THE HEBREW *BIXLAL*: A GENERAL STRENGTHENING OPERATOR

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1 Introduction

The present study deals with the semantics of the Hebrew adverb *bixlal* as in (1):

(1) Dani   lo   nexmad [bixlal]F
    Danny not nice   bixlal
    'Danny is not nice at all'

As originally noted by Migron (2003), even though *bixlal* is the most natural interpretation of the English negative polarity item *at all*, its distribution is not restricted to negated constructions. Moreover, unlike *at all, bixlal* may induce a variety of interpretations. Thus, the challenge and the central goal of the study is to provide a unified analysis of the semantics of the particle, which would account sufficiently for its varied interpretational and distributional characteristics.

Developing and refining a proposal in Migron (2003), we argue that *bixlal* is a flexible strengthening operator, whose function is to indicate that its prejacent is stronger than a contextually salient alternative. We show how the mechanisms via which the strengthening effect is achieved are determined by the interaction of three major factors: polarity of the construction in which it appears, placement of intonational stress and the specific semantic-pragmatic properties of the predicate which the particle combines with.

The paper is structured as follows. In section 1 we present Migron's (2003) observations concerning the distribution and the interpretational properties of *bixlal* and her analysis of *bixlal* and then examine several shortcomings in this analysis. In section 2 we modify certain components of Migron's model and provide a refined version of the analysis on which *bixlal* is viewed as a general strengthening operator. We then show how our analysis accounts for the basic uses of *bixlal*. Section 3 provides a closer look at the effects of placement of focus on the interpretation of *bixlal.*. Section 4 deals with the *actually* use of *bixlal*, and shows that, unlike

what is assumed in Migron, it can be subsumed under the strengthening analysis of *bixlal*, once treated as creating stronger contrast (modeled using Morzicky's (2010) alternative-based system of (im)precision). Section 5 examines cases where the use of *bixlal* leads to widening, similar to the main operation of *any* under Kadmon and Landman's (1993) analysis, and to the German *uberhaput* under Anderssen's (2006) analysis, but concludes that widening is just one of the ways strengthening with *bixlal* can be achieved. Section 6 summarizes the paper and examines some wider implications concerning the source of strengthening with NPIs.

2 Migron's (2003) Theory

Migron (2003) explores the semantic-pragmatic effects of *bixlal* and offers an analysis accounting for these effects. Even though we will show that the given analysis fails to account for a full range of data, it provides important observations and intuitions concerning the distribution and the interpretational properties of the particle. Therefore the generalizations brought about by Migron will serve as a point of departure for our analysis.

2.1 The Distributional and Interpretational Characteristics of *bixlal*

As it was mentioned in the previous section *bixlal* is not a negative polarity item as it is licensed in both positive (upward entailing) and negative (downward entailing) constructions (Ladusaw 1980, 1996).
Concerning the interpretational properties of the particle, Migron observes that *bixlal*
induces a variety of readings. Moreover, she shows that different readings pattern systematically depending on two factors: polarity and placement of intonational stress (focus). Therefore she considers four types of constructions and defines four main readings accordingly.

I. Stressed *bixlal* in negative constructions, which yields an *at all / not to a minimal degree* reading, as in (2):

    (2) rina lo   yafa   [bixlal]F
        rina not beautiful bixlal
        'Rina is not beautiful at all/ not even to the slightest degree.'

II. Stressed *bixlal* in positive constructions, which yields an   *in general* reading, or *to a high/higher degree* reading, provided the appropriate context[1].

    (3) **A:** dani   nexmad le bney mishpaxto
          Danny nice   to his   family
          'Danny is nice to his family.'
      B: hu [bixlal]F nexmad
         he bixlal   nice
         'He is nice in general (to everyone).'

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[1] The dats in (3), (5)-(7) are adopted from Migron.

However, in addition to this reading, noted by Migron, we observe that in some contexts *to a high/higher degree* reading is also possible in this construction (4):

(4) ha bayt   shel rina   naki, ve-shel ruti [bixlal]F naki
    the-house of Rina clean and-of Ruti bixlal   clean
    'Rina's house is clean and Ruti's house is very clean/ even cleaner.'

