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PROSODIC ASPECTS OF HAWAI‘I ENGLISH: THE RISE-FALL CONTOUR

M. JOELLE KIRTLEY

This paper examines prosodic contours found in Hawai‘i English, the dialect of English specific to the Hawaiian Islands. Data from casual interviews and tasks completed in a laboratory setting show that, alongside the use of the Mainstream American English rising contour for continuation and questions, speakers of Hawai‘i English use a rise-fall prosodic contour that is also found in both Hawaiian and Pidgin (Hawai‘i Creole). Description of the rise-fall contour adds evidence to the growing body of work that shows that Hawai‘i English is distinct from other varieties of spoken English.

1. INTRODUCTION. The English spoken in Hawai‘i is unique in many ways, as it has been influenced by geographical isolation, ‘local’ identity, and the multitude of languages around it, the most influential of which is perhaps Hawai‘i Creole, or Pidgin, as it is called by its speakers. Despite being markedly different from other varieties of English, and different too from Pidgin, only a small amount of scholarship exists that examines these differences (Drager et al. 2013, Sato 1993, Vanderslice and Pierson 1967).

This paper seeks to examine Hawai‘i English prosody using data from a broad range of Hawai‘i English speakers and utilizing the Tones and Break Indices (ToBI) transcription method, which allows for typological comparison across languages (Beckman, Hirschberg, and Shattuck-Hufnagel 2005), providing a close description of the dialect’s unique rise-fall intonational contour. The typical rise-fall contour is investigated using data from both interviews and tasks performed in a laboratory environment. The exact contour is described using ToBI, and characterized across multiple contexts. This pitch contour cannot be characterized by pitch accents used to describe MAE, and it is therefore necessary that a ToBI system be developed for Hawai‘i English (and for Pidgin perhaps) that can account for this manner of pitch movement. This paper therefore discusses two ways that the contour might be characterized and how these might be represented using ToBI transcription.

2. LANGUAGE IN HAWAI‘I.

2.1 HAWAI‘I ENGLISH. English-speaking sailors and traders began visiting the Hawaiian islands in the 18th century (Reinecke 1969). In the nineteenth century, plantations were built here that brought permanent residents from countries in Europe, Asia, and the Pacific, whose languages intermingled in these new work environments. On the plantations, various pidgins arose that combined the syntactic and phonological systems of these languages, and a creole arose in the mid-nineteenth century with Hawaiian as its main lexifier (Bickerton and Wilson 1987). Later in the century, an English-based pidgin became the lingua franca of the plantations and by the beginning of the twentieth century it had become the native language of many residents of Hawai‘i (Sakoda and Siegel 2003a). Pidgin is still spoken today alongside English, which has been used in official capacities in Hawai‘i since the mid-nineteenth century. English is the language of the schools, courts, and government offices, though Hawaiian is an option for government exchanges.

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1 The dialect of English spoken in Hawai‘i was first referred to as Hawai‘i English in Sato (1993), and this name for the dialect continues to be used by scholars of the variety.

2 Many people from Hawai‘i align themselves with a social category called “local.” This is a term used for people and things that are related to the values, traditions, and practices common to Hawai‘i or for people whose families have lived in Hawai‘i for many generations. This identity is salient to inhabitants of the state and distinct from mainland U.S. identity.

3 I use the term Pidgin throughout this paper because this is how the language is commonly known by both its speakers and the inhabitants of Hawai‘i. Despite being called Pidgin, it is now commonly accepted that it is a creole, as it is spoken as a first language by many speakers.
The English used in Hawai‘i is a separate dialect from MAE (Drager 2012). Speakers of Hawai‘i English are told that they have an accent when they travel outside of the islands, and preliminary acoustic analysis shows that Hawai‘i English has a unique vowel system with a combination of vowel realizations that is not reported elsewhere, and the realization of one diphthong that has not been described in any other variety of English (Drager et al. 2013, Kirtley et al. under review, Sato 1993). In addition, like other varieties of vernacular English around the world, speakers of Hawai‘i English frequently participate in /θ/ and /ð/ stopping (Kirtley in prep.), and Sato (1993) reports that Hawai‘i English can be characterized by fully realized vowels where schwa might be used in other dialects, monophthongized vowels where other varieties may have diphthongs, and more instances of post-vocalic /u/ dropping. These features are of course mediated by social and phonological factors, but they are common to the dialect.

