Colloquial Damascene Arabic Intonation:
A description of contour realizations in four syntactic categories

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This study aims to describe realizations of Damascene Arabic (DA) intonation contours with regard to four syntactic categories: declaratives, continuatives, yes/no-questions and wh-questions. The study used the British nuclear framework, describing the nucleus and three optional elements (pre-head, head and tail). Contours were transcribed using INSTINT (Hirst & Di Cristo, 1998)[1].

The speech material was collected from two Damascene informants who read a series of prompts. Utterances were chosen from the collected data to represent a wide range of possible realizations for each of the four syntactic categories. Analysis of contour elements was then conducted with Praat version 4.4.16 (Boersma & Weenink, 2006).

Declaratives showed global downdrift[2], with stressed syllables higher and unstressed syllables lower. Declaratives exhibited a prehead with mid pitch, falls on the nuclei, and utterance final fall in the tail. Certain stressed non-nuclear syllables were particularly prominent and showed a large F_0 change. Unusual realizations included a curving rise-fall pattern in the head and tail, as well as a local final rise to sustained Mid in the tail.

Continuatives followed a global rising pattern throughout the utterance. Continuatives usually showed a great rise at the first stressed syllable, followed by Low in the middle of the utterance, ending with a local High pitch. That final High pitch was realized either as a rise, or as a High-level pitch (shown below in Figure 1). Additionally, final lengthening was common. DA nuclei in continuatives displayed considerable variation, which seemed to be linked to the position of the nucleus in the utterance.

Wh-questions also exhibited an onset to the nucleus, followed a fall. Nuclei almost always occurred on the wh-question words. Tails showed a final elevation of pitch, either as a final rise, or an elevated mid-level pitch. Also, final lengthening was very common (shown on Figure 2). The features of final elevated pitch and lengthening resembled continuatives tails. In some instances, more than one syllable was heavily stressed (often the utterance initial wh-question word, and an utterance-final content word).

DA yes/no-questions followed a global falling pattern with a local final rise. The first stressed syllable possessed a rise to Top, then a subsequent fall. Stressed syllables were Higher but followed a general pattern of downdrift. The utterances all ended with a rise in tone, realised either as a local final rise or Upstep to a higher level tone. Local lengthening was also common. DA yes/no-questions resembled DA continuatives in general, as they both had initial rise-fall elements and terminated in a local final lengthened rise or Upstep to a Higher level tone.

Although numerous researchers have used the nuclear approach with Arabic (Benkirane, 1998; Heliel, 1976; Mitchell, 1990), it emerged upon describing the data in several instances that a single DA utterance had more than one prominent syllable, and that the nuclear approach with three optional elements might therefore **not** be the most suitable for Arabic intonation structure. Additionally, when transcribing DA intonation, it was found that certain patterns occurred regularly which could not be designated using the current set of INTSINT pitch points.

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[1] In this study, technical INTSINT terms such as *High*, *Mid* and *Upstep* are capitalized.

[2] Connell and Ladd describe *downdrift* as lowering of successive high points within an utterance when separated by intervening low tones (1990, as cited in Hirst & Di Cristo, 1998).

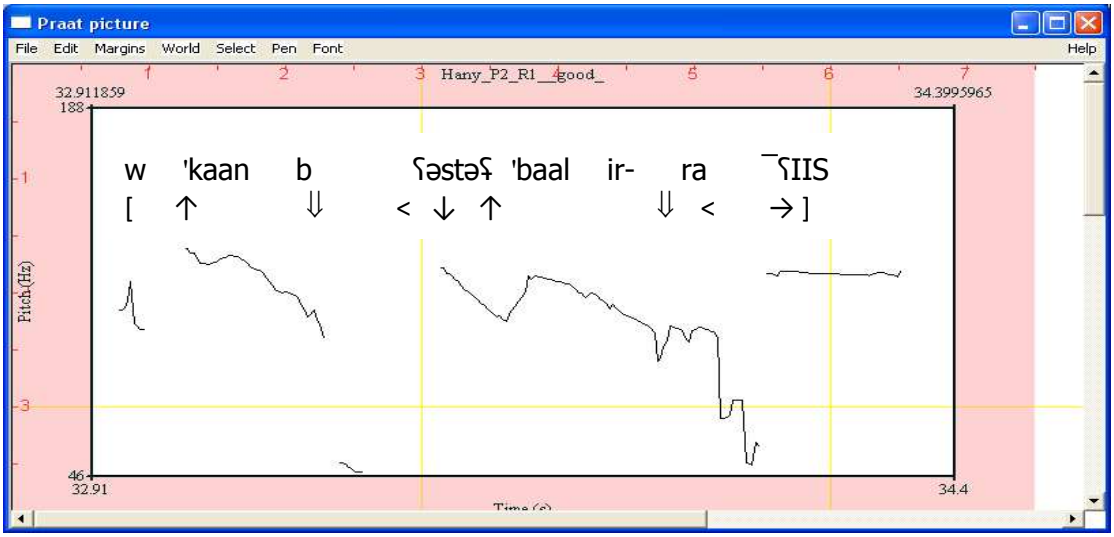

Figure 1: Continuative utterance with final nucleus exhibiting High level pitch

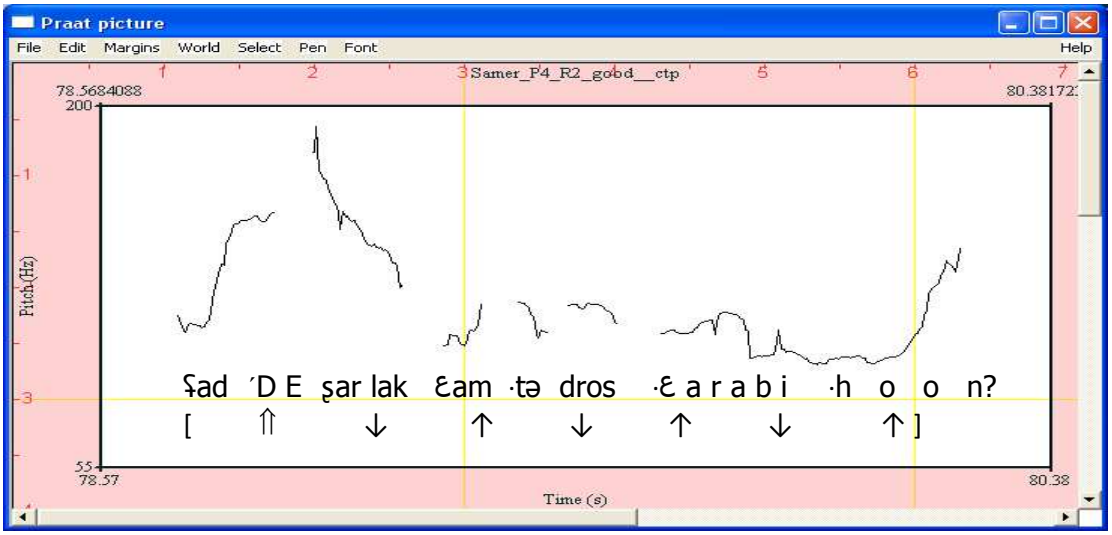

Figure 2: Wh-question with rise to Top in nucleus and final lengthening

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