III. Non-stressed *bixlal* in negative constructions yields a *not even* reading, as illustrated in (5):

(5) **A:** ba lax le'exol' caraim im Danny
         'Would you like to have lunch with Danny?'
    B: bixlal   lo   ba li [lir'ot]F oto
         bixlal   not   want to see   him
         'I don't even want to see him.'

IV. Non- stressed *bixlal* in positive constructions yields an *even* reading, as in (6), or an *actually / in fact* reading as in (7):

(6) **A:** hem makirim?
         'Do they know each other?'
    B: betax,   hem bixlal [xaverim]F
         of course, they bixlal [friends]F
         'Of course they do, they are even friends.'

(7) **A:** ruti hi belgit?
         'Is Ruty Belgian?'
    B: lo, he bixlal [carfatiya]F
         no, she bixlal French
         'No, she is actually French.'

Table 1 summarizes the distribution and the interpretational characteristics of *bixlal*
particle and illustrates the correlation between the specific readings and polarity together with
intonational stress.

Table 1. The Distribution and the Pattern of Interpretations of *bixlal* Particle.

Polarity	Stressed *bixlal*	Non-stressed *bixlal*
Negative	*at all/ not even to a minimal degree* reading	*not even* reading
Positive	*even more/ to a higher degree* reading *in general* reading	*even* reading *actually* reading

2.2 Migron's Analysis of *bixlal*

Migron starts off by addressing the tight correlation between the specific readings induced by
bixlal and polarity of the construction in which it appears once again. This time it is in order to

point to the similarities between the lexical effects of *bixlal* in positive/negative constructions and of some polarity sensitive items (PSIs) such as the PPI *awfully* and the NPI *at all* (8)-(9).

(8) a. She is awfully nice.
      She is nice to a high degree.
   b. *She is not awfully nice.

(9) a. She is not nice at all.
      She is not nice even to a minimal degree.
   b. *She is nice at all.

According to Krifka (1995) and Israel (1996) PSIs *awfully* and *at all* make reference to extreme values on a scale associated with a predicate they combine with. *Awfully* corresponds to the upper endpoint of the scale of degrees provided by a gradable adjective *nice*, whereas *at all* refers to the lower endpoint on the same scale.

   This picture is parallel to the interpretational pattern exhibited by *bixlal*: *bixlal* in negative constructions induces *not to a minimal degree readings* and *bixlal* in positive constructions gives rise to *to a high degree/in general* reading.
Krifka (1995) and Israel (1996) analyze polarity sensitive items as in (8)-(11) as scalar operators whose polarity sensitivity stems from the interaction of a scalar value encoded by these items and general pragmatic constraints on the informative status of propositions.

(10) a. *John rarely won scads of money.[2]
    b. John won scads of money.

(11) a. John didn't sleep a wink.
    b. *John slept a wink.

On such an approach informativity constraints are the factor which governs the distribution of polarity sensitive items, i.e. PSIs are felicitous only if their use contributes to creating a more informative/ stronger proposition. The notion of informativity is characterized in terms of entailment relations between propositions as in (12).

(12) *p* is informative/strong if *p* entails a contextually relevant *p'*,
      whereas *p'* does not entail *p*.

                                        (Israel, 1996 following Kay, 1990)

If a scalar value of a specific operator is lexicalized its informativity status is expected to be dependent of the polarity of the construction in which it appears. Namely if a lexical item is associated with the extreme high value on a contextually relevant scale *(scads of/awfully)* the proposition in which it appears will be informative in positive constructions since higher values entail all lower values in such cases (13), but not vice versa.

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[2] Following Israel (1996) we use an NPI trigger *rarely* to illustrate polarity sensitivity of *scads of*.

(13) a. She is awfully nice *entails* She is very nice
　　　　　　　　but
　　She is very nice *does not entail* She is awfully nice
　　b. He won scads of money *entails* He won some money
　　　　　　　　but
　　He won some money *does not entail* He won scads of money

Negation reverses the directionality of entailment, therefore operators which correspond to the extreme low values on a scale *(at all/ a wink)* will contribute to creating an informative/strong statement only under negation but not in positive constructions (14).

