THE PRAGMATIC FUNCTION OF INTONATION IN IRBID DIALECT ACOUSTIC ANALYSIS OF SOME SPEECH ACTS

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Abstract

This study aims at investigating the pragmatic function of intonational variations in a Jordanian dialect spoken in Irbid. The study discusses the intonational variations in different utterances with directive and commissive illocutionary forces. The illocutionary forces examined in this study are: orders, requests, warning, threatening and promising. They co-occur with variant grammatical patterns. The autosegmental-metrical approach which was proposed by Pierrehumbert (1980) is used to analyze different intonational patterns. The results show that intonation changes the interpretation of an utterance by virtue of its structure into another interpretation which the speaker actually intends to convey. Also, intonation is needed to determine the illocutionary function of an utterance when there is no any other illocutionary marker.

1. Introduction

The pragmatic function of pitch variations is determined by how different grammatical patterns could convey the same illocutionary force and how one grammatical pattern could deliver different illocutionary patterns. The dialect utilized is that spoken in Irbid which is located to the North of Amman, the capital. The framework adopted in this study is the Autosegmental-Metrical first introduced by Pierrehumbert (1980). The significant pitch points are identified in terms of their relative heights to preceding and following parts of the intonational contour. Also, pitch range is considered to delimit the degree of strength of the performative act. There is little focus on phrasing because most of the recorded utterances contain one phrase. This paper is outlined as follows: Section 2 summarizes the main components of autosegmental-metrical framework and the classification of speech acts by Searle (1979). Section 3 reviews some of the recent studies that try to identify the influence of intonation over speech acts or describe the intonation patterns that spread over different illocutionary forces in different languages. Section 4 briefly outlines the data material used and analysis. Section 5 illustrates Intonational Variations of Speech Acts in Irbid Dialect. Section 6 attempts at identifying pitch accents and boundary tones that co-occur over the recorded utterances. Section 7 offers a summary for the findings.

2. Theoretical Framework

2.1. Autosegmental-Metrical Framework

Pierrehumbert (1980) initiates an autosegmental-metrical framework that splits the intonational representation into segmental and tonal tiers. In the segmental tier, an utterance is analyzed metrically depending on the stress assignment rules of a specific language. Also, in the tonal tier, the autosegmental events are identified. Pierrehumbert recognizes two types of events, those associating with strong or stressed syllables in the segmental tier (pitch accents) and those associating with the edges of a phrase (edge tones). What distinguishes the autosegmental-metrical framework is the new system of notation. Pierrehumbert's notation identifies the contour as a sequence of pitch accents and edge tones (Ladd, 1996:79). Pitch accents which are associated with the strong syllables of an utterance and consist of one (H)igh or (L)ow tone and marked with (*), are identified as monotonal. A starred pitch accent could be preceded by a leading tone or followed by a trailing tone. In this case, it is bitonal. Pierrehumbert proposes six possible pitch accents: (H*, L*, L*+H, L+H*, H*+L, H+L*) (ibid). They often involve a local maximum or minimum and lend prominence to the segmental parts they are associated with.

Edge tones are divided into two types, phrase accents and boundary tones. Boundary tones associating with the end of an intonational phrase are marked as (H%) or (L%). Phrase accents that mark the end of an intermediate phrase are indicated either as (H-) or (L-). Pitch accents, phrase accents and boundary tones represent the structure of a tune. A boundary tone is associated optionally to the beginning and obligatorily to the end of a tune.

A phrase accent occurs either at the end of an intermediate phrase or between the last pitch accent and the rightward boundary tone. This sequentially well-formed tonal structure that transcribed using (H) and (L) could be reorganized as follows (Ladd, 1996:45-46): The autosegmental components could be affected by a number of phonetic or phonological rules that explain how two intonational patterns vary within pitch range. Pierrehumbert (1980:47-54) recognizes four rules; declination, downstepping, upstepping and spreading rule. In declination rule, the baseline of the speaker's pitch range may slightly fall through the utterance. This kind of falling is able to control the height of F0 peaks in an utterance and make them fall gradually till the boundary tone. Downstepping involves the decrease of a peak height because of a preceding bitonal accent that triggers downstepping like (H*+L) regardless of the speaker's pitch baseline, and upstepping is exclusive for a boundary tone which raise as a result of a preceding (H-) phrase accent. The last rule is tone spreading that affects the unstressed syllables height direction; unstressed syllables between two hierarchically different pitch accents may stay level, gradually decrease or increase towards the second pitch accent as a result of the left to right spreading (ibid: 219).

2.2. Searle's classification of speech acts

Speech acts can be described as actions of speaking by which the speaker delivers his intention to the hearer (Searle, 1979: 12-20). Searle classifies speech acts into five categories:

1- **Representatives** are illocutionary acts by which the speaker ties between the propositional content of what he says and reality: state, believe.

2- **Commissives** are illocutionary acts by which the speaker commits himself to some future action: promise, threat.

