

Colloquial Damascene Arabic Intonation:

A description of contours in four syntactic categories

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Presentation Outline

- Context of study
- Prior studies
- Methodology & Participants
- Damascene intonation descriptions:
 - Declaratives
 - Continuatives
 - Yes/no-questions
 - Wh-questions
- Issues encountered
- Summary

Context of study

- DA data part of larger study on L2 English acquisition by DA (Damascene Arabic) speakers
- Three data sets collected:
L1 DA, L2 AE, L1 AE

Prior studies

Study	Framework	Dialect (s) concerned	Declaratives	Wh-questions	Yes/no-ques	Continuatives
Abdalla (1960)	American phonemic	Egyptian	Y	Y		
Corvetto (1982)	(Interlinear tonetic)	Syrian MSA	Y	Y		Y
Norlin (1989)	Phonetic description	Egyptian	Y		Y	
Rammuny (1989)	British contours	Jordanian	?	?	?	?
Mitchell (1990)	British contours	Egyptian (MSA)	Y		Y	Y
Benkirane (1998)	British contours	Moroccan	Y	Y	Y	Y
Chahal (1999)	Autosegmental-Metrical	Lebanese	Y	Y	Y	Y
Kulk, Odé, & Woidich (2003)	"Qualitative description"	Damascene; Egyptian	Y	Y	Y	Y
Canepari (2005)	British contours?	MSA	Y	Y	Y	Y

Prior studies

- *Declaratives*: declination, with one or two high pitch accents, final fall (Canepari, 2005; Chahal, 1999; Mitchell, 1990; Kulk et al., 2003; Norlin, 1989)
- *Wh-questions*: pitch accent on the first or second stressed syllables, with a steady fall to the end of the utterance (Kulk et al., 2003)
- *Yes/No-questions*: high final rise, may be preceded by low pitch (Chahal, 1999; Mitchell, 1990; Norlin, 1989; Kulk et al., 2003)
- *Continuatives*: ends with falling-rising (Chahal, 1999) or rise then sustain (Abdalla, 1960; Mitchell, 1990 ; Kulk et al., 2003)

Methodology – Data elicitation method

- More controlled
- ↑
- More natural
- Dictation of memorized sentences (Benkirane, 1998)
 - Varied readings of a written sentence (Norlin, 1989)
 - Reading written sentences (Hellmuth, 2004; Kulk et al. 2003)
 - Reading written story (Mitchell, 1990)
 - Reading longer text w/ dialogue (Daly & Warren, 2001)
 - Lab experiments and map-task dialogue (Chahal, 1999)
 - Interview with speakers (Kulk et al., 2003)

Methodology - Prompts

- Prompt #1: Set of 20 sentences
- Prompt #2: Longer text containing some dialogue
- Prompt #3: Longer text containing mostly dialogue

Methodology – Example from Prompt #2

saɣalt waaɣed mn-elli kaanu waɣfiin ɛar-raɣiif:
 “ʃu fii hoon? leeʃ kəll haz-zahme? maɣtuuɛ ʔt-
 ɬareeɣ yaɣni?”
 ɣalli: “fi wafɔd rasmi mən fraansa raɣi ymurr mən hoon.”

فسألت واحد من اللي كانوا واقفين عالرصيف :
 “شو في هون؟ ليش كل هالزحمة؟ مقطوع الطريق يعني؟”
 قال: “في وفد رسمي من فرنسا رح يمر من هون.”

Methodology

1. Recorded on Sony portable minidisc recorder MZ-B10 with unidirectional Neutrik microphone
2. Recording order: sentence list first, then two longer texts
3. Transferred recordings to computer using Adobe Audition 3.0, saved in 16 bit mono wave format with frequency of 44100 Hz

Methodology

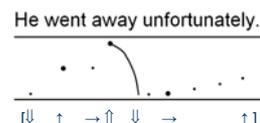
4. Selected 10 utterances of each syntactic type from data set for analysis (40 utterances total)
 - Good contour lines (sonorants)
 - Natural reading (no mistakes)
5. Determined nuclei (using F_0 range, emphasis, and length) using impressionistic analysis (Chun, 2002; Cruttenden, 1989; Hirst & Di Cristo, 1998)
6. Analysed pitch using Praat 4.4.16
7. Transcribed using INTSINT