(14) a. She is not nice at all *entails* She is not very nice
　　　　　　　but
　　She is not very nice *does not entail* She is not nice at all

　　b. He didn't sleep a wink *entails* He didn't sleep much
　　　　　　　but
　　He didn't sleep much *does not entail* He didn't sleep a wink

Assuming the informativity constraint to be a licensing condition it follows that operators which refer to low values on a relevant scale will be allowed only in negative constructions (i.e. will be NPIs) and operators which correspond to high values will be licensed only in positive constructions (i.e. will be PPIs). This explains the restrictions in distribution of polarity sensitive items[3].

　　Having analyzed the similarities in the interpretational pattern between *bixlal* in positive/negative construction and NPI/PPIs, Migron concludes that *bixlal* is a scalar operator whose main function is to select the most informative value on a scale associated with a predicate. Unlike polarity sensitive items, *bixlal* does not have a lexically predetermined high or low scalar value, therefore the particle is not constrained to one kind of polarity and corresponds to either upper or lower endpoint depending on which one will surface as informative. Since the upper and the lower endpoints are informative only in positive and negative constructions respectively, *bixlal* manifests lexical effects similar to those of NPIs in negated constructions and of PPIs in positive constructions.

　　Thus, Migron argues for the informativity-based approach to the semantics of *bixlal* as follows in (15).

(15) **THE SEMANTICS OF *BIXLAL* (Migron 2003)**
　　bixlal operates on a scale associated with a predicate and selects the most informative value on this scale:
- in <u>negative</u> polarity- *bixlal* picks a <u>minimal</u> endpoint
- in <u>positive</u> polarity- *bixlal* picks a <u>maximal</u> endpoint

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[3] Migron concentrates on polarity sensitive items which refer to extreme values on a scale. However, on Israel's approach in order to be licensed a PSI does not have to correspond to the highest or the lowest value. Nevertheless its scalar value has to be high or low enough so that a proposition containing this item will entail a contextually relevant alternative proposition corresponding to some value on the same scale.

- if *bixlal* is <u>stressed</u>- a scale consists of <u>different interpretations of the modified predicate</u>
- if *bixlal* is <u>unstressed</u> - a scale consists of <u>alternatives to the predicate</u>

The given definition seems to account elegantly for the most of distributional and interpretational properties of the particle. It shows how different interpretations are derived and explains the nature of the correlation between the specific readings induced by the particle and polarity of the construction in which it appears, as illustrated now:

<u>I. Stressed *bixlal* in negative contexts: *At all* reading</u>
Stressed *bixlal* in negated constructions evokes a scale associated with a predicate and picks the most informative member on it. Since under negation the lowest value entails all higher values it is the most informative value. Therefore in such cases *bixlal* refers to the lowest value. Thus not *at all/ not to a minimal degree* reading is derived.

For example in (16) *bixlal* operates on a scale which consists of different interpretations of *beautiful* (17) and picks the lowest value:

(16) rina lo   yafa   [bixlal]F
      rina not beautiful bixlal
      'Rina is not beautiful at all/ not even to the slightest degree.'

(17) **not beautiful to a minimal degree** $\Rightarrow$ not beautiful to a modest degree $\Rightarrow$ not beautiful to a high degree

<u>II. Stressed *bixlal* in positive contexts: *In general* reading</u>
Stressed *bixlal* in positive constructions performs the same operation, i.e. it selects the most informative expression. Since the directionality of entailment is reversed, the highest value entails all lower values therefore it is the most informative value. Thus in such cases *bixlal* necessarily associates with the highest value on a scale associated with a predicate.

Consider the example in (18). *Nice in general* is the most informative value on a scale consisting of different interpretations of a predicate *nice* with which the particle combines (19):

(18) **A:** dani   nexmad le bney mishpaxto
           Danny nice   to his   family.
           'Danny is nice to his family'
(19) **B**: hu [bixlal]F nexmad
           he bixlal   nice
           'He is nice in general (to everyone).'

(20) nice to his family $\Rightarrow$ nice to family and friends $\Rightarrow$ nice to family, friends and neighbors $\Rightarrow$ nice in general (to everyone)

<u>III. Non-stressed *bixlal*: *Even* reading</u>
In the case of non-stressed *bixlal* the basic mechanism is the same. The only difference is in the nature of a scale, which now <u>consists of contextually relevant alternatives to a predicate</u>.

For example, in (20) *bixlal* associates with the most informative value on a scale of alternatives for *friends* (21) and picks the most informative value.