3- **Directives** are illocutionary acts by which the speaker attempts to get the hearer to do something: warn, order.

4- **Expressives** are illocutionary acts by which the speaker indicates his psychological state or mental attitude towards a state of affairs: welcome, greet.

5- **Declaratives** are illocutionary acts by which the speaker makes or introduces a state of affairs: marry, name.

This study focuses on some directive and commissive performatives.

3. Review of the related literature

3.1. Intonation and speech acts

Intonation and pragmatics are two fields related to the domain of utterance. Consequently, there are many studies which examine and explain the role of intonation and some pragmatic phenomena. Speech acts is one of the most recent fields that are studied in relation with intonation. Tamoto and Kawabata (1993: 1-10) propose a new schema to determine the illocutionary act of an utterance. The informants are asked to identify the sentence type and intonation contour of a given English utterance. Speech acts are represented as three basic categories, the illocutions of assertion, question and request. The results show that the informants are able to identify 90% of speech acts. Delin and Zacharski (1995: 1-7) describe some aspects of the interaction between pragmatics and intonation in dialogues. They concentrate on the relationship between pragmatics and two intonational components: register and pitch placement. In other words, how topic structure, cognitive status and informativeness lead to a better determination of pitch range and placement. But most of their work focuses on the importance of lexical constituents to determine if they are accented or deaccented.

Veliz (2004:1-7) attempts to investigate the intonational patterns of different speech acts in English. He analyzes utterances that convey different directive, expressive, representative, commissive and declarative forces. The findings show that intonation plays a role in determining the illocutionary force of those utterances related to directives and expressives. But these results are not clear because he doesn't clarify the subtypes of speech acts he examines. Hirschberg (2006:515-53) also illustrates the role of intonation in the interpretation of speech acts in English. She points out that the phonetic realization of pitch levels as well as intonation patterns play a significant role in determining the type of speech act an utterance conveys, as shown in the following example:

- Would you stop hitting Gwendolyn?

(ibid, 535)

It could be uttered as a yes-no question to elicit information with (**L*** H-H%) pattern or indirectly uttered with (**H*** L-H%) pattern as a request. Fale and Faria (2007: 6-10) try to identify the phonetic features of European Portuguese directives intonation. They find out that imperatives, orders and requests share an initial rise of the first stressed syllable. After the nuclear accent peak, the pitch falls down with large amplitude. Orders show higher fundamental frequency average. They conclude that these directives mainly differ in pitch register and span. Accordingly, they are ordered respectively as: orders - imperatives - requests.

In light of the review of recent studies, there are no studies that have dealt with the pragmatic functions of intonation in speech acts in a Jordanian dialect spoken in Irbid.

4. Material

To get more uniform collected data, the sample is restricted to two male speakers of Irbid dialect. The utterances have been recorded with a microphone connected to a laptop in a quiet environment and analyzed acoustically. The recorded utterances that have directive and commissive forces vary in terms of the structural patterns: declaratives, interrogatives, imperatives, and vocatives. In this study pitch as a perceptual concept is realized as fundamental frequency (F0). The data have been digitized at 44KHz and using Praat, a program for acoustic analysis. They are interpreted by utilizing the autosegmental-metrical Framework. Pitch track figures have been made to illustrate the F0 changes in the recorded examples.

5. Intonational Variations of Speech Acts in Jordanian Dialect spoken in Irbid

This section presents an analysis to the intonational variations that are used with two categories of speech acts, directives and commissives. Moreover, the main intonational patterns are considered and the pragmatic influence of intonation on these acts is introduced.

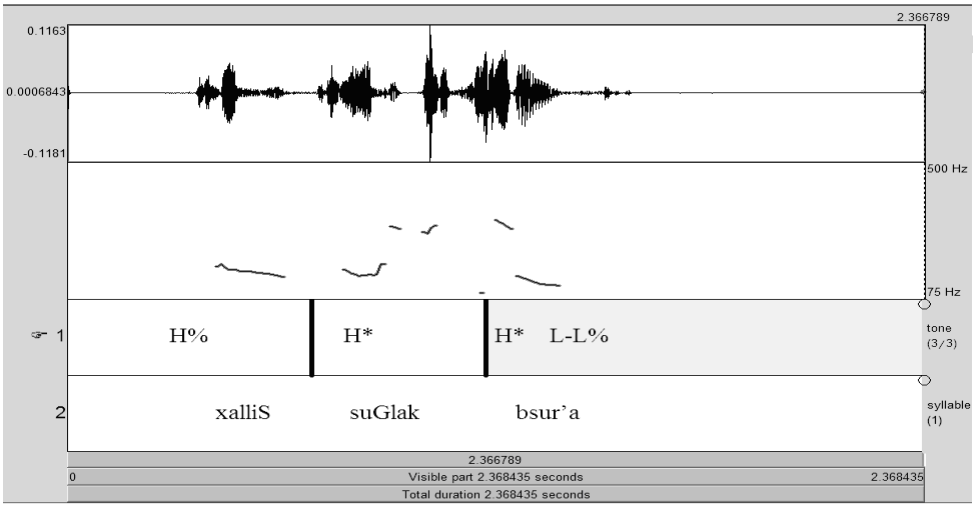
5.1. Directives

Directives are a class of speech acts that commits the hearer to do some future action (Searle, 1979:13). In this subsection, some types of speech acts that carry a directive illocutionary force are introduced and analyzed intonationally. These types are orders, requests and warnings. The grammatical patterns of these types are interrogatives, declaratives, imperatives and vocatives.