INTSINT (International Transcription System for INTonation)

- Proposed by Hirst and Di Cristo (1998)
“Intonation systems: A survey of twenty languages”
- Can describe undescribed languages
 - Does not assume intonational inventory (De Dominicis, 2000)
 - Equivalent “Narrow phonetic transcription”
- Records the turning points of pitch, or *pitch points*

INTSINT (International Transcription System for INTonation)

- Higher ↑
 Lower ↓
 Same →
- Upstepping <
 Downstepping >
- Top ↑↑
 Bottom ↓↓



Participant demographics

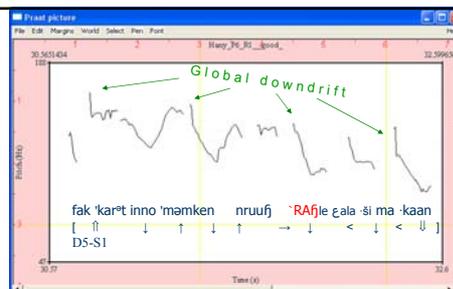
Speaker	Sex	Age	Religion	Origin (district, city)	Level of education
S1	Male	24	Muslim (Sunni)	Old City, Damascus	3rd year, Damascus University
S2	Male	23	Christian (Orthodox)	Qasaa, Damascus	2nd year, Damascus University

Descriptions of intonation

- General description
- Visual of typical example
- Elements description
- Examples of interesting phenomena
- Summary

Declaratives: General pattern

- Stressed syllables higher and unstressed syllables lower
 - The “mountain-valley” pattern
- Global downdrift (successive high points within an utterance)



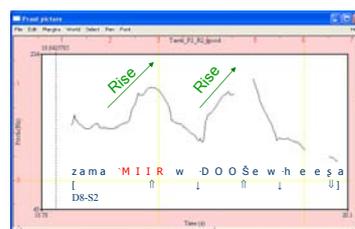
- **Prehead:** Mid-pitch
- **Head:** rise to Higher or Top on the first stressed syllable
Then, “mountain-valley” pattern
Sustained High before Nucleus
- **Nucleus:** fall (high-fall or mid-fall)
- **Tail:** High or Upstep on stressed syllables and Low on unstressed syllables

Declaratives: Elements

- **Prehead:** Mid-pitch
- **Head:** rise to Higher or Top on the first stressed syllable
Then, “mountain-valley” pattern
- **Nucleus:** fall (high-fall or mid-fall)
- **Tail:** global declension; High or Upstep on stressed syllables and Low on unstressed syllables

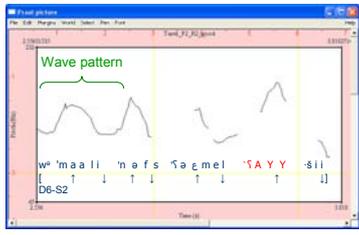
Declaratives: Variations

Rise to top on nucleus, followed by fall;
Two prominent syllables



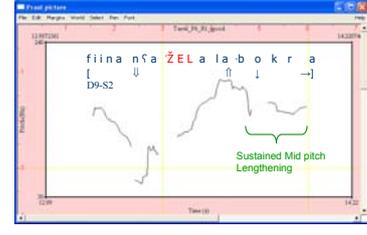
Declaratives: Variations

Wave pattern in head



Declaratives: Variations

Tail exhibiting sustained mid + lengthening

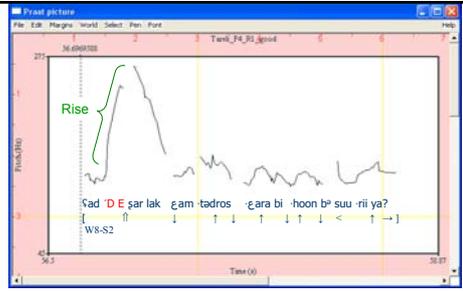


Declaratives: Summary

Prehead	<ul style="list-style-type: none"> usually mid pitch sometimes rise to Higher
Head	<ul style="list-style-type: none"> stressed syllables rise to Higher or Top then mountain-valley pattern (one time curved) one instance of rise and sustained High one instance of fall and sustained Low
Nucleus	<ul style="list-style-type: none"> usually falls sometimes rise to Top followed by fall sometimes utterance had two prominent syllables
Tail	<ul style="list-style-type: none"> global overall declination stressed syllables High or Upstep one instance of final sustained Mid

