Participant B			Participant D		
rising	1	100%	rising	1	25%
sustaining	0	0%	sustaining	0	0%
falling	0	0%	falling	3	75%
total	1	100%	total	4	100%

Participant C

rising	1	25%
sustaining	3	75%
falling	0	0%
total	4	100%

Participant D

rising	0	0%
sustaining	1	100%
falling	0	0%
total	1	100%

Participant E

rising	1	50%
sustaining	1	50%
falling	0	0%
total	2	100%

Participant F

rising	4	80%
sustaining	0	0%
falling	1	20%
total	5	100%

Part. G (Std. G.)

rising	2	33%
sustaining	2	33%
falling	2	33%
total	6	100%

WEIL**Phonai****Würzburg**

rising	1	50%
sustaining	1	50%
falling	0	0%
total	2	100%

Participant E

rising	0	0%
sustaining	0	0%
falling	2	100%
total	2	100%

Participant F

rising	4	67%
sustaining	0	0%
falling	2	33%
total	6	100%

Part. G (Std.G.)

rising	0	0%
sustaining	0	0%
falling	1	100%
total	1	100%

Part. G. (Mis.)

rising	0	0%
sustaining	0	0%
falling	4	100%
total	4	100%

WIE**Phonai****Mis.**

rising	0	0%
sustaining	0	0%
falling	1	100%
total	1	100%

Würzburg

rising	1	50%
sustaining	0	0%
falling	1	50%
total	2	100%

Munich		
rising	3	100%
sustaining	0	0%
falling	0	0%
total	3	100%

**Exper. Data
Participant A**

rising	1	50%
sustaining	0	0%
falling	1	50%
total	2	100%

Participant C

rising	0	0%
sustaining	2	100%
falling	0	0%
total	2	100%

Participant E

rising	1	33%
sustaining	0	0%
falling	2	66%
total	3	100%

Participant F

rising	3	50%
sustaining	0	0%
falling	3	50%
total	6	100%

Part. G (Std. G.)

rising	0	0%
sustaining	0	0%
falling	2	100%
total	2	200%

Part. G (Mis.)

rising	0	0%
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Munich		
rising	4	57%
sustaining	0	0%
falling	3	43%
total	7	100%

**Exper. Data
Participant D**

rising	0	0%
sustaining	0	0%
falling	1	100%
total	1	100%

Part. G (Std. G.)

rising	0	0%
sustaining	0	0%
falling	1	100%
total	1	100%

Part. G (Mis.)

rising	1	100%
sustaining	0	0%
falling	0	0%
total	1	100%

OB

**Exper. Data
Participant A**

rising	0	0%
sustaining	1	100%
falling	0	0%
total	1	100%

Participant D

rising	1	50%
sustaining	1	50%
falling	0	0%
total	2	100%

sustaining	0	0%
falling	1	100%
total	1	100%

Participant E		
rising	1	100%
sustaining	0	0%
falling	0	0%
total	1	100%

Participant F		
rising	1	100%
sustaining	0	0%
falling	0	0%
total	1	100%

TABLE 3			
	1st clause	middle clause	final clause
Phonai Std. G.	als-rising		
	daß-falling	wonach-falling	daß-falling
	als-falling		als-sustaining
Hamburg	seit-falling	wenn-falling	
			wie-falling
			wenn-falling wenn-falling
Würzburg	als-falling		
	wenn-rising		weil-rising
	wie-rising		
	wie-rising		
Munich	wie-falling		weil-sustaining
		daß-rising	
			wie-falling
			daß-falling
			bis-falling
	weil-rising wenn-sustaining		
		weil-rising	wie-rising weil-rising
			wenn-sustaining wie-falling daß-falling wie-falling wie-rising

Exper. Data Participant A		daß-rising	wie-rising wie-rising daß-rising daß-sustaining
		daß-rising daß-rising weil-falling	
	wenn-rising wenn-rising	weil-rising wenn-falling	ob-sustaining
			daß-falling
Participant B		daß-falling daß-falling	
	wenn-rising daß-rising		daß-falling
Participant C			wenn-sustaining
	wenn-rising	wenn-sustaining wenn-sustaining weil-sustaining weil-sustaining	
Participant D			daß-rising wie-falling
		bis-rising wenn-sustaining wenn-sustaining	
		ob-rising ob-sustaining	daß-falling
			daß-falling