5.1.1. Orders

From a pragmatic point of view, order has the intention of eliciting an action on the part of the hearer aggressively (Cruse, 2000: 342). The illocutionary force of order in Irbid dialect could be attained by imperatives**.** Consider the following example:

Figure 1. [*xalliS šuGlak bsur'a*]. " finish your job quickly" .



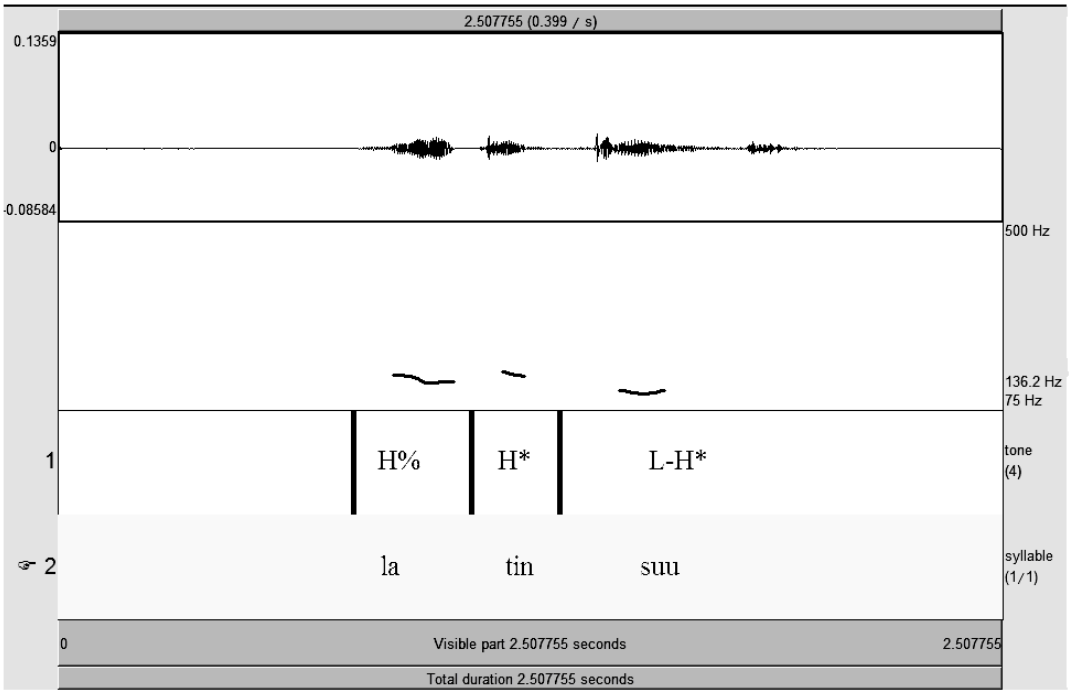
The findings of this research show that the utterance */xalliS šuGlak bsur'a/* is represented in the waveform in figure 1 has a (**H*** L-L%) pattern. The utterance has two stressed syllables *"šuG"* and "bsur" which are associated with high pitch accents. These high accents lend prominence to the stressed syllables, but it is clear that the second, the nuclear accent, is higher and more prominent. At the very end, the pitch falls to a low point to form (**H*** L-L%). The intonational pattern of this utterance has wide pitch range, in other words, the distance between the pitch peaks and valleys increases in order to show seriousness. This is consistent with Al-'ani (1970:92) where he has found that order tune reaches its highest level on the last stressed syllable and falls to the bottom of the range. This utterance conveys the illocutionary force of order directly regardless of its contextual factors and intonation since this force matches with the (grammatical) imperative pattern of the utterance. The word *"bsur'a"* (quickly) also indicates the force of order.

5.1.2. Requests

Pragmatically, request has the intention of eliciting an action on the part of the hearer politely (Cruse, 2000: 342).