2.2 DIFFERENTIATING ENGLISH AND PIDGIN. Hawai‘i is a richly diverse ethnic and linguistic landscape in which languages from all over the world are represented in large numbers and 24.8 percent of people speak something other than English in the home, with the greatest numbers of these speakers speaking Tagalog, Japanese, Ilocano, Chinese, and Spanish, in that order (U.S. Census Bureau 2013). The cultural influences in Hawai‘i, too, are wide-ranging, and inhabitants local to Hawai‘i use language to index to one another and to outsiders their local identity (Roberts 2004). One way to do this is by using Pidgin, but another is to use a style of Hawai‘i English. This ability to switch between styles and languages and the significant influence that English and Pidgin have had on one another in the last century or so make it difficult to clearly delineate between the two linguistic systems. Individual speakers have differing conceptions of what differentiates the languages, and they may identify themselves as speaking Pidgin or English differently than would another native speaker of both languages. One of the features that make this delineation particularly difficult is the prosody that the two systems sometimes share. Prosody is a salient feature of any language (Bush 1967, Ohala and Gilbert 1981, Peters et al. 2002), and therefore, use of prosodic features that can be found in Pidgin sometimes leads people to believe that what they are hearing is Pidgin, even if there are no grammatical or lexical features from that language.

Researchers of Pidgin, however, do not consider prosody alone to denote Pidgin (Sakoda and Siegel 2003b), and speakers who report that they are speaking English throughout an interview or a task commonly use these shared prosodic features. One native speaker commented that he is aware of this complexity, and that he considers himself to be speaking English when using these prosodic features but none of the lexical items of Pidgin. He reports that he uses Pidgin only with other Pidgin speakers, English with local prosodic contours with interlocutors who are familiar with local speech, and Standard American English with none of the local prosody if he is talking to someone on the Mainland or someone who does not interact with locals very often. He says, “For me, Pidgin is more with certain words. There’s like a certain lexicon, and when I go into that lexicon, then it’s the full on. You know, so other than a couple phrases, to me, intonation can still be part of, I guess, the Standard English.” This paper takes the stance that though the pitch contours in question are markers of local speech, they are used in both English and Pidgin, and therefore do not necessarily signify that a speaker is using Pidgin. The speaker may be using a more local version of Hawai‘i English.

2.3 INTONATION IN PIDGIN AND HAWAIIAN. Gussenhoven (2004) maintains that because energy is greater at the beginning of an utterance than at the end as a result of higher subglottal pressure, high pitch at the end of sentences generally signifies continuations, while low pitch signifies finality and the end of a turn (89). Therefore, declaratives frequently end with falls or low pitches and interrogatives and other continuations end in rising pitch. Gussenhoven considers this to be a universal tendency that provides an example of one instance in which language is not arbitrary. However, there are some languages that do not follow this common pattern, and Gussenhoven sees such languages as evidence of arbitrary form-function relationships (54). In these languages, pitch in questions and continuations often rises at first but then falls dramatically at the end of the utterance.⁴ Both Pidgin and Hawaiian, a Polynesian language,

⁴ Bengali is perhaps the most widely described example of such a language, wherein questions are characterized by a steep rise followed by a steep fall to the final syllable (Hayes and Lahiri 1991).
signal questions and continuations in this way (Anderson 2003, Murphy 2013, Vanderslice and Pierson 1967). In lists, dependent clauses, and Yes-No questions, an utterance begins with a mid-range pitch and successively rises in pitch until it peaks at the syllable that precedes the stressed syllable in the final word and drops to a low pitch on the final stressed syllable (Anderson 2003). This pattern is used to denote a continuation in topic or to signify that the speaker is not finished speaking yet.