(21) **A:** hem makirim?
      'Do they know each other?'
   B: betax,   hem bixlal [xaverim]F
     of course, they bixlal [friends]F
     'Of course they do, they are even friends.'

(22) acquaintances ⇐ pals ⇐ friends

The *not even* reading is generated via the same route except for the fact that in negative constructions *bixlal* makes reference to the lower endpoint of a scale.

IV. The *Actually* use
According to Migron, *bixlal* on the *actually* use as (22) is not covered by the general analysis of *bixlal*, as selecting the most informative member in a scale. Migron refers to this use of *bixlal* as a non-scalar use and suggests that in this case the particle operates on a non-scalar set of alternatives associated with a predicate and triggers a shift from one member to another (23).

(23) **A:** ruti hi belgit?
      'Is Ruty Belgian?'
   B: lo, hi bixlal [carfatiya]F
     no, she bixlal French
     'No, she is actually French.'

(24) **A set of alternatives** [French, Belgian, American, Israeli....]

2.3 Problems

Despite the apparent attractiveness of Migron's model it has a few problems which have to be addressed.

First of all, Migron's analysis cannot be considered unified since it does not cover the *actually* use of *bixlal*.

Second, even if we leave the *actually* use aside, a close examination of a wider range of data shows that the model has several intrinsic problems. In particular we bring two observations which pose a problem to Migron's account.

The first observation is that *bixlal* does not necessary make reference to the <u>end point</u> of a scale. The example in (24) shows that *bixlal* does not obligatorily associates extreme values on a relevant scale. If it were the case A's respond to the utterance containing *bixlal* in (24) should surface as odd. However, it is not the case.

(25) **A:** ha bayt shel rina naki
     'Rina's house is clean'
    B: ve shel ruti [bixlal]F naki. ma   im pnina?
     and of Ruti bixlal   clean, what with Pnina?
     'And Ruty's house is even cleaner. What about Pnina?'
    A: shela haxi naki!
     Hers most clean
     'Her house is the cleanest.'

Moreover, in some cases *bixlal* cannot possibly refer to an endpoint since the predicate which it attaches to is associated with an open scale which has neither a minimal nor a maximal endpoint. For example, in (25) the particle associates with a gradable adjective *tall* which is analyzed as an open scale predicate. One cannot be maximally or minimally tall (for details see Kennedy & McNally, (2005)). Nonetheless the use of *bixlal* is felicitous with such a predicate:

(26) dani   gavoa ve axiv   [bixlal]F gavoa
     Danny tall   and his brother bixlal   tall
     'Danny is tall and his brother is very tall / even taller.'

Thus, Migron's claim that *bixlal* necessarily corresponds the informative <u>end-point</u> of a scale is not accurate.

    The second observation is that *bixlal* can operate on non- entailment, evaluative scales, as illustrated in (26)-(27):

(27) rina hi   menahelet maxlaka ve   baala   bixlal [mankal]F
     Rina is a department manager and her husband bixlal the general manager
     'Rina is a department manager and her husband is even the general manager.'
     a clerk < a manager < <u>the general manager</u>

(28) moshe zaxa be pras dekel   ha zahav ve   yosi bixlal zaxa [ba oskar]F
     moshe won in prize Golden Palm   and Yosi bixlal won in the Oscar
     'Moshe won the Golden Palm and Yosi even won the Oscar.'
     the golden palm< the <u>oscar</u>

Clearly the alternatives presented above may be ranked on a scale according to a certain parameter (significance, prestige, etc..). However the entailment relations between the alternative do not hold. Being a director does not entail being a clerk and winning an Oscar by no means entails winning a Golden Palm. Hence, in examples of that kind *bixlal* does not select the most/more informative member on a scale and a target value is set with respect to a different parameter.

3 An Alternative Proposal - *bixlal* as a General Strengthening Operator

3.1 Central Claims

We adopt Migron's observations concerning the semantic-pragmatic effects of *bixlal* and follow her generalizations in the most part. However, we refine her theory by modifying certain components in it. In particular we relate to five aspects.

First, we treat *bixlal* as a sentential operator (cf. Beaver & Clark's (2008) analysis of exclusives). Thus, the relevant alternatives in the scale with *bixlal* are not predicates but propositions.