Wh-questions: General patterns

- Usually high rise on initial Wh-question word
- Either sustained Low, or declination towards end
- Slight rise at tail, often with lengthening



- Prehead:** rise to nucleus
- Head:** (not present)
- Nucleus:** rise to Top of range then fall
- Tail:** mountain-valley pattern
 - End of tail: upstep then sustained Mid pitch

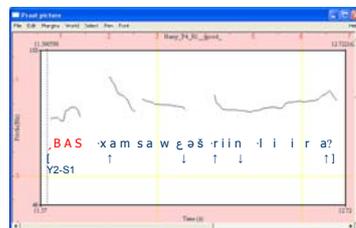
Wh-questions: Elements

- Prehead:** rise to nucleus (rarely occurred since stressed Wh-words are utterance initial)
- Head:** mountain-valley pattern (rarely occurred)
- Nucleus:** rise to Top of range then fall, or initial Top then fall
- Tail:** general declination, mountain-valley pattern
 - End of tail: rise, or upstep then sustained Mid pitch (50% of utterances)
 - Final lengthening common (40% of utterances)

Yes/No-questions: Elements

- **Prehead:** Low or rise to nucleus
- **Head:** Upstep or rise to nucleus
- **Nucleus:** Depends on position in utterance
Initially, rise-fall in conjunction with pre-nuclear elements. Finally, rise.
- **Tail:** Final rise, with lengthening (50%).
If tail is long, mountain-valley.

Yes/No-questions: Variations Final lengthening



Yes/No-questions: Summary

Prehead	<ul style="list-style-type: none"> •two instances: low or rise to nucleus
Head	<ul style="list-style-type: none"> •Upsteps on stressed syllables •intervening declination
Nucleus	<ul style="list-style-type: none"> •towards beginning of utterance: High or Mid-fall, sometimes preceded by rise •towards middle and end of utterance: low-fall or low-rise
Tail	<ul style="list-style-type: none"> •final rise •sometimes showed mountain-valley pattern or upstepping •final lengthening very common

Continuatives: General patterns

- Rise then fall on first stressed syllable (narrower F_0 range than in Yes/No-ques)
- Sustained low
- Final rise, usually with lengthening (90%)

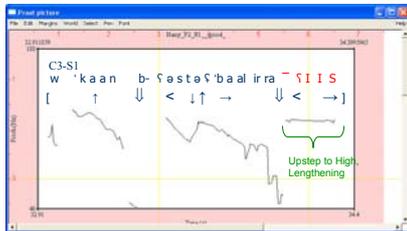


- **Prehead:** Mid
- **Head:** Rise or Upstep on stressed syllables
- **Nucleus:** Final: High rise
- **Tail:** (Not present)

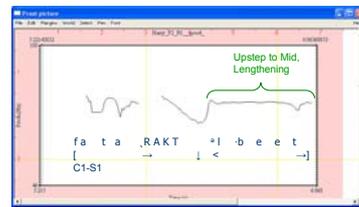
Continuatives: Elements

- **Prehead:** Mid
- **Head:** Rise or Upstep on stressed syllables
- **Nucleus:** Depends on location in utterance.
Initially, falls. Finally, rises.
- **Tail:** High sustained or Rise; usually lengthening

Continuatives: Variations Final High level pitch; Lengthening



Continuatives: Variations Upstep, sustained Mid; Lengthening



Continuatives: Summary

Prehead	<ul style="list-style-type: none"> usually Mid-pitch one with rise before nucleus
Head	<ul style="list-style-type: none"> rise on stressed syllables rise to stress gradual or upstep intervening falls
Nucleus	<ul style="list-style-type: none"> great variation initial nuclei were rise to Top then fall nuclei in middle of utterance were falls final nuclei were rise or high level pitch + lengthening
Tail	<ul style="list-style-type: none"> final rise or level high pitch + lengthening stressed syllables rises or upsteps, unstressed Lower