Pidgin prosody has many other distinguishing features. In addition to the rise-fall continuation pattern examined in this paper, Vanderslice and Pierson (1967) describe features of Pidgin’s rhythm, intonation, register, and tessitura. Pidgin is a syllable-timed language with a wider tessitura than MAE. It makes use of both what Vanderslice and Pierson refer to as ‘raspy’ voice and falsetto, though they report falsetto as being solely a feature of female speech, and this characterization does not hold in data collected more recently. Furthermore, emphasis is performed differently in Pidgin than in MAE. Pitch accents do not necessarily provide discourse information, and instead, emphasis is communicated through duration. Finally, though the final contour of statements and most Wh- interrogatives is also falling, this contour has a scoop that is not found in MAE.

3. METHODOLOGY.

3.1 DATA COLLECTION. Data for this study come from two sources, and therefore represent two very different discourse contexts. The first sort of data analyzed is taken from casual interviews, while the second type was collected in a more controlled laboratory environment. The interview data come from a database of interviews with speakers from Hawai‘i being collected by a group of researchers at the University of Hawai‘i at Mānoa, headed by Katie Drager. The purpose of these interviews is to collect enough data to understand language use, language change, and sociolinguistic variation in the islands across Hawaiian, Pidgin, and Hawai‘i English. The interviews are generally around one hour in length and occur in the interviewees’ home or work environments. The interviewers are students and faculty in the UH Mānoa Linguistics Department. The speakers are asked questions about themselves, their pasts, their opinions about topics important in Hawai‘i, and questions about language use. The interviews are meant to be informal and are therefore not scripted.

The speakers chosen from the database for this study were born and raised on the island of O‘ahu. They were between the ages of 24 and 65 at the time of the interview, and they self-reported speaking English for the interview. The interviewers in these cases were not speakers of Pidgin, nor were they originally from Hawai‘i. This choice was made to ensure that speakers would be more likely to use English rather than Pidgin. Interviews were recorded on a portable Tascam or Zoom recorder, depending on availability, at a sampling rate of 44.1Hz. Around twenty minutes of each interview was transcribed and time-aligned using Transcriber. These transcriptions began at least fifteen minutes after the beginning of the interview so that the analyzed portions took place after the speakers had time to become accustomed to the recorder. Around twenty interviews were examined for this study. For eight of these, the author was the interviewer. From these, five representative speakers’ interviews were chosen for analysis because of the quality of the recordings and the presence of the appropriate sentence types from which to extract examples.

In addition to these five interviews, examples are taken from data collected in a more rigid setting. Two speakers, one male and one female, who were self-reported to be bilingual in Pidgin and Hawai‘i English, were asked to perform several tasks together in a sound-controlled laboratory. They were told that they should perform all tasks in English, and reported after the tasks were finished that they had done so to the best of their ability. Their first task was storytelling. The two speakers took turns telling a story from two picture books (Mayer 1967, Mayer and Mayer 1971) to one another and then retelling the story.
they had been told back to their partner as well as they could. They were allowed to ask questions of the original storyteller and to be creative.

The second task was a map task. Each participant was given a paper with several buildings or objects drawn on it. Some of the objects were different for the two participants. The first participant was given a map with a path already drawn on it, and she was asked to describe the path in a way that would enable her partner to recreate the exact path on his map without seeing her map at all. Again, they were allowed to ask questions of one another. Then, the second participant was given another map with a different path, and they were asked to switch roles. Finally, their third task was to read questions and statements of types that were sometimes suspected to be spoken with the rise-fall contour. This task was performed with only one participant in the room at a time so that they would not influence one another in performance. They were asked to read the sentence on the page aloud once and then look up from the page and repeat the sentence as if they were saying it to a friend. These sentences can be found in Appendix A. These tasks were recorded on a Zoom H2 recorder at a sampling rate of 44.1Hz.

Examples were extracted from the recordings that exemplify prosodic features that are not found in MAE. Of these features, this paper discusses only the rise-fall pitch contour, though some speakers used other features such as rhythms that caused stress to occur on different syllables than that in MAE, wider tessitura, falsetto to indicate uncertainty, and increased duration instead of pitch to provide emphasis. These features were used primarily by the older speakers in the study. Their usage warrants further description in future work.

