Prosodic Constituency and Locality in Levantine Arabic:

Long-Distance Negative Concord[1]

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Abstract

This paper examines negative concord sentences in Southern Levantine Arabic (Palestinian and Jordanian), providing evidence that locality restrictions on negative concord licensing are in fact restrictions on the prosodic rather than syntactic locality.[i] While negative concord is generally a clause-local dependency, a set of exceptions is examined in which the licensing relationship crosses subordinate clause boundaries. These examples involve a set of subordinating verbs with a high frequency in the Maamouri, Buckwalter, Graff, & Jin (2006a,b) corpus. Acoustic analysis of these data shows a strong correlation between the frequency of a subordinating verb in the corpus, its acceptability with non-local negative concord and reduced prosodic prominence in its pronunciation. This suggests that non-local negative concord licensing correlates with a subordinating verb structure being pronounced as a single prosodic constituent.

[1] Hoyt, Frederick M. (In Press). "Prosodic constituency and locality in Levantine Arabic Long distance negative concord." In Khamis-Dakwar, R. & Froud, K. (Eds.), *Perspectives on Arabic linguistics XXXI*. Amsterdam: John Benjamins.

Introduction

This paper explores the relationship between syntactic constraints on negative concord in Southern Levantine and the prosodic properties of negative concord sentences. Negative concord is well-known from the Romance languages, Slavic and others, but also occurs in Southern Levantine sentences such as in (1a):

(1) a. ***maː=ʔakalt*** ***wala*** *iši* *l=yoːm.*

not-ate.1s not.even thing the=day

"I didn't eat even one thing today," "I didn't eat a single thing today."

(Elicited datum)

b. ***maː=ʔakalt*** ***aiy*** *iši* *l=yoːm.*

not-ate.1s any thing the=day

"I didn't eat ANYthing today." (Elicited datum)

The sentence contains a sentential negation morpheme *maː-* "not" and a negative scalar focus particle *wala* "not even one, not a single." It appears to contain two negation morphemes but has an interpretation equivalent to (1b) containing only one negation morpheme.

The paper begins with examples of negative concord sentences in which an "n-word" inside a subordinate clause can be licensed by a negation clause in a higher clause (*long-distance negative concord*, or LDNC). LDNC appears to be an idiosyncrasy of certain subordinating verbs from different syntactic and semantic categories, as shown in the following examples:

(2) a. *ʔana* ***miš*** *ʕaːrif [afham*

I not knowing 1s.understand

wala *kilme min kalaam=ak.].*

not.even word.fs from speech=2ms

"I can't understand even one word of your speech." (Elicited datum)

b. ***maː****=ḥaːwalt [in=ni aḥki* ***wala*** *maʕ ḥada].*

not-tried.1s that=1s 1s.speak not.even with one

"I didn't try to talk even with even one person." (Elicited datum)

c. ***maː****=b=afakkir [inn=ha bitḥibb*

not=ind=1s.think that=3fs ind=3fs.like

wala *waːḥad min=hum.]*

not.even one from=3p

"I don't think that she likes even one of them." (Elicited datum)

The verbs in question are shown to be syntactically and semantically heterogeneous and therefore not a natural class in grammatical terms. However, what they do have in common is that they occur with a high frequency in the Linguistic Data Consortium (LDC) Levantine Call-Home corpus (Maamouri, Buckwalter, Graff, & Jin, 2006a & 2006b), a corpus (810,324 words) of Levantine Arabic speech (including Jordanian, Lebanese, Palestinian and Syrian data). This suggests that frequency of occurrence may have something to do with these verbs' transparency to long-distance negative concord.

I review a set of related generalizations about data in languages such as Italian, German and Japanese.[ii] According to these, the scopes with which focus-sensitive items are interpreted correspond to the prosodic size of the constituent with which they combine. I follow Yamashita (2008) in referring to these generalizations collectively as the *Prosody-Scope Correspondence*. Sentences in which the Prosody-Scope Correspondence is observed are pronounced with focus intonation consisting of pitch peaks on the focal item and on its licensor or associate and with a region of reduced prominence (Poser, 1984; Selkirk & Tateishi, 1991, Ishihara, 2003, 2007; *inter alia*) between them.

With this in mind, I examine the sentences in the LDC corpus that show long-distance negative concord and show that the focus-intonation pattern can be observed in them, suggesting that the Prosody-Scope Correspondence is a property of Southern Levantine Arabic. The paper concludes with a discussion what is to be done to confirm the hypothesis and to further the study of intonational phonology in Levantine Arabic (El-Hassan, 1990; Chahal, 1999, 2001; Kulk, Odé, and Woidich, 2003) and other dialects (Abdalla, 1960; Hellmuth, 2006, 2011).

The paper is organized as follows: Section 2 provides a brief overview of negative concord sentences in Levantine Arabic. Section 3 introduces long-distance negative concord. Section 3.1 presents a range of verbs allowing long-distance negative concord and 3.2 discounts the possibility of treating it as an instance of *restructuring*. Section 4 presents the main hypothesis of the paper, that long-distance negative concord in Southern Levantine Arabic is subject to a locality restriction defined in terms of prosodic constituency and, in particular, that the constituent with which an n-word combines must be pronounced with an intonation melody

consistent with focal backgrounding. The section begins in 4.1 with a review of the literature on prosodic locality in languages such as Italian and German in 4.1.1 and Japanese in 4.1.2. In 4.2 the generalizations reviewed in 4.1.1 and 4.1.2 are extended to Arabic. Section 5 concludes.

Negative Concord in Southern Levantine Arabic

Southern Levantine Arabic is one of the many languages in which negative concord takes place (Hoyt, 2006, 2010; Lucas, 2009; Al-Sarayreh, 2012), where negative concord is understood according to the following definitions (Giannakidou, 2000; Watanabe, 2004):

(3) Negative Expression: An expression the interpretation of which necessarily entails the meaning of predicate negation.

(4) N-word: A negative expression that can be used as a fragment answer.

(5) Negative concord: The failure of an n-word *X* to be interpreted as contributing negative meaning when in syntagm with another negative expression *N*. We say that *N* licenses *X* .

N-words in Southern Levantine Arabic

The inventory of n-words in Southern Levantine Arabic according to these definitions includes:

(6) a. The negative scalar focus particle *wala* “not even (one), not a single”;
The homophonous additive particle *wala* “nor”;

The "never-words" *ʔabadan, bilmarra* "never, not once, not at all";

The negative minimizer *hawa* "nothing" (lit. "air").

Of these, noun phrases and prepositional phrases prefixed with *wala* ("*wala*-phrases") have the widest syntactic distribution as they have both argumental and adverbial uses:

(7) a. Noun phrases: *wala iši* "not one thing," *wala ḥada* "not one person," *wala marra* "not even once," *wala nitfe* "not one bit," etc.

b. Prepositional phrases: *wala maʕ ḥada* "not even with one person," *wala la=waːḥad* "not even to one person," *wala b=iši* "not even with one thing," etc.

For this reason the following discussion focuses on scalar-*wala*.

The form *wala* has several homophonous uses, including "and not," "nor" and others. These are separate lexical items, given that they can co-occur with negative-scalar *wala* (for detailed discussion see Hoyt 2010):

(8) a. *l=yoːm* ***wala*** *ʔakalt* ***wala*** *iši.*

the=day not ate.1s not.even thing

"Today I didn't actually eat a single thing." (Elicited datum)

In sentences in which scalar-*wala* is subject to the licensing requirement, morphemes which are acceptable licensors for *wala*-phrases include the following:

(9) Sentential negation morphemes: *ma:-*, *ma:-…-š*, *š*, *miš*/*mu*, *ma:ni*/*mani:š*, etc.

(10) *bidu:n* "without," *bidu:n-ma* "without (doing)":

a. *bniṭḥan=o* *ʔawwal* *marra* *l=ḥaal=o*

ind=1s.grind=him first time to-self-his

bidu:n *wala* *iši* *min* *l=ʔiḍafaat.*

without not.even thing from the=additives

"We grind it the first time by itself, without a single one of the additives."