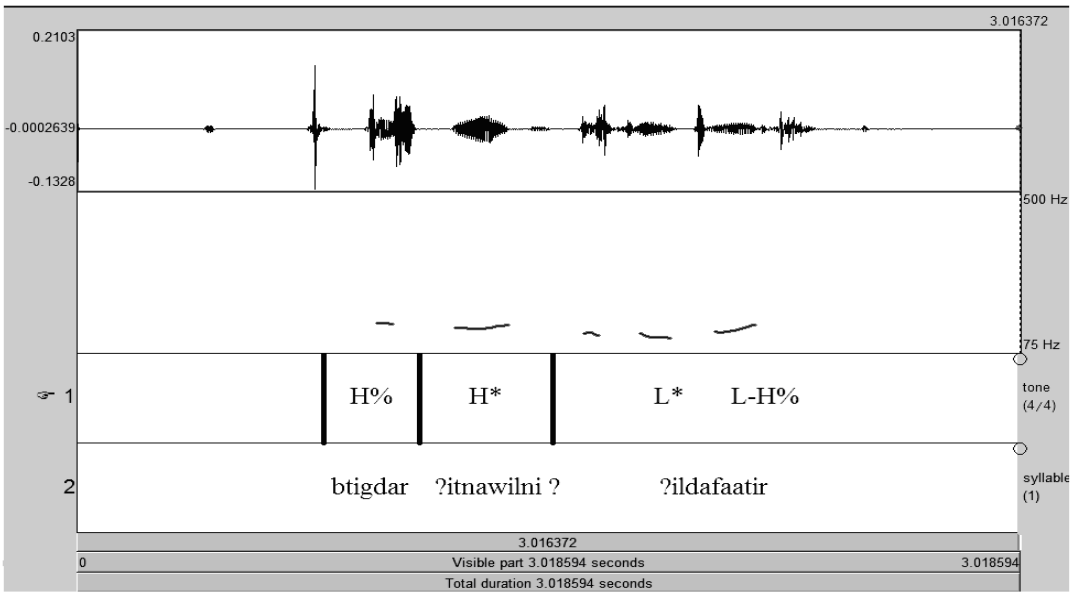
Besides the context and some illocutionary particles like *law "samaHit"* (please), intonation contributes to the evidence that the speaker is requesting from the hearer. The illocutionary force of request could be delivered by imperative or interrogative sentences. Consider the following imperative statement that has a request sense:

Figure 2. [*la tinsuu*] "Don't forget"



Findings indicate that the utterance */l*a *tinsuu*/ is represented in the waveform in figure 2 has a (**H*** L-H%) pattern. The pitch begins high, reaches its highest point at the nuclear syllable ***"tin"***, and then it falls. At the right edge, pitch direction slightly rises to form (**H*** L-H%) pattern. This is consistent with Hertschberg (2006) where she has found that request in English has a (**H*** L-H%) pattern. In most cases, request is motivated by politeness, but in this imperative utterance, politeness is not indicated by the literal meaning. As a result, the hearer depends on the intonational pattern (**H*** L-H%) to perceive it as a polite request. A speaker could also request by a declarative yes/no question but with (**L*** L-H%)request pattern like the following example:

Figure 3. [*btigdar ?itnawilni ?iddafaatir?*] "can you hand me the notebooks".



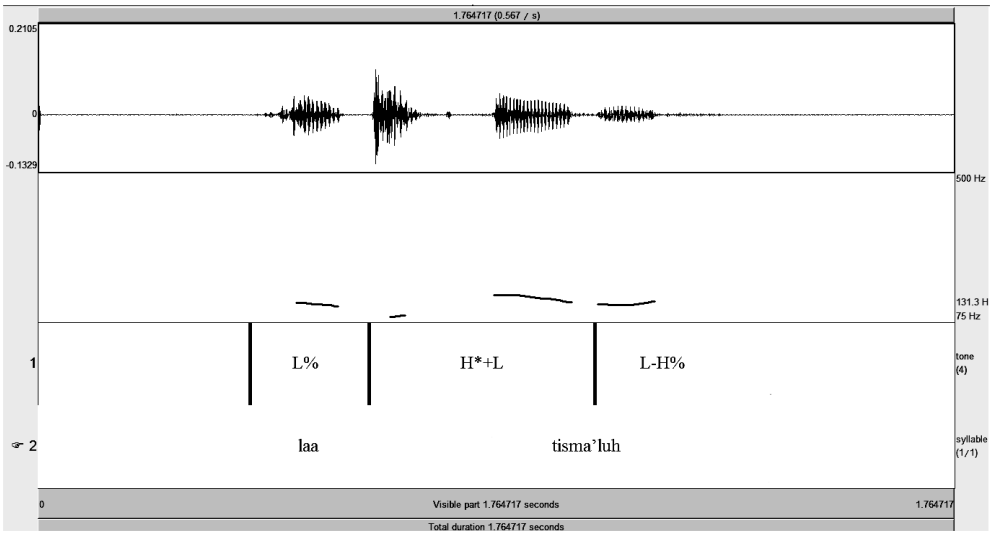
The pitch starts high and continues till it falls just before the nuclear syllable, the third syllable ***"faa"*** of the last word. The low nuclear accent is followed by low pitch accent and high boundary tone. In colloquial Arabic, yes/no questions are formulated with no particle at the beginning but the upstepped edge tones (H-H%) distinguish it from its declarative counterpart.