Second, in contrast to Migron we propose that *bixlal* in *bixlal[p]* does not refer to the strongest alternative on a relevant scale (end point) but indicates that p is stronger than a contextually salient alternative p'.

Third, we depart from Migron's 'informativity –based' approach and propose that *bixlal* associates with a stronger and not necessarily the most informative alternative on a relevant scale, while the notion of strength should be understood in a wide sense (28).

(29) p is stronger than p' if **i** holds or if **ii** holds
- **i.**   If p is located higher than p' in an entailment scale – i.e. if p entails p' and p' does not entail p (therefore p is more informative than p)'
  (= Migron's condition (following Krifka (1995) , Israel (1996))

- **ii.** p is located higher than a contextually relevant alternative p' on a non entailment/ evaluative scale associated with p; the ordering criterion in this case is
  contextually determined.

Notice that on such analysis *bixlal* is an instantiation of the broader phenomenon of particles which can operate on non-entailment scales: *only* under Beaver & Clark (2008) and Kadmon & Sevi (2011), and *almost* under Amaral & del Prete's (2010) analysis.

Fourth, we show more explicitly how the semantic/pragmatic properties of the prejacent interact with the semantics of *bixlal* and how this interaction contributes to the specific readings of *bixlal*. In particular we examine a variety of constructions, for example propositions containing gradable predicates, vague predicates, predicates whose semantics involves quantification. As part of this closer examination we look more closely at the notion of contrast and contrastive focus, and propose an analysis of the 'actually', apparently nonscalar use of *bixlal* which is subsumed under our strengthening analysis.

Fifth, Migron shows that there is a correlation between stressed and non-stressed *bixlal* and the type of alternatives in the scale, and consequently, in the type of interpretation of the sentences. We add to that an explanation of how the difference in the placement of stress leads to the different alternatives.

While the latter two components will be discussed in detail later in the course of the paper, at this point our central claims concerning the semantics of the particle may be presented as follows in (29).

(30) **THE MAIN FUNCTION OF *BIXLAL* (current proposal)**
bixlal is a flexible strengthening operator, i.e. *bixlal* in *bixlal [p]* indicates that *p* is stronger (higher on a scale) than a contextually salient alternative *p'*. The strategy by which the strengthening is achieved is determined by the interaction of three factors:

i) polarity
ii) focus (*bixlal* is stressed or some other element in p is stressed)
iii) the semantic / pragmatic properties of p (contains a semantically gradable predicate, involves quantification, expresses a contrast, etc..)

3.2 Accounting for some Basic 'Scalar' Uses of *bixlal*

The refined version of the analysis captures the semantic-pragmatic effects of *bixlal* which were problematic for Migron's theory. In the following three subsections we look at three cases not accounted for by Migron's analysis to illustrate the advantages of the present proposal for the 'scalar' uses of *bixlal*. (The apparently non-scalar, *actually*, use of *bixlal* will be dealt with in section 4 below).

3.2.1 Stronger vs. the Strongest

We have observed that *bixlal* in positive constructions does not necessarily refer to the upper endpoint of a relevant scale, i.e. the particle is interpreted as *to a high/higher* and not *to the highest degree* as predicted by Migron's analysis (30).

(31) **A:** ha bayt shel rina naki
'Rina's house is clean'
B: ve shel ruti [bixlal]F naki   ma   im   pnina?
and of Ruty bixlal   clean, what about Pnina?
'And Ruty's house is even cleaner. What about Pnina?'
A: shela haxi naki!
Hers most clean
'Her house is the cleanest.'

Our model allows for such reading to emerge. In (30) stressed *bixlal*+ contextual support evoke a scale of alternative propositions which differ in the degrees associated with a gradable adjective *clean*. The degree of 'cleanness' associated with Rina's house sets a standard for *clean*, and the degree of cleanness of Ruti's house is originally evaluated with respect to this standard. The addition of *bixlal* in *bixlal[p]* leads to an interpretation of *p* which is higher than the given alternative on the scale.

If Rina's house is considered clean that means that a degree of cleanness associated with it reaches/exceeds a contextually relevant standard for clean. A use of *bixlal* in Ruty's house *is bixlal clean* thus indicates that *clean* in this case has to be interpreted as having a degree of cleanness much above the standard (31).