**Table 1: Transcription conventions used in ToBI systems to denote breaks and pitch events**

<table>
<thead>
<tr>
<th>Break Indices</th>
<th>-express the degree of disjuncture between words</th>
<th>Pitch Accents</th>
<th>-describe pitch events associated with stressed syllables</th>
<th>Phrasal Tones</th>
<th>-describe pitch events at the end or beginning of a phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>contracted</td>
<td>H*</td>
<td>high pitch</td>
<td>H-</td>
<td>high pitch at intermediate phrase boundary</td>
</tr>
<tr>
<td>1</td>
<td>typical word boundary</td>
<td>L*</td>
<td>low pitch</td>
<td>L-</td>
<td>low pitch at intermediate phrase boundary</td>
</tr>
<tr>
<td>2</td>
<td>pause but no phrasal tone OR phrasal tone but no pause</td>
<td>L*+H</td>
<td>low pitch that scoops to a higher pitch</td>
<td>H%</td>
<td>high pitch at end of intonation phrase</td>
</tr>
<tr>
<td>3</td>
<td>intermediate phrase</td>
<td>L+H*</td>
<td>high pitch immediately preceded by a rise in pitch</td>
<td>L%</td>
<td>low pitch at end of intonation phrase</td>
</tr>
<tr>
<td>4</td>
<td>intonation phrase</td>
<td>H*+!H</td>
<td>mid pitch immediately preceded by high pitch</td>
<td>%H</td>
<td>high pitch at beginning of intonation phrase</td>
</tr>
</tbody>
</table>

|                  |                                              | H+L*          | low pitch preceded by a steep fall from a high pitch | |

**3.2 PRESENTATION OF DATA.** This paper makes use of the ToBI transcription system, first developed from 1991 to 1994 to handle describing intonation in MAE (Beckman, Hirschberg, and Shattuck-Hufnagel 2005). Researchers have since applied the indices of ToBI to other dialects of English and other languages. It is useful for creating a symbolic commentary that can be displayed alongside the data which it describes. Moreover, the autosegmental framework of tones and break indices common to ToBI transcription systems facilitates comparisons among languages and dialects. This standardization of transcription allows for more precise typological work on suprasegmental phonology. ToBI systems include information about breaks between words and phrases and pitch events that denote boundaries or
emphasis. A full record of an utterance that has been prepared in a ToBI system is made up of at least six parts: two continuous phonetic components and four symbolic components. The documentation of each utterance will include the audio recording itself (and generally an accompanying waveform), some representation of the movement of fundamental frequency throughout the utterance, and transcriptions of words, tones, break-indices, and miscellaneous information about disfluencies or interruptions (Beckman, Hirschberg, and Shattuck-Hufnagel 2005). The symbols currently used to describe breaks between words, pitch accents, and tones used at the boundaries of phrases in MAE are displayed in table 1. Examples in this paper will also include a pitch accent that is not currently used in MAE, one suggested by Anderson to exist in Pidgin. This pitch accent is highlighted in gray in the table.

ToBI can be utilized through a variety of acoustic analytical tools, but the audio excerpts for this study were examined in the acoustic analysis software tool, Praat (2014), which allows for highly detailed and integrated displays of waveforms, fundamental frequency, and spectrograms simultaneously along with annotated tiers that provide other useful information about the prosody. Twelve audio excerpts were segmented at the word level, and textgrids were produced that include tiers for phrase, word, tones, breaks, and places where a native-speaker of Hawai‘i English heard prominence in the utterance. Figure 1 provides an example of the way that each excerpt is presented in the paper.