In the preceding utterance, polite request is distinguished from a yes/no question by its rising edge (L-H%) that is preceded by a low nuclear accent on the third syllable of "*?idda**faa**tir*". The native speaker can understand the intended meaning either as the act of request or the literal meaning depending on its intonational components especially edge tones.

5.1.3. Warning

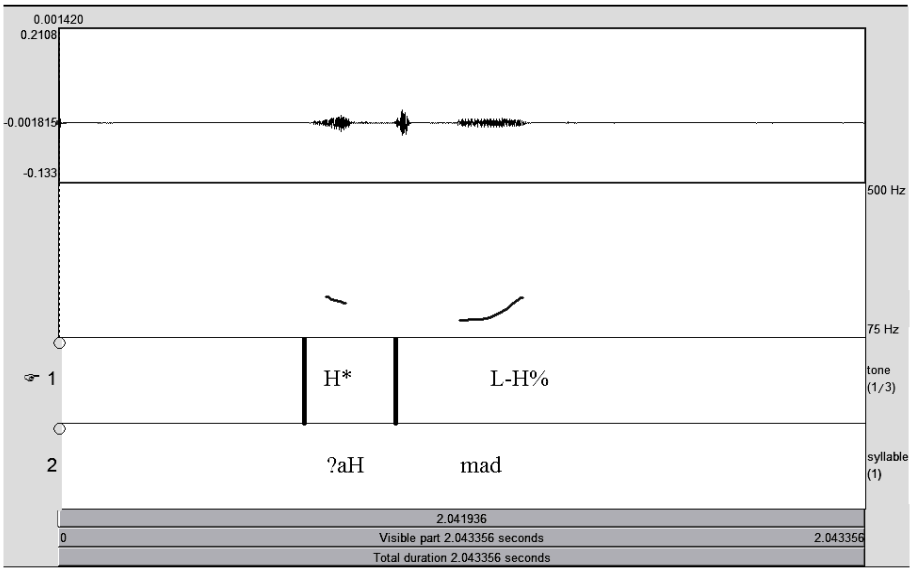
From a pragmatic view point, warning shares order and request the intention of eliciting an action on the part of the hearer. A speaker may utter a vocative, imperative, declarative or one-word utterance to deliver warning. Consider:

Figure 4. [*l*aa *tisma*ʕ*luh*] "don't listen to him".



The findings of this research show that the utterance /*l*aa *tisma*ʕ*luh*/ is represented in the waveform in figure 4 has a (**H***+L L-H%) pattern. The pitch starts low , raises on the nuclear syllable "***ma***ʕ" in the second word, falls after the highest peak in the tune ,and then relatively steps up to the middle of pitch range at the end of the tune to form (**H***+L L-H%) pattern. The pitch accent is observed as a bitonal one because it shows a fall from a high peak within the same syllable. The above utterance is grammatically imperative, and it could be said as an order, warning, request, etc. The primary illocutionary force is warning by virtue of its intonational pattern (**H*** L-H%). The same tune may be compressed within a single word as in the following example to convey the act of warning.

Figure 5. [*?aHmad*] "Ahmad".



Findings of this research illustrate that the utterance */?aHmad* / is represented in the waveform in figure 5 has a (**H*** L-H%) pattern . In this single-word utterance, the speaker may attempt to prevent the hearer from doing something unpleasant again and involve a sense of threat. The pitch begins high and falls within the same syllable to form the bitonal nuclear accent on the first syllable that carries the nuclear accent. At the end, we see a rise after the low phrase accent to form (**H*** L-H%) pattern.

On the other hand, it is clear that there is not any preceding syllable before the nuclear one "***?aH***" to observe the low boundary tone that appears in figure 5, and the pitch range of this utterance is obviously wider because it has no intrinsic directive sense that the previous utterance has.