(Elicited datum)

b. *ke:f* *b=aχally* *šabb* *yiʕtarif* *inno* *b=yiḥibb=ni*

how ind=1s.let boy 3ms.avow that ind=3ms.love=me

bidu:n=ma *ʔaḥki* *maʕ=o* *wala* *kilme?*

with=that 1s.talk with=3ms not.even word

"How do I let a boy say that he loves me without my having spoken a single word with him?" (Elicited datum)

(11) *qabl* "before," *qablma* "before (doing):

a. *ʔana* *ḥammalit* *kull* *il=fayru:saat* *illi* *ʔinta* *ḥaaṭṭ=ha*

I load.1s all the=viruses rel you.ms put=3fs

gabil *wala* *waḥde* *štaɣalat.*

before not.even one.fs worked.2fs

"I downloaded all the viruses that you uploaded before a single one ran."

(Elicited datum)

b. ***gabilma*** *ygu:l* *wala* *kilme* *gaalat=l=o*

before.that 3ms.say not.even word said.3fs=to-3ms

ʔanqað=ni *w=b=aʕṭi:=k* *bo:se.*

save=1s and=ind=1s.give=3ms kiss

"Before he said a single word, she said to him 'Save me and I'll give you a kiss.'" (Elicited datum)

(12) Subordinating verbs that entail the negation of their complements:

a. *manaʕ-yimnaʕ* "forbid, prevent (someone from doing)"

manaʕ *wala* *wa:ḥad* *yiftaḥ* *is=sanduuq.*

forbade not.even one 3ms.open the=box

"He forbade even one person to open the box." (Observed datum)

b. *baṭṭal-ybaṭṭil* "stop, cease, quit (doing)"

χalaaṣ, ***baṭṭalt*** *aḥky* *wala* *kilme.*

finished, stopped.1s 1s.say not.even word

"Fine, I have stopped saying a single word."

(Elicited datum)

c. *rafaḍ-yurfuḍ* "refuse (to do)";

bess ʔana ***rafaḍt*** *aakil* *wala* *gaṭʕa.*

but I refused.1s 1s.eat not.even piece

"…but I refused to eat a single piece."

(Elicited datum)

The bold-faced expressions in (9-12) are all interpreted as anti-morphic or, equivalently, anti-veridical operators, in that they are equivalent in meaning to classical negation[iii]. *wala*-phrases cannot be licensed by anti-additive or "merely" downward entailments, which are able to license negative polarity interpretations for words such as the following[iv]:

(13) a. *ʔaiy* emphatic "any" (c.f. English emphatic ANYthing);

b. *iši* (Jordanian/Palestinian), *ši:* (Syrian/Lebanese) "(one) thing, anything";

c. *ḥada*, *wa:ḥad* "(one) person, anyone";

d. *ʕumr* "ever"

Anti-additive or merely-downward-entailing contexts include the following (see Hoyt 2010, 130-132 for detailed examples):

(14) a The scope of pre-verbal *wala*-phrases

b. Comparative adjectives

c. Questions

d. Antecedent clauses of conditional sentences

e. Downward-Entailing Quantifiers (*kull* "each, every, all"; *qali:l* "few")

As indicated in the glosses given above in (2) and in what follows, *wala* is glossed variously as "not even one," "not one" or "not a single." In theoretical terms, it is a negative scalar focus particle,[v] interpreted as follows:

(19) a. It selects or associates with a singular indefinite NP: *wala iši* "not even one thing, not a single thing" vs. **wala ʔašya*ː "not even things";

b. It triggers a set of focal alternatives ranging over (non-null) cardinality values; {I ate n things: n ≥ 1};

c. It negates the minimum alternative in this set and implicates or entails negation of all higher alternatives:
{I didn't eat one thing and I didn't eat n things for n > 1}

For example, in (1) above, *maː=ʔakalt wala iši waːḥad l=yoːm* "I didn't eat even one thing today" *wala* associates with the singular indefinite noun phrase *iši* "(a) thing," triggering a set of alternatives {I ate *n* things today: *n* ≥ 1} and asserting that the speaker didn't eat one thing and also didn't eat any number of things greater than one. This follows standard analyses of focus semantics and the meaning of English *even* and its translation equivalents in various languages (see references cited above for discussion).

Typically, *wala*-phrases are pronounced with a strong stress accent on the first syllable of *wala* and with a strong accent on the most prominent syllable of the common noun with which it associates. In other words, *wala waːḥad* in (1) above would be pronounced as *WA.la WAː.ḥad* (with capitals indicating strong accentuation). This suggests that *wala*-phrases are typically pronounced with strong focal accentuation, although it is not clear that they necessarily do so.

An Overview of Negative Concord

As shown in Hoyt (2010), *wala*-phrases occur in many syntactic configurations and are subject to the licensing requirement in only some of those. In brief, *wala*-phrases at the left edge of a clause need not be licensed and do not undergo negative concord.

(20) a. ***wala*** ***waːḥad*** *min=ku* *b=iħam=ni.*
not.even one from-you.mp ind=3ms.understand=me
"Not a single one of you understands me." (Elicited datum)

b. ***wala*** ***ktaːb*** *ʕirifit* *miːn* *kæːn illi* *katab=u.*
not.even book knew.1s who was rel wrote=3ms
"Not one book did I know who it was who wrote [it]." (Elicited datum)

Native speakers generally express a strong preference for an n-word following the predicate to co-occur with negation marking on that predicate (21a), indicating that, in the absence of negation marking on the predicate, the sentence is unacceptable (21b). The constrast in (21a-b) shows the typical pattern of negative concord sentences in Spanish, Italian, Romanian, etc.:

(21) a. ***maː=kalt*** ***wala*** *iši* *l=yoːm.*
not=ate.1s not.even thing the=day
"I didn't eat a single thing today." (Elicited datum)

b. * *ʔakalt* ***wala*** *iši* *l=yo:m.*

ate.1s not.even thing the=day

"I ate not a single thing today." (Elicited datum)

In the acceptable example (21a) the *wala*-phrase *wala iši* "not even one thing, not a (single) thing" undergoes negative concord with and hence licensed by the negation morpheme *ma:-* "not" on the clausal predicate *akalt* "I ate." In contrast, the unacceptable example in (21b) shows *wala iši* occurring without negation-marking on the verb and is hence unlicensed[vi].

Negative Concord Licensing and Locality

Negative concord in Southern Levantine Arabic (Blau, 1960; Cowell, 1964; Hoyt, 2006, 2010; Lucas, 2009) is generally a clause-local relation: It is only acceptable between a negation morpheme preceding the clausal predicate and an n-word that is a dependent of the same clause. Native speakers generally reject sentences in which an n-word inside a subordinate clause or noun phrase is licensed by a negation morpheme scoping over it, as in the following schema:

(22) NEG …V1 …[IP/NP …*wala*-NP …]

For example, licensing fails when a *wala*-phrase is inside a relative clause (23a), inside a construct-state noun phrase (24a) or inside a subordinate clause (25a):

(23) *Inside Relative Clause*:

a. * ***maː****=fiː* *ḥada* *[*RC *ʕind=u* ***wala*** *maʕluːma]*.

not=exist one at=3ms not.even information

"There isn't anyone who has even one bit of information."

(Elicited datum)

b. ***maː****=fiː* *ḥada [*RC *ʕind=u* ***ʔaiy*** *maʕluːma]*.

not=exist one at=3ms any information

"There isn't anyone who has ANY bit of information." (Elicited datum)

(24) *Inside construct state NP:*

a. * ***maː****=šuft* *[*NP *walad* ***wala*** *waːḥad* *min=hum]*.

not=saw child not.even one from-them

"I didn't see the child of even one of them." (Elicited datum)

b. ***maː****=šuft* *[*NP *walad* ***ʔaiy*** *waːḥad* *min=hum]*.

not=saw child any one from-them

"I didn't see the child of any one of them." (Elicited datum)

(25) *Inside Subordinate Clause:*

a. * ***maː****=waʕatt [*IP *aḥki* *maʕ* ***wala*** *waːḥad min=hum]*.

not=promised.1s 1s.speak with not.even one from=3p

"I didn't promise to speak with a single one of them." (Elicited datum)

b. ***maː****=waʕatt [*IP *aḥki* *maʕ* ***ʔaiy*** *waːḥadmin=hum]*.

not=promised.1s 1s.speak with any one from=3p

"I didn't promise to speak with ANY of them." (Elicited datum)