FIGURE 1: Rise-Fall contour by a male speaker on a Yes-No question that does not use inverted word order recorded during the map task

In analyzing the data, I first marked emphasis where I heard it, but because I am not a native speaker of Hawai‘i English but rather a learner, I enlisted the help of a native speaker in confirming the emphases present in the utterances examined. This speaker listened to each utterance three times and without conferring with me, expressed what he felt the speaker was emphasizing in each clip. There was agreement in all but three cases where the native speaker heard emphasis where I had not. This result supports the importance of consulting a native speaker for prosodic work, particularly where emphasis is concerned. Prominence as heard by a native-speaker is included in the tiers because research on this dialect is just beginning, and it is important to include as much information as possible for other researchers of Hawai‘i English and Pidgin until more consensus has been formed around particular pitch accents. Finally, the pitch range was optimized for each audio excerpt so as to best capture the pitch movement happening in the individual speaker’s vocal range and for the best pitch reading performed by Praat. For each utterance type, two examples are given to illustrate the pitch contour that is being discussed.
4. RESULTS

As described above, Pidgin and Hawaiian use a pitch contour that involves a rise in pitch until the final stressed syllable of the utterance, where the pitch falls dramatically to that stressed syllable and any following syllables. This contour is also found in Hawai‘i English and will be examined in depth in this section. Understanding the underlying phonology of this contour is complex because the pitch rises to a high peak before falling, but in every case, there does not seem to be any emphasis placed on the syllable that is realized with the highest pitch. Theory of prosody includes the idea that pitch movement between pitch accents either rises or falls towards the next pitch accent or stays relatively stable between two similar pitch accents. Pitch is interpolated between pitch accents (Ladd 2008). The contour described herein rises before falling to a low pitch on a stressed syllable. Therefore, a valid description of this contour must include some prosodic feature that is causing the pitch to rise before falling. Researchers of Pidgin have chosen to interpret the pitch movement in this contour differently. Murphy, in her dissertation describing prosody in Hawaiian and Pidgin, transcribes such contours with an H* pitch accent preceding the steep drop in pitch and an L- on the syllable where the pitch has fallen (2013). This solution, however, places emphasis on the syllable preceding the pitch drop, which is not consistent with the results of the data from this study or with the data from Anderson (2003). Murphy’s solution also has the problem of being undifferentiated from statements in Pidgin and Hawaiian.

Anderson (2003) offers a different solution, one that does not have these same problems. She posits a pitch accent (as shown in table 1) that can account for both the rise and fall of the pitch contour and at the same time is found on the stressed syllable of the utterance. Her solution is an H+L* pitch accent on the final stressed syllable of rise-fall continuation sentences in Pidgin. This would account for a rise before the syllable that is stressed. One problem with this solution, however, may be that the presence of a pitch accent denotes emphasis placed on a word, and it seems unlikely that emphasis is being placed on the final word in every utterance where this contour is used. There are instances in the examples in this paper where the native speaker heard no prominence on the final word, and yet the utterance uses the rise-fall contour.

A third solution, therefore, is that there is a prosodic tune used in the three languages to denote continuation of topic. Intonational patterns have been described in many languages that are a sort of melody that can be performed on a string of speech. Hirst and Di Cristo (1998) call these “stereotyped patterns” or “stylized patterns.” They are generally used for calling, warnings, or greetings. If this sort of tune is being used in Hawai‘i English, it would be placed on an utterance such that the utterance begins in mid or high range, ascends step-wise until the syllable just before the final stressed syllable in the utterance, where it drops suddenly. Of course, this tune would be subject to pitch accent during the progress of the tune as well. It would look something like the contour found in figure 2, wherein the pitch rises from the first to the second syllable and continues to rise successively until dropping on a final stressed syllable, though the fall does not indicate prominence.