Participant E	wenn-rising wenn-sustaining		daß-rising
			weil-falling weil-falling
		weil-rising daß-falling daß-falling	
Participant F			ob-falling
		daß-rising weil-rising weil-rising	
			weil-rising
		daß-rising	weil-falling daß-falling
Participant G (Std. G.)	wenn-sustaining wenn-falling	daß-sustaining daß-falling	wenn-falling
		wenn-rising	wenn-sustaining
			wenn-rising wie-falling
			weil-falling
			weil-falling
Participant G (Mis.)	da-falling	daß-falling weil-falling	daß-falling daß-falling
		wie-rising	
		da-falling daß-falling	

daß-falling

TOTALS			
Phonai	1st	Mid	Fin
rising	45%	29%	37%
sustaining	10%	14%	16%
falling	45%	57%	47%
total	100%	100%	100%
Exper. Data			
rising	60%	41%	13%
sustaining	20%	21%	13%
falling	20%	38%	75%
total	100%	100%	100%
Phonai			
Std. G.			
rising	33%	0%	0%
sustaining	0%	0%	25%
falling	67%	100%	75%
total	100%	100%	100%
Hamburg			
rising	0%	0%	0%
sustaining	0%	0%	0%
falling	100%	100%	100%
total	100%	100%	100%
Würzburg			
rising	60%	N/A	50%
sustaining	0%	N/A	50%
falling	40%	N/A	0%
total	100%	N/A	100%
Munich			
rising	50%	100%	43%
sustaining	50%	0%	14%
falling	0%	0%	43%
total	100%	100%	100%

Exper. Data			
Participant A			
rising	100%	60%	0%
sustaining	0%	0%	100%
falling	0%	40%	0%
total	100%	100%	100%
Participant B			
rising	100%	0%	0%
sustaining	0%	0%	0%
falling	0%	100%	100%
total	100%	100%	100%
Participant C			
rising	100%	0%	0%
sustaining	0%	100%	100%
falling	0%	0%	0%
total	100%	100%	100%
Participant D			
rising	N/A	50%	40%
sustaining	N/A	50%	0%
falling	N/A	0%	60%
total	N/A	100%	100%
Participant E			
rising	50%	33%	0%
sustaining	50%	0%	0%
falling	0%	67%	100%
total	100%	100%	100%
Participant F			
rising	N/A	100%	0%
sustaining	N/A	0%	0%
falling	N/A	0%	100%
total	N/A	100%	100%
Participant G (Std. G.)			

rising	0%	33%	17%
sustaining	50%	33%	17%
falling	50%	33%	67%
total	100%	100%	100%
Participant G (Mis.)			
rising	0%	20%	0%
sustaining	0%	0%	0%
falling	100%	80%	100%
total	100%	100%	100%
Würzburg			
rising	100%	27%	0%
sustaining	0%	36%	67%
falling	0%	36%	33%
total	100%	100%	100%
Austro-Bavarian			
rising	50%	64%	18%
sustaining	50%	18%	0%
falling	0%	18%	82%
total	100%	100%	100%
Std. G.			
rising	0%	33%	17%
sustaining	50%	33%	17%
falling	50%	33%	67%
total	100%	99%	101%
Mis.			
rising	0%	20%	0%
sustaining	0%	0%	0%
falling	100%	80%	100%
total	100%	100%	100%

Regions:		Exper. Data		
		rising	sustaining	falling
High German:	1st	75%	25%	0%
	Mid	46%	27%	27%
	Fin	9%	33%	58%
Std.:	1st	0%	50%	50%
	Mid	33%	33%	33%
	Fin	17%	17%	67%
Low German:	1st	0%	0%	100%
	Mid	20%	0%	80%
	Fin	0%	0%	100%

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