All of these examples have acceptable paraphrases with the negative-polarity-sensitive particle *ʔaiy*, translatable as English emphatic "any" (glossed as "ANY": Kadmon and Landman, 1993; Krifka 1995a) in place of *wala*. However, n-words in the complements of certain subordinating verbs can in fact be licensed by main-clause negation. These include *bidd-* "want" (26a), *ḥaːwal-yḥaːwil* "try" (26b), *fakkar-yfakkir* "think" (26c) and *qaːl-yquːl* "say" (26d):

(26) a. *biddiː=**š** [*IP *aḥki* ***wala*** *maʕ* *waːḥad fiː=hum]* .
want.1s=neg 1s.speak not.even with one in=3p
"I don't want to speak even with one of them." (Elicited datum)

b. *ʕumr* ***maː**=ḥaːwalti [*IP *tiḥki* ***wala*** *maʕ ḥada fiː=hum]*.
Ever not=tried.2fs 2ms.speak not.even with one in=3p
"You didn't ever try to speak even with one of them." (Elicited datum)

c. ***maː**=b=afakkir [*CP *inn=habi=thibb* ***wala*** ***hada*** *fiː=hum.]*
not=ind=1s.think that=she ind=2fs.like not.even one in=3p
"I don't think that she likes even one of them." (Elicited datum)

d. ***maː**=ʔult [*CP *ʔin=ny ḍadd=kum* *fi=**wala*** *šiy* *ʔult=u]*.
not=said.1s that=1sagainst=2p in=not.even thing said.2p=3ms
"I didn't say that I was against you in even one thing you said [it]."
(Elicited datum)

I refer to these apparent exceptions to the locality of negative concord as *long-distance* negative concord (LDNC), where "long-distance" is intended in contrast to "clause-local".[vii]

Which Verbs Allow LDNC?

Not all subordinating verbs allow LDNC. Examination of elicited and corpus data shows that long-distance negative concord most typically occurs with a limited set of subordinating verbs:

(27) *bidd-* "want," *qidir-yiqdar* "can, be able," *ʕirif-yiʕraf* "be able, know how to," *ḥaːwal- yḥaːwil* "try,' *χalla-yχalli* "let do, make do, have do," *læːzim* "must, have to, necessary," *mumkin* "can, might, possible," *qaːl-yquːl* "say," *fakkar-yfakkir* "think, believe," *kæːn-yikuːn* "be," *ṣaːr-yṣiːr* "become," *rijiʕ-yirjaʕ* or *ʕaːwad-yʕaːwid* "return, do again," etc.

Some of these are auxiliaries (*læːzim* "must, have to, necessary," *mumkin* "can, might, possible, *kæːn-kæːn* "be," *ṣaːr-yṣiːr* "become," *rijiʕ-yirjaʕ* or *ʕaːwad-yʕaːwid* "return, do again"), and are expected to be transparent to local syntactic dependencies. The others are Arabic analogues of verbs that allow long-distance negative concord in other languages (see references above).

To investigate which verbs are transparent to LDNC, an experiment was done in Irbid, Jordan in December 2007 with four native speakers from a village in the rural northern region of the Irbid Governate. They were between 25 and 30 years of age, had bachelor degrees from Jordanian universities, were from the same clan and spoke essentially the same local dialect. They were shown lists of sentences containing *wala*-phrases, *ʔaiy*-phrases and bare indefinites within the scope of a matrix negation morpheme and all within the complement of a subordinating verb:

(28) NEG V1 …[V2 …*wala* NP …]

The speakers were presented with discourse contexts in which the sentences might be uttered and were asked to grade the acceptability of the sentences in these contexts using magnitude estimation (Bard, Robertson, & Sorace, 1996; Cowart, 1997; Keller, 2000; Featherston, 2005). The verbs used in constructing the sentences were taken from the Linguistic Data Consortium Levantine Call-Home corpus (Maamouri et al., 2006 a, b), a corpus of 810,324 words.

Table 1 shows the frequency of subordinating verbs in the LDC corpus (in terms of overall numbers) with their average acceptability with long-distance negative concord for the four speakers (as a z-score). The tale shows that the verbs with average acceptability z-score (-1.27 or higher) are a proper subset of the more frequent verbs in the corpus (shown in italics).

Verb	Gloss	Frequency (out of 810,324 words)	Acceptability w/LDNC (avg. z-score)
bidd-	want	7417	1
qaːm	stand	2364	0.28
ʕirif	be able	12125	0.25
χalla	let	2726	0.15
rajaʕ	return	1141	0.14
kaːn	be	9483	-0.08
qidir	be able	793	-0.08
šaːf	see	915	-0.13
laːzim	must	829	-0.55

Verb	Gloss	Frequency (out of 810,324 words)	Acceptability w/LDNC (avg. z-score)
twaqqaʕ	believe	55	-1.01
ansa	forget to	406	-1.01
kirih	hate to	135	-1.01
mumkin	can	586	-1.11
ḥabb	like to	5700	-1.27
šakk	doubt	101	-1.5
ʕirif	know that	12125	-1.5
nakar	deny	14	-1.5
manaʕ	prevent	277	-1.5
ḥaːwal	try	140	-1.5
jabbar	make do	84	-1.5
naṣaḥ	advise	108	-1.5
tðakkar	remember	120	-1.5
samaḥ	allow	111	-1.5
qarrar	decide to	3	-1.5
tjannab	avoid	3	-1.5
ʕazam	invite	69	-1.5
χaːf	fear to	360	-1.5
simiʕ	hear	3019	-1.5
qaːl	say	6072	-1.5
tnaddam	neglect to	28	-1.5
tjannab	avoid	3	-1.5
iʕtaraf	admit	5	-1.5
waʕad	promise to	54	-1.5

Table 1: Subordinating Verb Frequency and LDNC z-score for Maamouri et al. (2006b)

The reader should note that there is a great deal of variation in native speaker judgments regarding the acceptability of LDNC, both across speakers and longitudinally for individual speakers. That being said, a strong correlation appears to exist between the relative frequency of subordinating verbs in the corpus and their acceptability with LDNC. The question is therefore: What (if anything) does frequency have to do with transparency to negative concord licensing?

LNDC as Syntactic Movement?

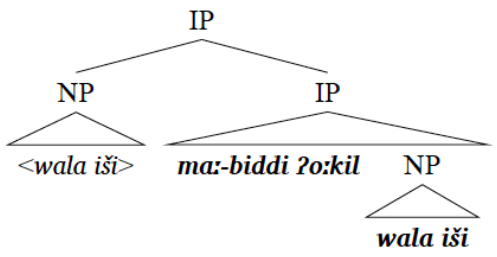
A popular analysis of long-distance negative concord is that an n-word in a subordinate clause undergoes syntactic movement out of the subordinate clause, adjoining to the clause containing its licensor. This allows the licensing mechanism (however that may be analyzed in particular proposals) to be established locally.[viii] Long distance negative concord can therefore be treated as a special case of local negative concord and so allowing for a unified analysis.

(29) a. *maː=biddi ʔoːkil wala iši.*

not=want.1s 1s.eat not.even thing

"I don't want to eat even one thing."

b.



A movement analysis of negative concord makes incorrect predictions regarding "split-scope" interpretations that *wala*-phrases can have (see Hoyt, 2010, for detailed discussion).

Another possibility is that LDNC in Southern Levantine is a kind of *restructuring*. This is suggested by the observation that the verb meanings associated with high LDNC-acceptability are familiar from the literature on "restructuring" or "complex-predication formation," familiar symptoms of which are "clitic-climbing" or auxiliary selection in the western Romance languages, long-distance scrambling in the western Germanic languages, or long-distance agreement in Hindi-Urdu. While analyses differ in their details, the intuition they try to capture is that restructuring is a subordination structure analyzed grammatically as a single clause.

Long-distance negative concord has been analyzed as restructuring in a number of languages, including Slavic languages such as Polish and Serbo-Croatian (Progovac, 1993; Dziwirek, 1998, *inter alia*). For example, the following Polish examples show that the n-word *nikogo* "no one" can be licensed inside an infinitival complement but not inside a subjunctive clause:

(30) a. **Janek* ***nie*** *powedział [*subj *ze kocha* ***nikogo*** *]*.
Janek not said that love no-one
"Janek didn't say that he loved anyone."

b. *Janek* ***nie*** *kazał Ewie [*inf *zwrócić się do* ***nikogo*** *o pomoc]*.
Janek not orderedEve-dat turn-infin ref to no-one for help
"Janek didn't tell Eve to turn to anyone for help."

