The intonation of two-argument VP I-Topics in German

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Contrastive topics in German are fronted constituents which Jacobs (1997) calls I(ntonation)-Topics as they crucially involve an F0 rise (due to a L*+H pitch accent) within the fronted material. Since F0 stays high until a fall (H*+L) later in the sentence, contrastive topics are often referred to as having a "hat" contour (Féry 1993), shown schematically in (1). Descriptions of I-Topics in the literature tend to involve only a topicalized noun phrase but larger constituents are also able to front and become I-Topics, as seen with a fronted VP in (2). Here the rise occurs on the argument noun (notated with arrows) and the flat high is realized on (at least) the following verb at the right-edge of the I-Topic (circled). This paper explores how I-Topic verb phrases with two arguments NPs are phonetically realized.

Eleven native German speakers read dialogues (twice) in which six verb phrases occurred both fronted as I-Topics and unfronted. Three of the verb phrases contained one argument, the other three contained two arguments; of the latter, two were VPs (two internal arguments) and one was a vP (one internal, one external argument) which we have not found to be intonationally different from each other (so both be referred to here as "VP"s).
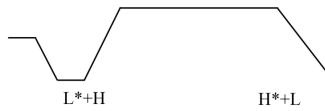
A two-argument verb phrase is shown fronted as an I-Topic in (3) and unfronted in (4). Whether fronted or unfronted, the noun of both arguments receives a pitch accent of some kind (arrows mark peaks). This is surprising in the former instance, since in other I-Topics we find only a single rise followed by a level high. The one- and two-argument VP I-Topics also differ in that the verb at the end more clearly shows a level high F0 in one-argument verb phrases (circled in (2) and (3)). To quantify these comparisons, we took the standard deviation (SD) of the pitch between the first and second peaks in both I-Topic and unfronted verb phrases (results in (5)) and between the peak of the final noun before the verb and the following verb in both one- and two-argument I-Topic VPs (results in (6)). (Measurements are z-scores calculated for F0 measurements taken every 10ms in Praat (Boersma and Weenink 2016) via VoiceSauce (Shue 2010), based on the means and standard deviations for each speaker over their entire recorded dialogues (extracted the same way).)

Taking the the results in (6) first, we see there is a much greater SD between the peak of the second noun and the max F0 of the following verb in two-argument VPs, indicating that we are not seeing the same level high "hat" in these two-argument VP I-Topics.
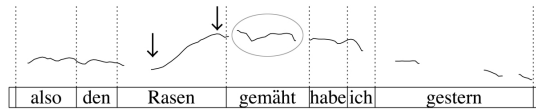
The fronted material forms at least its own intermediate phrase (ip), ending with a boundary high (H-), and in some utterances, forms its own intonation phrase (IP; ending H-%). (Féry 2007 notates I-Topics as their own IP, but we found that boundary strength varied in our data.) We expect declination between peaks within the same phrase but this is generally not occurring between the peaks within the two-argument VP I-Topics. For 8 of the 11 subjects, the percentage of the F0 of Peak2 to Peak1 was higher in I-Topics than in the same VPs unfronted. For those 8 subjects, Peak2 was an average of 103% of Peak in I-Topics (N=44) and 93% of Peak1 in unfronted verb phrases (N=39) (significantly different: p=0.001), suggesting that two-argument VP I-Topics are made up of two ips.

Thus we find that the I-Topic intonation contour differs somewhat based on the syntactic constituent carrying the intonation, leading us to a fuller understanding of its realizations.
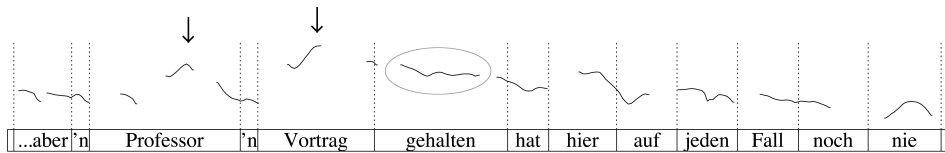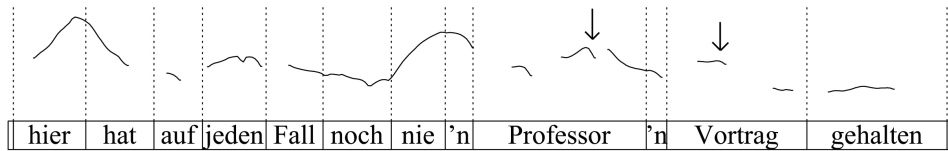
(1)　The "hat" contour

L*+H　　　H*+L

(2)　also, den Rasen gemäht　habe ich gestern
so, [the lawn　mowed]$_{VP}$ have I　yesterday
'As for mowing the lawn, I did that yesterday'

| also | den | Rasen | gemäht | habe | ich | gestern |

(3)　aber 'n Professor 'n Vortrag gehalten hat hier auf jeden Fall noch nie
but [a professor a talk　given]$_{vP}$ has here on every case yet　never
'As for a professor giving a talk, that has definitely never happened here before'

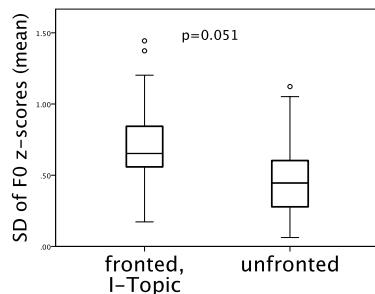| ...aber | 'n | Professor | 'n | Vortrag | gehalten | hat | hier | auf | jeden | Fall | noch | nie |

(4)　und hier hat auf jeden Fall noch nie　'n Professor 'n Vortrag gehalten
and here has on every case yet　never a professor a talk　given
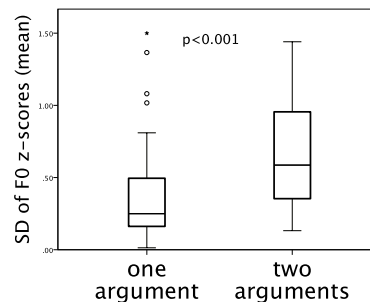'It has definitely never happened here that a professor has given a talk'

| hier | hat | auf | jeden | Fall | noch | nie | 'n | Professor | 'n | Vortrag | gehalten |

(5)　Between I-Topic and unfronted two-argument VPs: Peak-to-Peak

arrow-to-arrow in (3) & (4)

SD of F0 z–scores (mean)

p=0.051

1.50
1.00
.50
.00

fronted, I–Topic　　unfronted

(6)　Between 1 and 2 argument VP I-Topics: Last N peak to verb F0 max

rightmost arrow to max of circled F0 in (2) & (3)

SD of F0 z–scores (mean)

p<0.001

1.50
1.00
.50
.00

one argument　　two arguments

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