Issues encountered

- Difficulty determining nuclear syllable
 - Single SA utterance sometimes had more than one prominent syllable
- INTSINT: Some patterns not describable using current set of INTSINT pitch points. Ex: INTSINT cannot distinguish between Upstep to Mid pitch and Upstep to High pitch

Summary: all categories

Declaratives	<ul style="list-style-type: none"> rise at beginning, general declination nuclei = falls several prominent syllables curving mountain-valley once: final rise in tail
Wh-questions	<ul style="list-style-type: none"> initial jump to top, then fall several prominent syllables nucleus always on wh-question words final high pitch + lengthening
Yes/no-questions	<ul style="list-style-type: none"> initial rise/fall in the head global falling pattern, with final rise final high pitch + lengthening
Continuatives	<ul style="list-style-type: none"> nucleus realization related to position in utterance Higher first stressed syllable Lower intermediate part final high pitch + lengthening

وشكراً على انتباهكم اليوم!

References

- Abdulla, A. G. (1960). An instrumental study of the intonation of Egyptian Colloquial Arabic. *Dissertation Abstracts International*, 21 (08), 2283. (UMI No. 606833)
- Benkirane, T. (1998). Intonation in Western Arabic (Morocco). In D. Hirst & A. Di Cristo (Eds.), *Intonation systems: A survey of twenty languages* (pp. 345-359). Cambridge, UK: Cambridge University Press.
- Canepari, L. (2005). *A handbook of pronunciation: English, Italian, French, German, Spanish, Portuguese, Russian, Arabic, Hindi, Chinese, Japanese, Esperanto*. Munich, Germany: Lincom GmbH.
- Chahal, D. (1999). A preliminary analysis of Lebanese Arabic intonation. *Proceedings of the 1999 Conference of the Australian Linguistic Society*, 1-17. Retrieved February 12, 2008, from <http://www.linguistics.uwa.edu.au/~data/page/73643/chahal.pdf>
- Chun, D. M. (2002). *Discourse Intonation in L2: From theory and research to practice*. Philadelphia, PA, USA: John Benjamins. Retrieved December 13, 2005, from <http://site.ebrary.com/lib/aucairo/Doc?id=10022343&page=263>
- Corvetto, di I. L. (1982). L'intonazione nell'arabo siriano. *Lingua e stile*, 17(3), 371-393.
- Cruttenden, A. (1986). *Intonation*. Cambridge, UK: Cambridge University Press.
- Daly, N., & Warren, P. (2001). Pitching it differently in New Zealand English: Speaker sex and intonation patterns. *Journal of Sociolinguistics*, 5, 85-96. Retrieved April 11, 2006, from EBSCOhost Database.

References

- De Dominicis, A. (2000). [Review of the book *Intonation systems: A survey of twenty languages*]. *Language*, 76, 460-463. Retrieved March 21, 2008, from JSTOR Database.
- Hellmuth, S. (2004). *Prosodic weight and phonological phrasing in Cairene Arabic*. Proceedings of Annual Meeting of Chicago Linguistic Society, 40.
- Hirst, D., & Di Cristo, A. (1998). A survey of intonation systems. In D. Hirst & A. Di Cristo (Eds.), *Intonation systems: A survey of twenty languages* (pp. 1-43). Cambridge, UK: Cambridge University Press. Retrieved February 20, 2008, from <http://aune.ipl.univ-aix.fr/~hirst/articles/1998%20Hirst&DiCristo.pdf>
- Kulk, F., Odé, C., & Woidich, M. (2003). The intonation of Colloquial Damascene Arabic: A pilot study. *Proceedings of the Institute of Phonetic Sciences of the University of Amsterdam*, 25, 15-20. Retrieved February 10, 2008, from <http://uvafon.hum.uva.nl/Proceedings/Proceedings25/Proceedings25FrisoKulkv8.pdf>
- Mitchell, T. F. (1990). *Pronouncing Arabic I*. Oxford, UK: Clarendon Press.
- Norlin, K. (1989). A preliminary description of Cairo Arabic intonation of statements and questions. *Speech Transmission Laboratory: Quarterly Progress and Status Report* 30(1), 47-49. Retrieved February 22, 2008, from http://www.speech.kth.se/prod/publications/files/qpsr/1989/1989_30_1_047-049.pdf