**FIGURE 2:** Proposed tune to account for rise-fall contour in Hawaiian, Pidgin, and Hawai‘i English

In order to test whether the contour being discussed is a result of an H+L* pitch accent or a stylized pattern, examples of this contour could be played for native speakers of Pidgin or Hawai‘i English, and listeners could be asked to indicate where they hear emphasis across many examples. If they hear...
emphasis placed on the final stressed syllable of such utterances, then it is likely that there is a
phonological pitch accent present, but if they do not consistently hear such emphasis, there must be
another explanation—one that perhaps involves a prosodic tune. Alternatively, speakers could be
recruited to perform Hawai‘i English sentences, emphasizing different parts of the sentence. This may be
more challenging to complete, as the contours being examined are not the only options available to
Hawai‘i English speakers, but perhaps both methods alongside one another may provide the strongest
certainty of what is happening with the phonology in Pidgin and Hawai‘i English. Additionally, the H+L*
pitch accent can be looked for in other places in the utterance. If it can be found in the middle of an
utterance, then its existence in these languages and dialects will be well attested. This line of inquiry is a
natural next step for research in prosody in Hawai‘i and should be undertaken before other research
continues. After these tests are performed, either the H+L* pitch accent can be adopted or a new notation
will have to be developed to denote the rise-fall tune while using contemporary prosodic transcription
conventions. Until such time as these two characterizations can be ranked with certainty, Anderson’s
pitch accent provides a likely and promising placeholder to transcribe Pidgin and Hawai‘i English data,
and it will be used in transcription of the examples from this dataset.

4.1. QUESTIONS. The most typical example used for speech that sounds local and perhaps the first new
intonational contour that newcomers to Hawai‘i find themselves using is the rise-fall contour used for
Yes-No questions. Commonly, these questions can be formed without inversion in Hawai‘i English, i.e. a
statement can be turned into a question simply by a rise in pitch that begins on the second syllable and
continues until the syllable preceding the final stressed syllable of the utterance, where there is a very
steep drop in pitch. An example of this type of question can be seen in figure 1 above, where the male
speaker asks the female speaker during the map task if she sees the school on her map. The first part of
the utterance is a complete question, “You see the school?” In MAE, this question would end in a sharp
rise in pitch, notated in MAE-ToBI as H-H%, but in this example, the speaker’s pitch rises steadily from
where it begins at “you” until the determiner before “school,” and on that final syllable, it drops around
53 Hz, finally reaching a low boundary tone at 93 Hz, which is around 23 Hz lower than the mid-range
pitch at which the utterance began. Listeners unfamiliar with Hawai‘i English may actually fail to
interpret such utterances as questions at first because the contour is so unfamiliar to Mainland English
speakers (Vanderslice and Pierson 1967). Such questions are sometimes followed by the tag “yeah,”
although questions formed with final “yeah” are also sometimes produced with rising boundary tones like
those in questions in MAE.

This same contour can be found on inverted Yes-No questions as well. In Hawai‘i English, speakers
can front the auxiliary verb in the same manner that it is frontal to form Yes-No questions in MAE, but at
the same time they may use the rise-fall contour. Two examples are given of this type of utterance, one
from the lab data and one from interview data. Figure 3 shows an example of the female speaker recorded
in the lab offering an example of how she would ask a friend who was also local if someone else was
coming to a movie. Notice that the pitch rises to its highest point on the syllable before “movie.” Since
the first syllable in this word is stressed, this is the syllable that receives the low tone of the pitch accent
(or perhaps the steep drop realized in the tune). This example shows a steeper drop in pitch than the last,
as the speaker ascends in pitch quickly from one syllable to the next, dropping by 150 Hz from “the” to
the first syllable of “movie,” and finally hitting a low of 197 Hz. This steepness in pitch change is part of
what makes the contour so different than intonational patterns in MAE.