(32) ***i.*** *p-* the house is clean to a degree which is higher than the standard
     ii. *bixlal[p]* –the house is clean to a degree which is <u>much higher</u> than standard

Note, then, that *bixlal [p]* entails the same proposition without *bixlal*.

3.2.2 *bixlal* Can Operate on Various Kinds of Scales

Notice that stressed *bixlal* can combine not only with gradable adjectival predicates but with a variety of predicates including non-gradable ones (32)- (34).

(33) <u>Context:</u> exhibition at the Museum of Contemporary Art
     ze   lo   kise [bixlal]F
    this not chair bixlal
 'This item is not a chair by any means.'

(34) ruti   lo   yashna [bixlal]F, afilu lo daka
Ruty didn't sleep   bixlal,   even not minute
     'Ruty didn't sleep at all, not even a minute.'

(35) ruti   lo   raca [bixlal]F,   afilu lo meter
Ruty didn't run bixlal,   even not meter
     'Ruty didn't run at all, not even a meter.'

This shows that *bixlal* can operate on various scales and induce strengthening by operating on other domains (not only degrees) depending on the semantic properties of the predicate. For example, a scale of precision or typicality as in (32) (cf. Sauerland & Stateva ,(2007)), a temporal domain as in (33) , spatial (34) etc..

    This flexible operation on different domains can help us explain the *at all* reading with open scale adjectives. Recall that (35) cannot be analyzed as *he is not tall even to a minimal degree*, since *tall* is an open scale adjective (sec.1.3).

(36) dani   lo gavoa [bixlal]F
   Danny not tall   bixlal
'Danny is not tall at all.'

Instead, following Krifka (1995) we propose that a scale of alternatives in this case is composed of possible interpretations of *p- Danny is not tall* under different standards of precision for *tall* as in (36).

(37) tall under the most tolerant standard of precision< tall under a strict standard of
     precision< tall under a strict standard of precision...

On such analysis ***Danny is not tall*** is interpreted as 'Danny's height does not reach a contextually relevant standard for *tall'* while ***Danny is not tall bixlal*** is interpreted 'Danny's

height does not reach a standard value for *tall* even when the most tolerant standard of precision is considered' (and consequently – even if we lower the standard for tallness).

Notice, then, that stressed *bixlal* influences the interpretation of *p*, i.e. it makes *p* stronger than a default or a salient interpretation of p.

3.2.3 Non-stressed *bixlal* + Non-entailment Scales

Now we can also account for the data on non-entailment scales as in (34).

(38) Context: Do Danny and Rina earn lots of money?)
betax, dani   menahel maxlaka,   ve- rina bixlal [mankalit]F
sure, Danny department-manager and-Rina bixlal general manager
'Sure, Danny is a department manager and Rina is even a general manager!'

Focus on *general manager* evokes a set of alternative to *p* which may be ordered on a non-entailment evaluative scale (for example, a scale of significance) in (38) and a use of *bixlal* indicates that *p* is stronger than *p'*, i.e. being a general director is more prestigious than being a department manager.

(39) being a department manager < **being a general manager**

Crucially*, non-stressed bixlal [p]* is felicitous only in contexts in which *p* is weaker than a contextually relevant *p'* as illustrated in (39). Once a stronger alternative *a general manager* has been introduced, *bixlal* cannot combine felicitously with any weaker alternative such as *a department manager*.

(40) Context: Do Danny and Rina earn lots of money?)
#betax, dani   mankal,   ve-rina   bixlal [menahelet maxlaka]F
sure,   Danny general manager and Rina bixlal   department-manager
'Sure, Danny is a general manager and Rina is even a department manager!'

Notice, then that whereas stressed *bixlal* affects the interpretation of *p*, and renders it stronger than its default interpretation, non- stressed *bixlal* affects the felicity conditions for *p* in a given context (i.e. relative to a contextually salient alternative).

We now turn to a closer (though still brief) examination of this correlation between the placement of stress and the effect of *bixlal.*

4 A Short Look at the Effect of Focus Placement on the Interpretation of *bixlal*

Remember that according to Migron the nature of the scale of alternatives depends on whether *bixlal* is stressed or not. We will now attempt to explain this correlation.