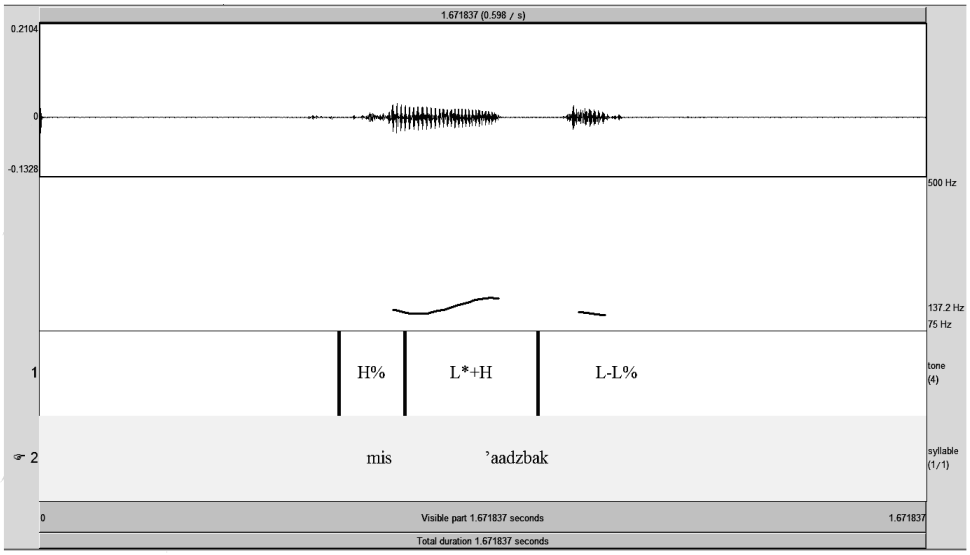
5.2. Commissives

In this subsection, some types of speech acts that carry a commissive illocutionary force are introduced and analyzed intonationally. These types are threatening and promising.

5.2.1. Threatening

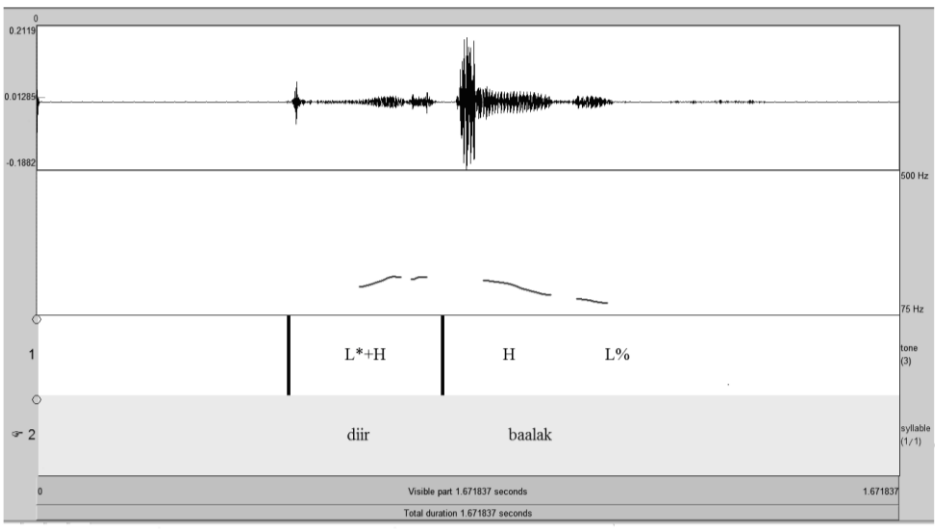
A threat is an utterance indicating that the speaker will harm someone, especially if he doesn't do what the speaker wants. In speech acts theory, threatening is an act by which the speaker commits himself to a harmful action towards the hearer in the future. The illocutionary force of threatening could be attained by declarative, imperative, or vocative statements. Consider the following:

Figure 7. [*miš ʼaaʤbak*] " you don't like it".



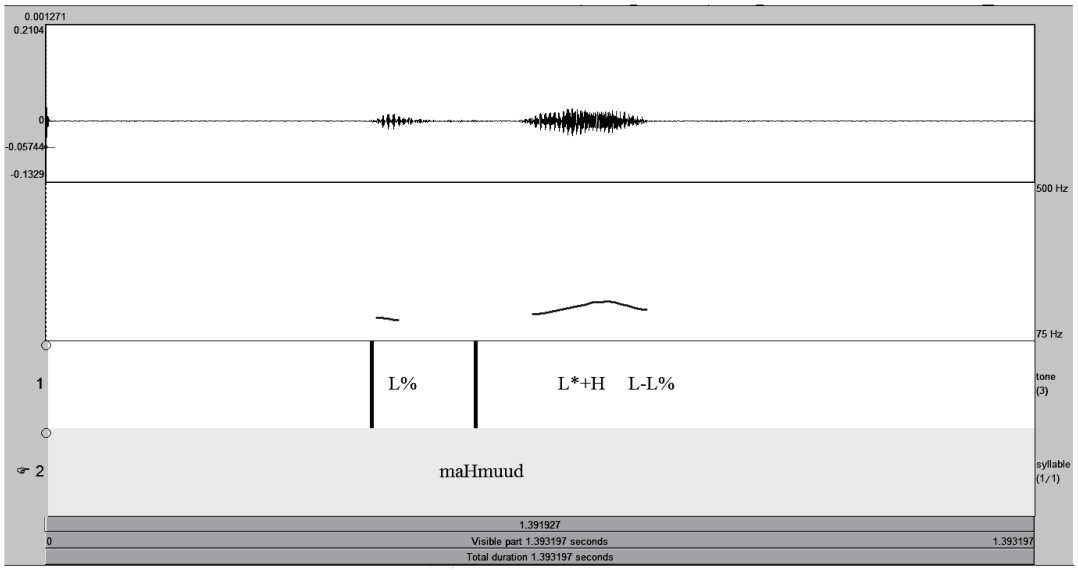
The findings indicate that the utterance */miš* ʼaa*ʤ*ba*k* / is represented in the waveform in figure 7 has a (**L***+H L-L%) pattern. This consistent with Al-'amayreh (1991) where he has found that threatening has a faling intonation. pitch starts low at the leftward boundary and rises at a later point of the nuclear syllable "***ʼaaʤ***" to form the bitonal nuclear accent (**L***+H). At the leftward boundary, the pitch falls to a very low point. The importance of intonation becomes clear if the tune is changed or modified. The replacement of the final low fall with an upstepped rise will turn the primary illocutionary act into question. In both cases, threatening and question acts are conveyed indirectly because they don't match the grammatical pattern of the utterance. Now, the same pattern could spread over an imperative statement like the following:

Figure 8. [*diir baalak*] " be careful".



The utterance starts with the nuclear syllable *"**diir***" that carries the bitonal accent (**L***+H), and then the pitch starts to fall gradually till it reaches the lowest point in the range to form (L-L%) edge tones. The same utterance with different intonational patterns could be used to convey different illocutions. (**H*** H-L%) pattern delivers a warning. This means the literal meaning is not enough to express the intended meaning. The following example illustrates how the same pattern could be compressed within single word vocative utterance. Consider:

Figure 9. [*maHmuud*] "Mahmoud".

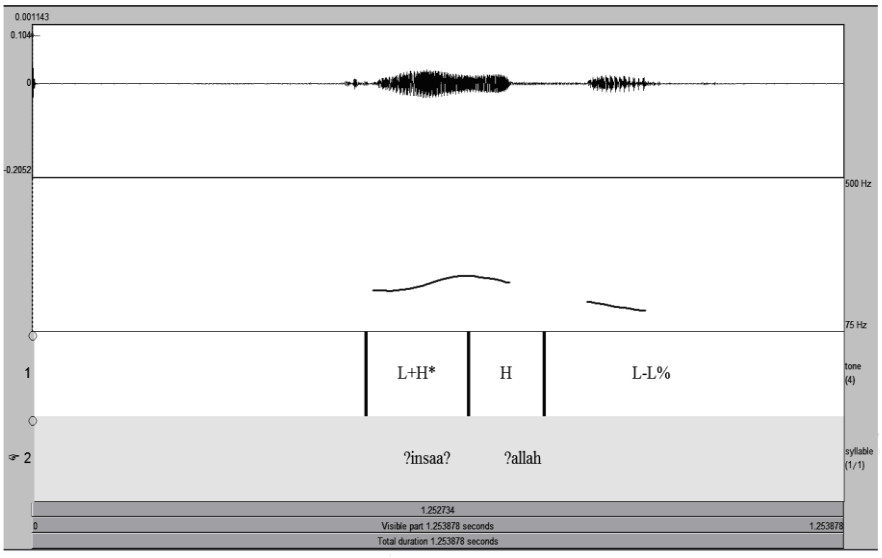


Findings of this research illustrate that the utterance / m*aHmuud* / is represented in the waveform in figure 9 has a (**L***+H L-L%) pattern. The pitch of this vocative utterance is introduced with a low pitch that continues till the beginning of the nuclear syllable "***mud***". The low pitch accent (**L***) is followed by a high trailing tone , low edge tones. To sum up, it is clear that the aforementioned utterances need intonation to specify their intended meanings because their literal meanings don't indicate the act of threatening.

5.2.2. Promising

Pragmatically speaking, promising is a speech act by which the speaker commits himself to do an action in the future. It could be attained by declarative or imperative sentences. Let's consider the following declarative utterance that has the illocutionary force of promising:

Figure10 . [*?inš*aa *?allah*] "God welling".



Findings of this research show that the utterance / *?inš*aa *?allah* / is represented in the waveform in figure 10 has a (L+**H*** L-L%) pattern. In this utterance, the pitch starts low and rises at a later point of the stressed syllable "***š*aa**", and then it falls to a very low level in the range.

It is clear that the bitonal (L+**H***) accent shows a peak that rises from a lower point in contrast with (**H***) accent. Such an utterance conventionally indicates the act of promising regardless of its intonational pattern.

6. Concluding Remarks

The observed pitch accents with the illocutionary acts in hand are:
H*: is a monotonal event realized as a high peak, starting at the middle range of a speaker's pitch.
H*+L : is a bitonal target representing a high peak followed by a valley.
L+H* : is a bitonal event realized as a high peak on the accented syllable, starting from a lower point in the pitch range.
L*+H : is a bitonal target consisting of a valley followed by a rise on the same accented syllable.

The observed phrase accent and boundary tone sequences are:
L-L% : is a tonal sequence realized as a gradual fall to the lowest part of the speaker's range.
L-H% : is a tonal sequence consists of a fall to a low point in the range followed by a rise.
H-L% : is a tonal sequence which represents a high phrase accent followed by a low boundary tone upstepped to the same level of the phrase accent.