Figure 4 shows a speaker quoting an inverted Yes-No question, “Is Uncle Fats working today?” The
low pitch accent at the end of this utterance is not nearly as dramatic in descent. This speaker’s final pitch
is only 7 Hz lower than his initial mid-range starting pitch.
4.2. DEPENDENT CLAUSES. The rise-fall contour is also found very frequently on sentences that begin with a dependent clause. For those sentences starting with a subordinating conjunction, there is an implied continuation of the speaker’s turn as they continue the compound sentence. In order to signal this continuation, speakers of Hawai‘i English can use the general MAE high boundary tone, or they can use the rise-fall contour that Pidgin uses in these cases (Anderson 2003). Sentences that are particularly likely to use this contour begin with “when” and “if.” The examples in figures 5 and 6 show speakers beginning sentences with such dependent clauses; figure 5 shows an example from the male speaker in the lab, and figure 6 is a male speaker in an interview. Though these speakers are using similar strategies in holding the floor during their turn, the phonetic realizations of the contour are quite different in each case. The speaker in figure 5 returns to nearly the same pitch as that at the beginning of the utterance, whereas the pitch of the speaker in figure 6’ drops dramatically on the final pitch. For this speaker, the pitch difference between the highest syllable and the lowest part of “way” is 86 Hz. This phonetic difference could have to do with individual variation or could have discursive purpose. Work in the future should examine whether the steepness of the fall has social or discursive meaning for native speakers.
4.3. INDEPENDENT CLAUSES. On independent clauses that are followed by dependent clauses beginning with a coordinating or a subordinating conjunction, the rise-fall contour is also used to signal that the speaker is not finished. Figures 7 and 8 show male speakers from the interview data using a low pitch on the final syllable to signal that they will continue to speak. Note that both speakers begin on a rather high pitch for their registers because of a high pitch accent on the first syllable. For the first speaker, because there are two high pitch accents in a row, we expect to see the typical sagging plateau pattern between high pitches, which is exactly what the pitch contour looks like before the final drop. For the second speaker, the subject of the sentence has become an intermediate phrase that ends on a low tone. Therefore, the fall-rise contour begins on the second word of the sentence, where ‘go’ is spoken with mid-range pitch.
4.4. **Clausal Subjects.** One final sentence structure from the data collected for this study also made use of this contour. Some Hawai‘i English speakers use a number of clausal subjects, subjects that include an inflected noun-predicate, such as “What I think is that we should go.” These subjects are full clauses, but they are followed by a main predicate, and as such, it makes sense that they might behave in a way that is similar to compound sentence types. As in cases of dependent and independent clauses that begin compound sentences, for clausal subjects, Hawai‘i English speakers can use the MAE intonation for such cases and rise in pitch to signal continuation, or they can use the rise-fall contour. The following two examples are taken from a female interviewee who uses this sentence structure frequently. For her, these clauses also fall in pitch to signal continuation, though other Hawai‘i English speakers make use of both prosodic contours available to them.
FIGURE 9: Rise-Fall contour by a female speaker on a clausal subject recorded during an interview

![Waveform and spectrogram showing a rise-fall contour example]

FIGURE 10: Rise-Fall contour by a female speaker on a clausal subject recorded during an interview

![Waveform and spectrogram showing another rise-fall contour example]

5. CONCLUSION. Hawai‘i English, though very different from Pidgin in lexical items and syntax, shares some phonological features with Pidgin. In particular, the data in this study suggest that speakers of Hawai‘i English have a wide inventory of prosodic features at their disposal that include those of both MAE and Pidgin. Speakers can use either the MAE rising pitch continuation contour or they can use the rise-fall contour like that found in Pidgin and Hawaiian. They use this “local” contour for Yes-No questions, beginning clauses in compound sentences, and clausal subjects.

Though these data reveal that Hawai‘i English speakers use these features distinctive to Hawai‘i, they cannot yet tell us which speakers choose to use these features and when these speakers do so. Future work should examine social and discourse factors to determine how speakers choose the many features that are available to them in different circumstances and with different interlocutors. In addition, research that combines analysis of Pidgin and Hawai‘i English could help to determine if the phonetic realizations of these features are in fact the same or if they vary in some way in the two linguistic systems. Though there is much more work to be done in the study of Hawai‘i English, this paper has provided some examples of what makes the dialect unique and what makes a speaker of Hawai‘i English sound “local.”
APPENDIX A

Sentences read in laboratory data collection:

Did you buy the milk?
Is he coming to the movie?
Did they go to the beach?
I bought slippers, a t-shirt, lotion, and sunglasses.
Where did he go?
When did they start school?
When I was young, we lived in Kailua.
If you go to the store, buy some butter.
When I graduated from high school, after I finished college, I traveled to the mainland.
She got up, let the dog out, ate her breakfast, and brushed her teeth.

REFERENCES


KIRTLEY, M. JOELLE. In prep. /dh/ and /th/ stopping in Hawai‘i English.


M. Joelle Kirtley: Prosodic Aspects of Hawai‘i English: The Rise-Fall Contour


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