These analyses suggest the possibility that long-distance negative concord in Southern Levantine might be an instance of restructuring. This was explicitly argued by Hoyt (2006). However, corpus data and fieldwork conducted in Jordan in 2007-2008 suggests that things are not so clear. In particular, there is much variation both in native speaker judgments regarding the acceptability of LDNC as well as in the classes of verbs with which it is acceptable.

This suggests that the verbs that allow LDNC cannot be defined as a semantic natural class. They also cannot be defined as a syntactic natural class as they vary in terms of how much structure they allow in the subordinate clause, as shown in (2) above. Some (such as *bidd-* "want" or *ʕirif* "know, be able" allow only bare verbal complements while others (such as *ḥaawal* "try" or *ʔiʕtaqad* "believe") allow subordinating conjunctions in LDNC sentences. This suggests that, contra Hoyt (2006), restrictions on long-distance negative concord are not a grammatical matter. The following theoretical questions therefore arise: (i) why is there so much inter-speaker variation in terms of the verbs that allow LDNC, and (ii) why does the acceptability of LDNC seem to correlate so strongly with frequency?

Prosodic Locality

I explore the possibility that prosodic constituency may play an important role in LDNC, and in particular that the verbs which allow it are also verbs which can undergo some degree of prosodic reduction (Monachesi, 2005) or are at least more susceptible to pitch weakening than are other verbs. I build on a claim by Blaszczak & Gärtner (2005) that the scopal domains of

n-words in Italian and German correlate with prosodic contiguity of the constituents with which they combine. I hypothesize that Southern Levantine Arabic n-words are frequently pronounced with contrastive focus and, as such, must combine with a constituent containing a licensor and which is pronounced with some degree of reduced prominence, as is characteristic of constituents pronounced as "background" to a focal constituent.

The connection between LDNC and high-frequency verbs then might be explained in terms of prosodic reduction of high-frequency lexical items (Heine, 1993; Bybee & Schiebman, 1999). I present examples of LDNC in audio data from Maamouri et al. (2006a, 2006b) and annotated for intonational constituency (Hellmuth, 2006) supporting the generalization.

Prosodic Conditions on Scope Interpretation

Before going further with Southern Levantine Negative Concord, I briefly review work on relationships between prosodic constituency, focus and prosodic locality in other languages.

Condition on Extended Scope Taking

Blaszczak & Gärtner (2005) argue that Condition on Extended Scope Taking (Kayne, 1998) is a prosodic effect. One instance of this involves negative concord sentences in Italian as shown in (31). The generalization is that an Italian n-word such as *nessuno* "no one" must be separated from its licensing negation morpheme by a contiguous string of words (shown in brackets subscripted with σ) — including the verb of which it is an argument — in order to

have the negative concord interpretation (31a). If the word order is changed so that the verb of which the n-word is an argument is not part of the contiguous string, then the sentence can only have a "double negation" interpretation (31b):

(31) a. *(σ* ***non*** *voglio* *che* *venga)****nessuno.***

Not want.1s that come no-one

"I don't want anyone to come." Negative Concord

b. *(σ* ***non*** *voglio* *che* ***nessuno*** *(σ* *venga)*

not want.1s that no-one come

"I don't want no one to come."

"I don't want anyone to come." Double Negation

Likewise, German n-words such as *niemanden* "no one" can be interpreted as taking scope only over contiguous constituents. For example, in (32a) *niemanden* has two scope interpretations: one in which it scopes over the constituent *zu grüssen versprach* "promised to greet" with the meaning "she did not promise to greet anyone," and another in which it takes scope only over "to greet," meaning "she promised not to greet anyone." In (32b), however, *niemanden* is separated from *zu grüßen* "to greet" and only has the narrow scope reading:

(32) a. *daß* *sie* ***niemanden*** *(σ zu* *grüßen versprach)*

That she no-one to greet promised

"…that she did not promise [to greet anyone]."

"…that she promised [not to greet anyone]."

b. *daß sie* ***niemanden*** *(σ versprach) (σ zu grüßen)*

that she no-one promised to greet

"…that she promised [not to greet anyone]."

Blaszczak & Gärtner's (2005) generalization is therefore that n-words in Italian and German are interpreted as taking scope over constituents that are pronounced as a single prosodic unit.

Similar generalizations involving question words and some negative polarity items are found in Japanese.[ix] In Japanese constituent questions, a question word such as *dare* "who" or *nani* "what" must be licensed by a question particle. The following sentence from Yamashita (2008) contains the question particles *ka* (in a subordinate clause) and *no* (in the main clause) and the question word *nani* "what" (question words and particles are indicated in boldface):

(33) a. *Naoya=ga Mari=ga* ***nani=o*** *(σ nomiya=de non=da* ***ka*** *)*

N.=nom M=nom what=acc bar=loc drink=past Q

Yumi=ni tsutae=ta ***no?***

Y.=dat tell=past Q

"Did Naoya tell Yumi [what Mari drank at the bar]?"

b. *Naoya=ga Mari=ga* ***nani=o****(σ nomiya=de*

N.=nom M=nom what=acc bar=loc

non=da ka Yumi=ni tsutae=ta) ***no?***

drink=past Q Y.=dat tell=past Q

"What was it that Naoya told Yumi [whether Mari drank it at the bar]?"

The question word that falls within the scope of two question particles (one of which is subordinate to the other) can be interpreted with scope associated with either. For example, if *nani* in (33a) and (33b) is associated with *ka* in the embedded clause, the sentence is interpreted as a yes-or-no question (33a), while if *nani* is associated with the *no* in the main clause, the sentence is interpreted as a constituent question (33b).

In either case, the sentence is pronounced with what Ishihara (2007) calls a focus intonation pattern, which consists of the following:

(34) a. A pitch excursion (or peak) in the F0 with which the focused constituent (in this case, a question word) is pronounced;

b. Pitch compression or downtrend in the F0 with which the words following the focused phrase are pronounced (Poser, 1984; Pierrehumbert & Beckman, 1988; Selkirk & Tateishi, 1991; Sugahara, 2003, *inter alia*);

c. Pitch reset on the particle or morpheme with which the focus associated (in this case, a question particle).

Likewise, the exclusive particle *shika* "only" has to be licensed by a negation morpheme:[x]

(35) a. *John=ga* *Mary=to=**sika*** *awa=**nakat**=ta.*

John=NOM Mary=with=NPI meet=NEG=TNS

"John met only Mary."

“John didn’t meet [anyone] but Mary.”

b. * *John=ga* *Mary=to=**sika*** *at=ta.*

John=NOM Mary=with=NPI meet=TNS

The *shika*-phrase and its licensing negation usually must be in the same clause:

(36) **Bill=ga* *Pam=ni* *[* *John=ga* *Mary=to=**shika*** *atta=to]*

Bill=NOM Pam=DAT John=NOM Mary=with=only met=C

*tutae=**nakat**=ta.*

tell=NEG=TNS

“Bill only told Pam [that] John met Mary.”

However, a *shika*-phrase can be licensed non-locally if and only if it occurs inside a non-finite control complement if the non-finite complement is pronounced as a contiguous string with compressed pitch adjacent to the negation morpheme that licenses the *shika*-phrase (37b).

(37) a. *Naoya=wa* *Mari=ni* ***sono*** ***ramu=shika*** *(σ* *nomiya=de)*

Naoya=top Mari=dat that rum=only bar=loc

noma=nai=yoo=ni *iwa=**nakat**=ta.*

drink=not=tns=C tell=neg=tns

“Naoya didn’t tell Mari to drink [only the rum] at the bar.”

“It was only the rum that Naoya told Mary not to drink at the bar.”

b. *Naoya=wa Mari=ni* ***sono*** ***ramu=shika*** *(σ* *nomiya=de*

Naoya=top Mari=dat that rum=only bar=loc

noma=nai=yoo=ni) *iwa=**nakat**=ta.*

drink=not=tns=C tell=neg=tns

"Naoya didn't tell Mari to drink [only the rum] at the bar."

"It was only the rum that Naoya told Mary not to drink at the bar."