7. Conclusions

7.1. The Relation between Intonation and Speech Acts

The present study is an attempt to investigate the relationship between the intonational variations and some speech acts in Arabic dialect spoken in Irbid. The findings show that intonation is responsible for turning an utterance whose structure could have certain interpretation into another one the speaker actually intends to convey. The findings also show that intonation plays a role in determining the illocutionary force of directives and commissives. They show also that the significance of intonation depends on the appearance of illocutionary marking words like *"?aasif*" (I am sorry) and *"?aGallbak*" (could I bother you". Intonation is needed to determine the illocutionary function of an utterance when there is no illocutionary marking words. The directive illocutionary forces that are studied in this research are orders, requests and warnings. Their intonational variations as follows:

a- Orders could be attained by imperatives. The observed tune of orders is (**H*** L-L%) with a wide pitch range to show seriousness.
b- Requests that are usually triggered by politeness could be delivered by imperatives or interrogatives. The imperative requests have (**H*** L-H%) and the interrogative requests have (**L*** L-H%) pattern with a narrow pitch range.
c- Warnings could be attained by declarative, imperative or vocative utterances. Declarative warnings are characterized by (**H*** H-L%) pattern. Imperative and vocative warnings have (**H*** L-H%). The data show that warnings have wide pitch range.

On the other hand, the intonational variations of the commissive illocutionary forces, threatening and promising as follows:
a- Threatening could be attained by declarative, imperative or vocative utterances. The intonational variation that spreads over warning utterances is (**L***+H L-L%) regardless of their grammatical type.
b- Promising is delivered by declarative utterances with (L+**H*** L-L%) pattern.

Chahal (1999), El-Hassan (1987), Al'amayreh (1991) and Al-Ghamdi (2007) considers the Arabic declarative pattern as consisting of a high tonic syllable or nuclear accent followed by a low falling to the bottom or middle of pitch range. In this study, declaratives co-occur with different intonational patterns and pitch heights to convey a number of illocutionary forces. Declarative warning pattern consists of a high nuclear accent followed by edge tones rise to the middle of the range. Declarative threatening and promising patterns end with low edge tones, but the whole range of the tune is raised. Imperatives could be used to convey different directive or commissive illocutionary forces. The order pattern has a wide pitch range that falls at the leftward boundary of the tune. This is consistent with Al-'ani (1970:92) where he has found that command tune reaches its highest level on the last stressed syllable and then falls to the bottom of the range at the rightward boundary. Request pattern has a narrow pitch range that ends with edge tones that rise to the middle of the range and that is consistent with Hertschberg (2006) where she has found that request in English has a (H* L-H%) pattern. Warning and threatening patterns have wide pitch range, but warning pattern is marked with a high nuclear accent and high boundary tone, and threatening pattern is characterized with a low nuclear peak at the same syllable followed by a high accent and low edge tones. Vocatives co-occur with warning and threatening. Vocative warning has a high nuclear accent followed by a rise to the middle of the range at the rightward boundary. Vocative threatening consists of a low nuclear accent followed by a high rise at the same syllable and low boundary tones.

This is different from Al-'ani (1970:92) and Al-'amayrah (1991:63) where they have found that vocatives always have falling intonation. Yes/no interrogatives are marked with a low nuclear accent and upstepped rightward edge tones in Arabic and English (Halliday 1970: 27). In this study, yes/no questions could be used to convey request with (L-H%) edge tones.

Phonetic symbols

Consonants

symbols	Description
/h/	voiceless glottal fricative
/ʔ/	voiceless glottal stop
/ħ/	voiceless pharyngeal fricative
/g/	voiced velar stop
/ɣ/	voiced uvular fricative
/q/	voiceless uvular stop
/x/	voiceless velar fricative
/ð/	voiced dental fricative
/θ/	voiceless inter-dental fricative
/ʕ/	voiced pharyngeal fricative
/k/	voiceless velar stop
/ʃ/	voiceless post-alveolar fricative
/tʃ/	voiceless palato-alveolar affricate
/ d ʒ/	voiced palate-alveolar affricate
/r/	voiced alveolar liquid
/j/	voiced palatal glide
/z/	voiced alveolar fricative
/s/	voiceless alveolar fricative
/S/	voiceless alveolar emphatic fricative
/d/	voiced dental stop
/t/	voiceless dental stop
/T/	voiceless dental emphatic stop
/f/	voiceless labio-dental fricative
/b/	voiced bilabial stop
/m/	voiced bilabial nasal
/n/	voiced alveolar nasal
/l/	voiced alveolar lateral
/w/	voiced labio-velar glide

Vowels

/i/ high front short unrounded	/ii/ high front long unrounded
/e/ mid front short unrounded	/ee/ mid front long unrounded
/o/ mid back short rounded	/oo/ mid back long rounded
/u/ high back short rounded	/uu/ high back long rounded
/a/ low central short unrounded	/aa/ low central long unrounded

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