Based on these observations, Yamashita (2008) proposes the Prosody-Scope Correspondence:

(38) *The Prosody-Scope Correspondence*: The scope of a focal phrase is determined and indicated by the extent of the post-focal reduction in prominence between the phrase and the particle that licenses it.

The parallel with Blaszczak & Gaertner's (2005) generalizations above should be clear: constituents pronounced with focal intonation and with scopal interpretations take scope over a sister constituent that is pronounced as a continuous prosodic unit.

Prosodic Locality in Southern Levantine LDNC?

I hypothesize that a similar generalization can be made about long-distance negative concord sentences in Southern Levantine: namely, that n-words must be local to their licensors in terms of prosodic constituency. As was discussed above (9), *wala* is interpreted with focal semantics and the noun phrase with which it associates is frequently if not always pronounced with at least

some degree of focal prominence. Accordingly, the generalizations above predict that focal intonation on a *wala*-phrase will correlate with reduced prominence on the string of words separating the *wala*-phrase from the negation morpheme that licenses it:

(39) (σ NEG …reduced prominence …) *wala*-NP

Examination of a selection of negative concord sentences found in the Maamouri et al. (2006a,b) corpus appears to confirm the prediction. The audio segments for the sentences were extracted from the corpus and analyzed using the Praat software package and the ProsodyPro script, which extracted mean F0 and mean duration values for each prosodic word (i.e. each lexical word along with whatever clitics it hosts). The relative values for mean F0 and duration for the words in the sentence were then compared in order to determine:

(40) i. What the relative mean F0 and duration values were for the focused constituent (the *wala*-phrase) and its licensor (the negation morpheme);

ii. Whether words intervening between the licensor (and its lexical host) and the *wala*-phrase were pronounced with lower mean F0 or duration than were the licensor verb complex and the *wala*-phrase.

The following are the examples of LDNC found in (Maamouri et al., 2006 a,b). Each shows pairs of mean F0 and duration for each prosodic word (in the format F0/DUR). Words are grouped according to trends in the F0 and duration values with high values in bold[xi]:

(41) a. *(**b=yismaḫ=il=naː=š*** *inšuːf)* *(wala* *ʔišy.)*

ind=3ms.let=to=1p=neg 1p.see not.even thing)

334.2/.68 353.8/.32 354.9/.19 295.9/.42

"He doesn't let us see even one thing." (fla_0100: 467.8-471.18: Lev, F)

b. *(maː=**biddy*** *nḍayʕ)* *(wala* *waʔt)*

not=want.1s 1p.lose not.even time

322.5/.47 295.1/.45 318.5/.29 324.1/.27

"I don't want us to lose any time." (fla_0107: 482.28-493.87: Lev,F)

c. *(ma=**ḫaːwalt**=iš* *tiʕariḍ) (wala* *marra)?*

not=tried.2ms=neg 2ms.resist not.even once

158.4/.61 157.9/.38 148.5/.28 154.4/.35

"You didn't try to resist even once?" (fla_0247: 155.43-159.36: Lev,M)

d. *(maː=**ḫaːwalt** itsakkiril=χaṭṭ) (wala marra)?*

not=tried.2ms 2ms.close the=line not.even once

128.2/.43 125.5/.36 125.2/.42 156/.17 131.1/.36

"You haven't tried to hang up even once?"

(fla_0626: 459.46-464.06: Leb,F)

e. *(maː=ʕam=**b=aʔdar*** *aʕmil)* *(wala* *šiː)*

not=prog=ind=1s.be.able 1s.do not.even thing

211.9/.65 207.5/.44 245./.25 349.5/.23

"I'm not able to do a single thing."

(fla_1041: 97.22-107.87: Leb,F)

f. *(muš-mumkin tunʔuð)* *(wala* *waːḥad)*

not-possible 2ms.save not.even one

280.6/.66 259.5/.25 299.1/.25 253.7/.36

“You can’t save even one.”

(fla_1139: 179.93-186.81: Leb,F)

g. *(maː=**laːzim** nfariʔ)* *(wala* *waːḥad)* *(min miyye)*

not=should 1p.leave not.even one from hundred

126.5/.40 125.2/.34 151/.16 161.2/.25 293.4/.64

“We mustn’t leave even one out of a hundred.”

(fla_1524: 194.11-202.81: Leb,M)

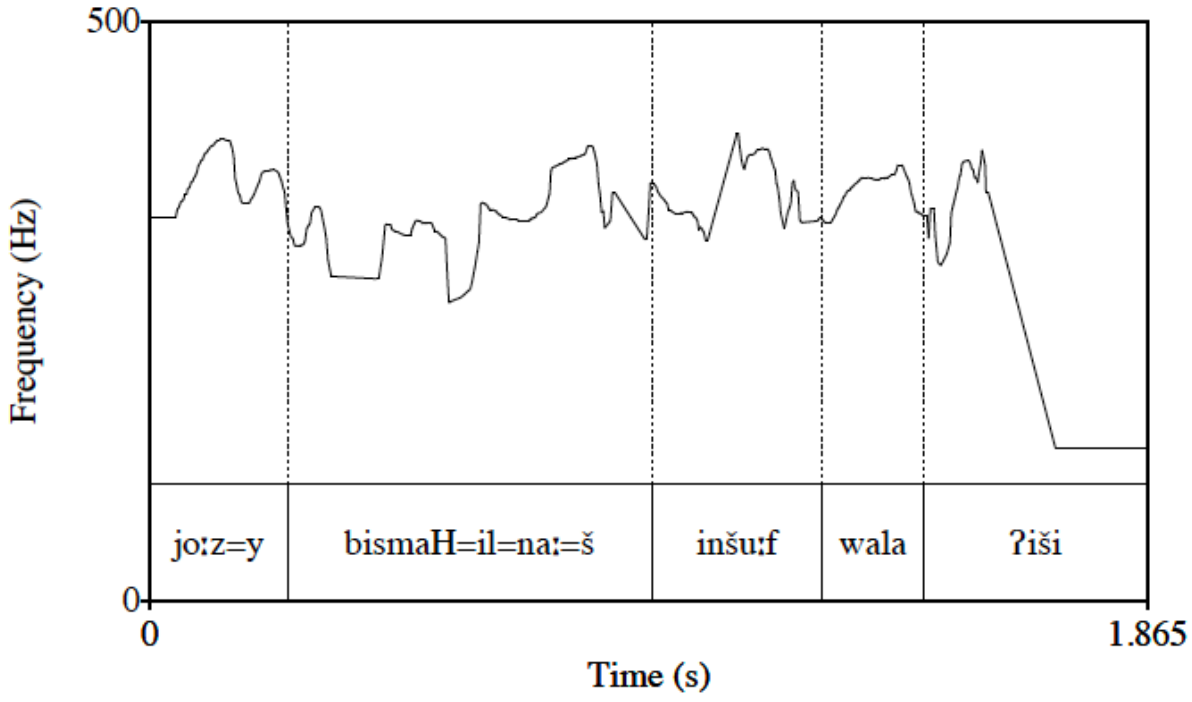


Figure 1: Pitch Track for (41)a

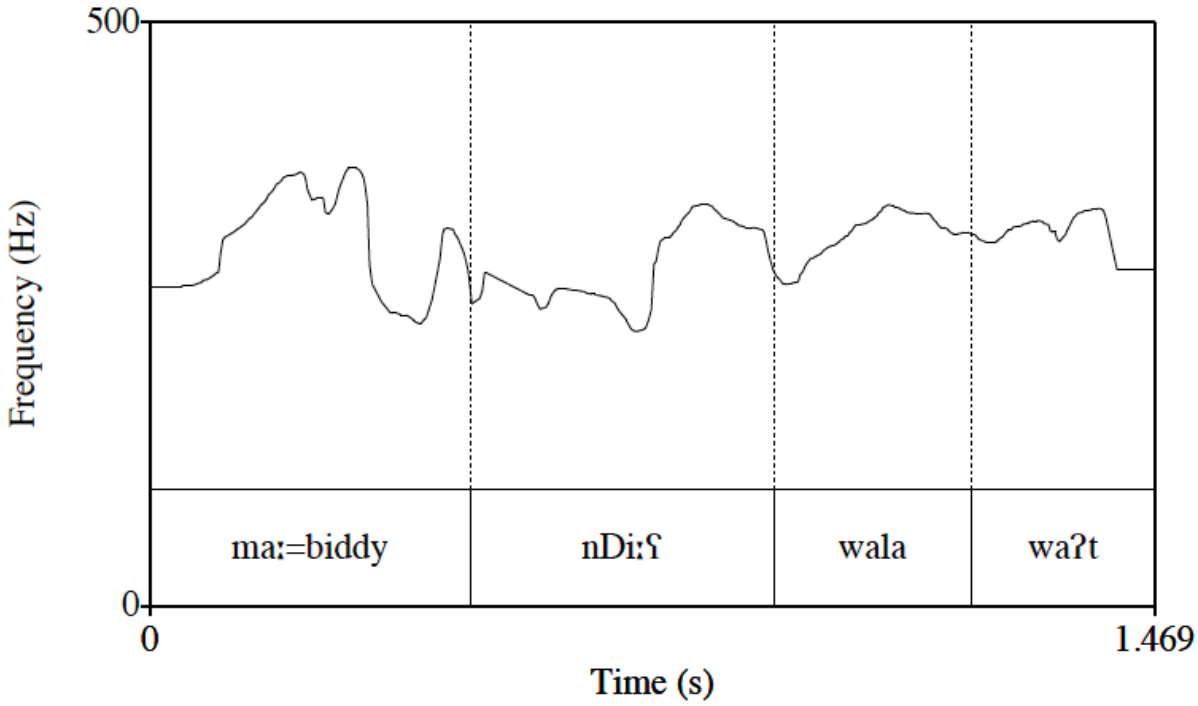


Figure 2: Pitch Track for (41)b

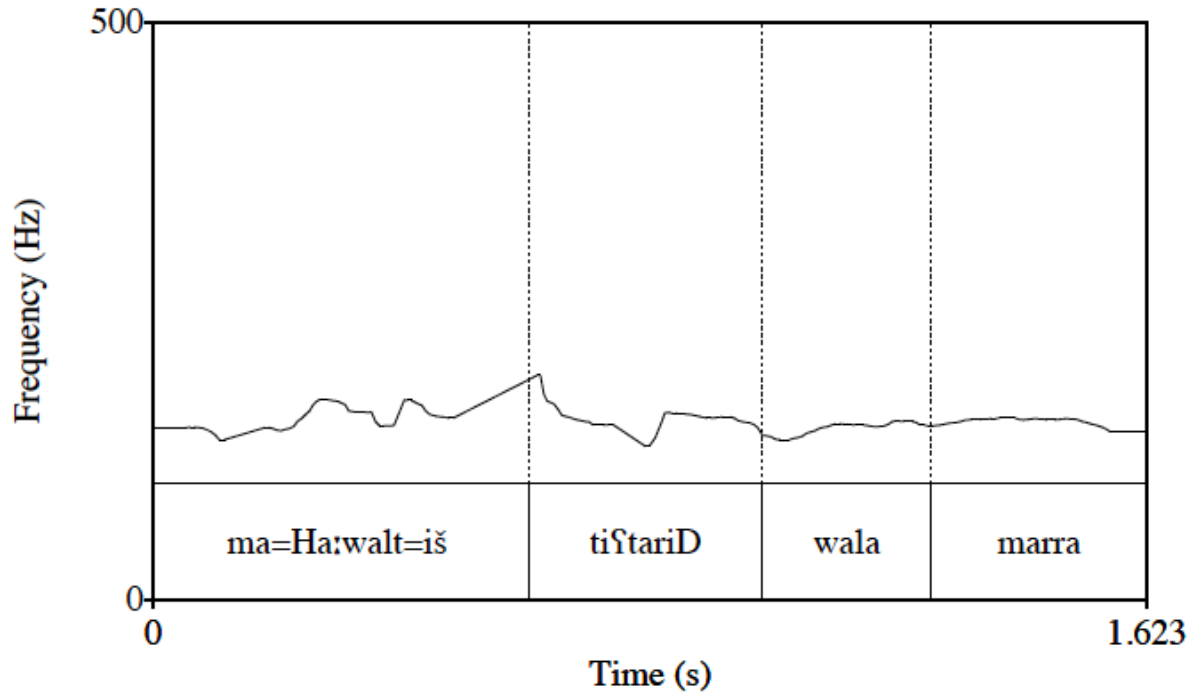


Figure 3: Pitch Track for (41)c

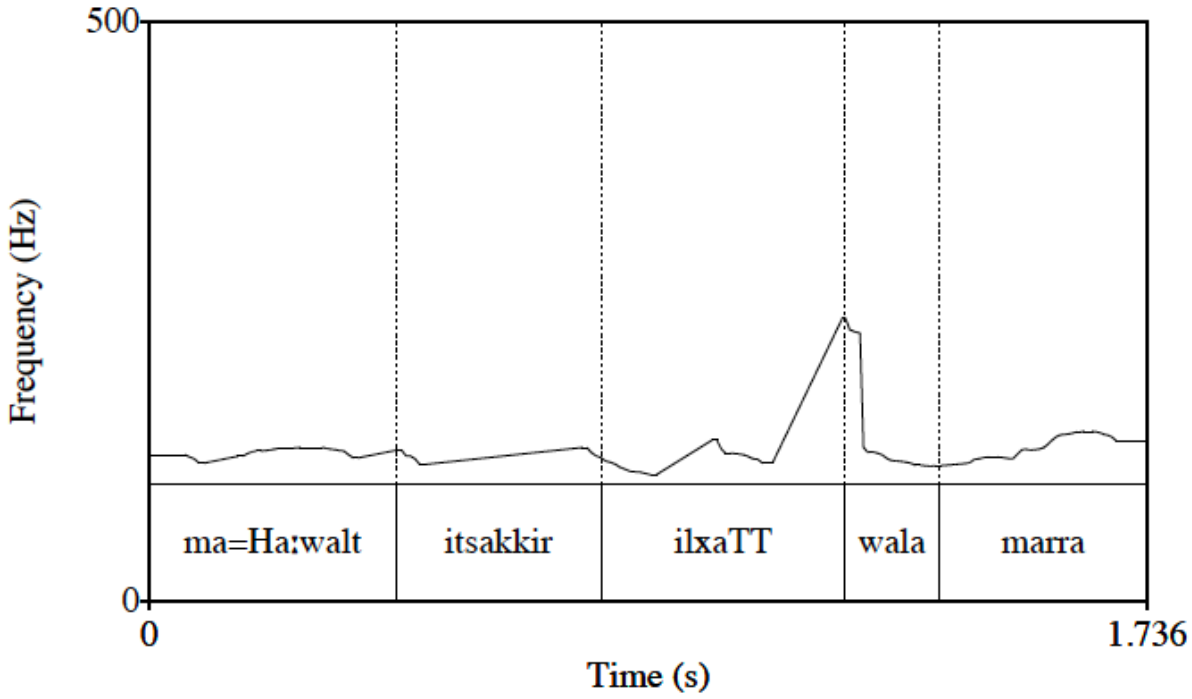


Figure 4: Pitch Track for (41)d

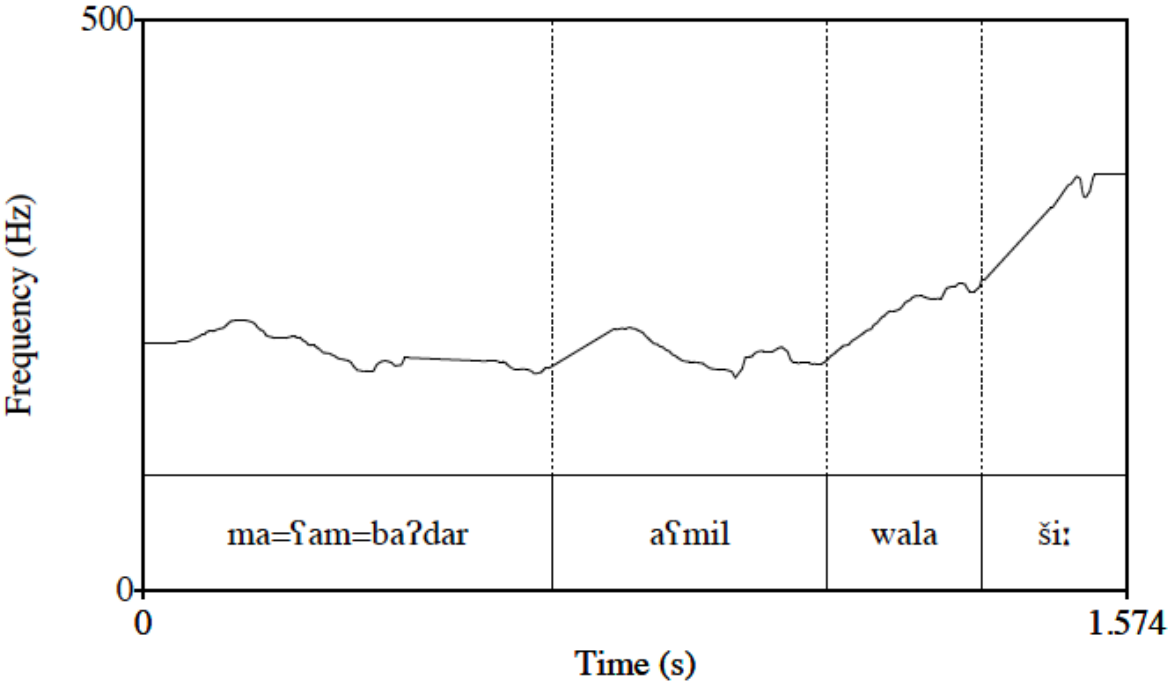


Figure 5: Pitch Track for (41)e

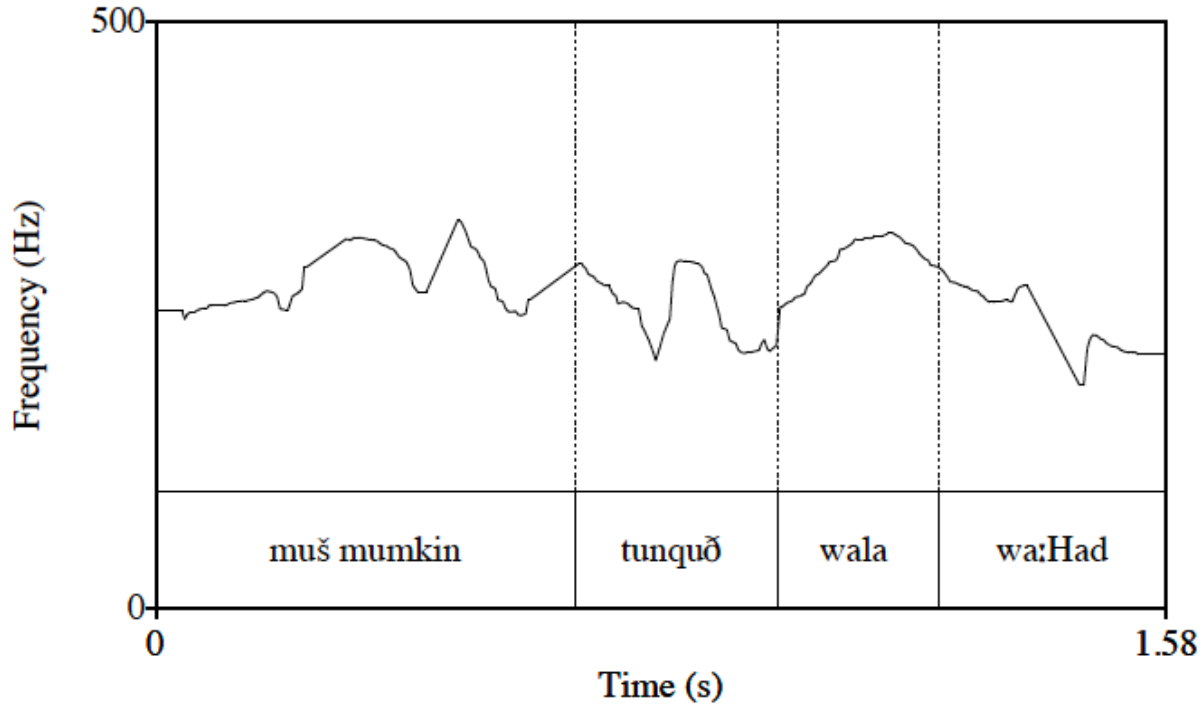


Figure 6: Pitch Track for (41)f

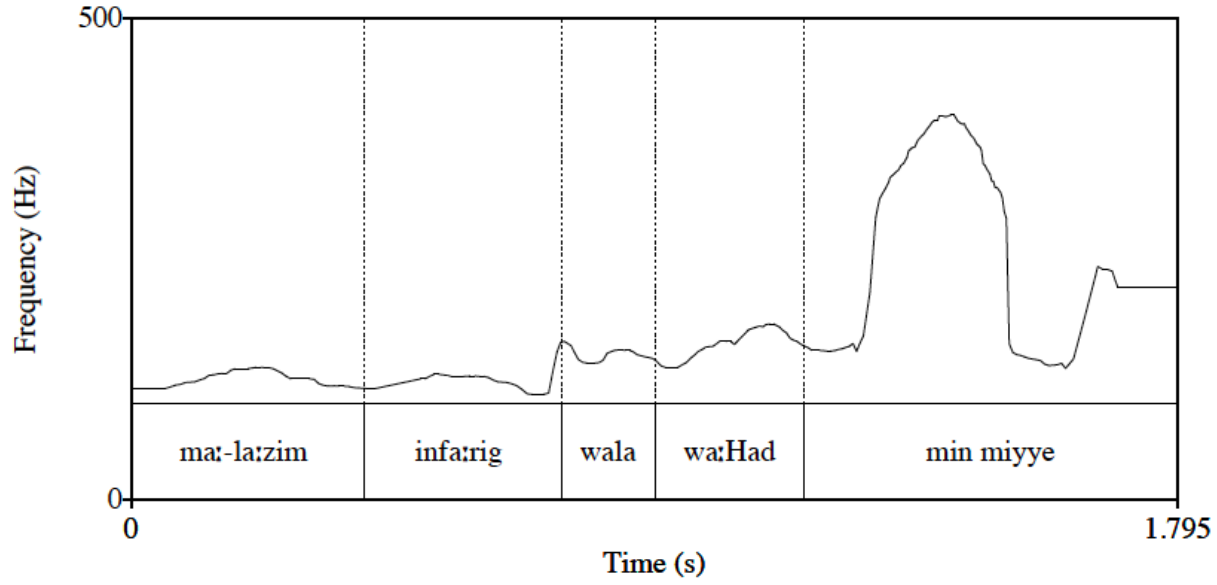


Figure 7: Pitch Track for (41)g

Example	Source File	neg (+host)	embedded verb	wala	NP
(41a)	fla_0100: 467.8-471.18	334.2	**353.8**	**354.9**	295.9
(41b)	fla_0107: 482.28-493.87	**322.5**	295.1	318.5	**324.1**
(41c)	fla_0247: 155.43-159.36	**158.4**	157.9	148.5	**154.4**
(41d)	fla_0626: 459.46-464.06	**128.2**	125.5+125.2	**156**	131.1
(41e)	fla_1041: 97.22-107.87	**212**	207.6	245.5	**349.5**
(41f)	fla_1139: 179.93-186.81	**280.6**	259.5	**299.1**	253.7
(41g)	fla_1524: 194.11-202.81	**126.5**	125.2	151.0	**161.2**

Table 2: Mean F0 for examples (41)a – (41)g (in Hz: high values for each phrase in bold)

Example	Source File	neg (+host)	embedded verb	wala	NP
(41a)	fla_0100: 467.8-471.18	**.68**	.32	.19	**.42**
(41b)	fla_0107: 482.28-493.87	**.47**	.45	**.29**	.27
(41c)	fla_0247: 155.43-159.36	**.61**	.38	.28	**.35**
(41d)	fla_0626: 459.46-464.06	**.43**	.36+.42	.17	**.36**
(41e)	fla_1041: 97.22-107.87	**.65**	.44	**.25**	.23
(41f)	fla_1139: 179.93-186.81	**.66**	.32	.25	**.35**
(41g)	fla_1524: 194.11-202.81	**.40**	.34	.16	**.25**

Table 3: Mean duration for examples (41)a – (41)g (in seconds: high values in bold)

The results (shown in Tables 2 and 3) show that mean pitch and mean duration reliably fall upon the prosodic word consisting of the licensing negation and the matrix subordinating verb. The only example in which a higher F0 mean occurs on the subordinate verb is (41a). However, in this example the negation-V1 complex is pronounced with more than twice the duration of the subordinate verb. This suggests that pitch and duration may work together in signaling degrees of relative prominence. The results are consistent with the prediction that the degrees of prominence on the words falling between the *wala*-phrase and its licensor are lower than the degrees with which the V1 complex or the *wala*-phrase are pronounced.

Is the reduction in mean F0 and duration on the subordinate clauses in the examples is an instance of reduced prominence? In the literature on languages with prominence (such as Japanese), the reduced prominence between a licensor and the question word or NPI it licenses is widely argued to be a prosodic constituent referred to as the Major Phrase or Intermediate Phrase (Poser, 1984; Pierrehumbert and Beckman, 1988; Selkirk and Tateishi, 1991, *inter alia*). If this is the true in Southern Levantine, then the generalization can be refined to the following:

(42) (MaP NEG …reduced prominence …) *wala*-NP

In other words, the locality condition would be that a *wala*-phrase must combine with a major phrase prosodic constituent containing its licensor.

One might ask whether the decreased prominence on the subordinate clauses involves de-accenting. Indeed, in (4) and (41) e., the subordinating verb *baʔdar* “I can” appears to lack a

pitch accent altogether: The two syllables in the word are pronounced with peaks at almost the same pitch rather than with a higher pitch on the syllable that would typically be accented (the first in this case). The word therefore appears to be de-accented. De-accenting has also been identified in Lebanese Arabic by Mitchell (1993) and Chahal (1999, 2001).

However, while de-accenting (as in (41) e.) may be a sufficient condition for allowing long-distance negative concord, de-accenting appears to be entirely absent in Egyptian Arabic (Hellmuth, 2005, 2006, 2011), yet Egyptian also has long-distance negative concord:

(43) a. *ma=šuft=iš [*CP *inn=u kal wala ryiːf].*

not=saw.1s=neg that=3ms ate not.even loaf

"I haven't seen that he ate a single piece of bread." (Woidich, 1968, 153)

b. *ʔana miš ʕaawiz [*IP *titɣayyar wala ḥaaga].*

I not want 3fs.change not.even thing.fs

"I don't want a single thing to change."

(Internet datum (accessed 7/2012))

I conclude that de-accenting is not a necessary condition for LDNC.

Assuming that LDNC is subject to a prosodic locality condition; and that the domain of locality is the domain of reduced prominence (I follow the literature in calling this the Major Phrase), the following schema express the generalization about when LDNC is possible:

(44) i. (MaP NEG …) *wala*-NP

ii. *(MaP NEG …) (MaP …) *wala*-NP

This hypothesis leads to the question: What is the connection (if any) between verb frequency (as reflected in Table 1) and transparency to long-distance negative concord?

Words that are used with a high relative frequency in speech are often pronounced with reduced prominence, meaning with reduced pitch or without pitch, they are pronounced with shorter duration, etc. (Heine, 1993; Bybee & Schiebman, 1999; Joan & Thompson, 2000; Ladd, 2008). As such, the question might be whether pitch is lowered or weakened more on high-frequency subordinating verbs in Levantine Arabic than on others with a lower frequency. If transparency to LDNC is correlated to prosodic weakening (in the form of greater reduction in prominence), then the prosodic locality condition hypothesized above would predict that verbs which block LDNC are pronounced with greater prominence and therefore resist being included in a prosodically subordinate position. Investigating this goes far beyond the scope of this paper. However, the following predictions need to be tested:

a. i. Are the verbs which block LDNC subject to reduced prominence generally? The hypothesis would predict otherwise.

ii. Do other focus-sensitive operators (e.g. other n-words such as *ʔabadan* or *bilmarra* "never" and *ḥitta* "even") likewise trigger reduction in prominence on backgrounded

phrases in the way that *wala* does? If so, are they subject to similar prosodic locality conditions? The hypothesis would predict that they would be.

iii. Are negative sentences with *ʔaiy*-phrases also subject to reduced prominence? If so, why aren't they subject to the same prosodic restrictions that *wala* is subject to?

iv. What is the domain of reduced prominence in Southern Levantine Arabic?

These questions need to be investigated in terms of the interaction of syntactic structure, pragmatics and prosody in Southern Levantine Arabic and in Levantine Arabic more generally.

Summary

I have shown evidence that locality restrictions on negative concord in Southern Levantine Arabic are to be characterized in prosodic terms. Verbs that are transparent to LDNC are syntactically and semantically heterogeneous but have a high rate of occurrence in naturally-occurring speech, suggesting that transparency to LDNC may be a frequency effect of the sort discussed by Bybee and others (Heine, 1993; Bybee & Schiebman, 1999; Ladd, 2008).

Furthermore, examination of LDNC sentences from Maamouri et al. (2006 a,b) are consistent with generalizations noted for Italian, German and Japanese, according to which the constituents over which certain operators are interpreted as taking scope correspond to prosodic rather than syntactic constituents. In particular, the prosodic constituent in question appears to be the domain of reduced prominence, which is observed to take place in German, Japanese and Italian

(as discussed above) and which appears to be taking place in the Levantine Arabic data examined above. The question is therefore whether a correlation can be drawn between the frequency of a verb in speech and its succeptibility to appearing in prominence configurations.

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Endnotes

[i] I thank the organizers and participants of ALS 26. Particular thanks must go to Reem Khamis-Dakwar and Enam al-Wer for their comments and encouragement and to an anonymous reviewer for remarkably detailed and supportive notes on a draft of this paper.

[ii] See Hasegawa (1994), Deguchi & Kitagawa (2002), Ishihara (2003, 2007), Kitagawa & Fodor, (2003), Sugahara (2003), Blaszczak & Gärtner (2005), Kitagawa (2005), Kitagawa & Fodor, (2006), and Yamashita (2008) among others.

[iii] An antimorphic operator is an operator that is both anti-additive and anti-multiplicative, meaning that both of DeMorgan's Laws apply to it:

(1) i. $OP\ (p \wedge q) \Leftrightarrow OP\ (p) \vee OP\ (q)$ (Anti-additivity)

ii. $OP\ (p \vee q) \Leftrightarrow OP\ (p) \wedge OP\ (q)$ (Anti-multiplicativity)

See Zwarts (1996) and Wouden (1994) for discussion of antiadditive and antimorphic operators. An anti-veridical operator is one for which the following inference holds:

(2) $OP\ (p) \Rightarrow \neg p$

See Zwarts (1995) and Giannakidou (1997, 1998) for discussion.

[iv] A downward entailing operator is one for which the following entailment holds:

(1) $P \subseteq Q$ and $\neg Q(x) \Rightarrow \neg P\ (x)$

Anti-additive and antimorphic operators are necessarily also downward entailing.

[v] See Rooth (1992), Krifka (1995b), Israel (1996, 2001), Rullmann (1996), and Lahiri (1998) among many others.

[vi] Exceptions to this generalization do arise (as detailed in Hoyt 2010) but are not relevant to the present discussion.

[vii] *Long-distance negative concord* is a term used by Piñar Lurrubia (1996); Przepiórkowski & Kupść (1997a); Matos (1999); Déprez (2000)) among others.

[viii] See Rizzi (1978), Aissen & Perlmutter (1983), Miyagawa (1987), Bayer & Kornfilt (1989), Butt (1995), Dziwirek (1998), Andrews & Manning (1999), Cinque (2001), Wurmbrand (2001, 2005), Chung (2004), Stejapanović (2004), and Hoyt (2006) among many others.

[ix] See Deguchi & Kitagawa (2002), Ishihara (2002, 2003, 2005, 2007), Kitagawa & Fodor, (2003, 2006), Hirotani (2005), Kitagawa (2005) and Yamashita (2008).

[x]See Muraki (1978), Kato (1985), Hasegawa (1994), Aoyagi & Ishii (1994) and Hirotani (2005). Japanese *shika* resembles Arabic *illa* "only, except for, other than, but" in usage.

[xi] Citations include: the name of the recording in which the datum was found; its time stamp within the file; the nationality of the speaker (where identified) and the speaker's gender. The LDC data are transcribed impressionistically based on the audio for each example.