Following Migron we observed that when *bixlal* is ***not* stressed,** we get a scale involving different alternatives to original prejacent sentence. We propose that this is because when *bixlal* is ***not*** stressed, another element in the sentence ***is*** stressed. Stress on that element induces a set of alternative propositions to p, using a standard 'Roothian' mechanism (Rooth 1985, 1996). This is illustrated in (40), where the appropriate set of alternatives is ***They know each other < They are married to each other***:

(41) **A:** rina ve-dani makirim?
       'Do Rina and Danny know each other?'
  B: Hem bixlal [nesuim]F
      They bixlal married
      'They are even married'

In contrast, when *bixlal* is stressed, as in (41), we get a scale of propositions which different in the <u>interpretations</u> of the modified predicate (e.g. ***Danny is nice to his family < Danny is nice to everyone***):

(42) **A:** dani nexmad le bney mishpaxto
      Danny nice to his-family
      'Danny is nice to his family'
  B: hu [bixlal]F nexmad
     he bixlal nice
     'He is nice in general (to everyone).'

Notice that the phenomena where focus on a (focus sensitive) particle leads to different interpretations of the prejacent has been already reported for the Hebrew *stam (merely)* (Orenstein & Greenberg (2011), Greenberg (in progress) on the Hebrew *davka*). In particular, Orenstein & Greenberg analyze *stam* as a scalar exclusive (in the sense of Beaver & Clark (2008), see also Coppock & Beaver (tp appear)), which indicates that the prejacent, p, is in a low position in an evaluative (non-entailment) scale of alternatives. When *stam* is non-stressed another element in the sentence is stressed, as in (42):

(43) Ze ma Se-kanit la la-xatuna? Ze stam [Saon]F!
    'This is what you bought her for the wedding? This is stam (=merely) a watch!'

In this case the speaker of (42) implies that buying a watch is not enough. E.g. she could have continued the sentence with "You should have bought a dishwasher!". In this case *p ("It's a watch")* is located in a low position in a scale of alternative ("Roothian") propositions, e.g. in the scale *It's a watch < It's a dishwasher <it's a car < it's a house*

In contrast, when *stam* is stressed, as in (43), the implication is different:

(44) Ze ma Se-kanit la la-xatuna? Ze [stam]F Saon!
    'This is what you bought her for the wedding? This is stam (= a mere) watch!'

The speaker of (43) implies that this watch is simple / has a low value, and can continue by saying "You should have bought a more expensive watch!". In this case *p ("It's a watch")* is

interpreted in such a way that it is located in a low position in a scale of alternative interpretations of p, e.g. *It's a cheap watch < it's a standard watch < it's an expensive watch*.

With both stressed and non-stressed uses of *stam*, then, its operation is the same (placing *p* in a low position of an evaluative scale and excluding the stronger alternatives), but the scaled set of alternative is different: When stress falls on another element in the sentence we get standard Roothian alternatives to p {*p, q, r…*}, whereas when *stam* itself is stressed we get different interpretations / versions of p {*p₁, p₂, p₃…*}. This is indeed very similar to the observations about *bixlal*, which has a unified function (indicating that *p* is stronger than a contextually salient alternative), and in which when stress falls on another element in the sentence we get standard Roothian alternatives to p {*p, q, r…*}, whereas *bixlal* itself is stressed we get different interpretations / versions of p {*p₁, p₂, p₃…*}.

What mechanism leads to this later scale of alternatives? We examine here two main options for *bixlal*. The first is that stress on the adverb induces an alternative proposition with a **different adverb** in a standard "Roothian" manner. We thus end up with a set of alternatives which are like p except from *bixlal,* which is replaced by an element of the same semantic type (cf. Beck (2006) (stressed *again*), Fery (to appear) (stressed *doch* in German)). Potential support for this option comes from the existence of sentences where we do indeed find an alternative adverbial to *bixlal*, as in (44):

(45) efSar   liknot Sam dagim [bixlal]F ve- dgey yam   [bifratF]
    possible to buy there fish   bixlal   and-fish-of sea in-particular
    'You can buy there fish in general, and sea fish in particular'

However, there are many uses of stressed *bixlal* which do not seem to involve such an alternative adverbial, as in (45)-(46):

(46) dani   lo   gavoha [bixlal]F
    Danny not tall   bixlal
    'Danny is not tall at all'

(47) dani gavoha ve-axiv   [bixlal]F gavoha
    Danny tall   and-his-brother bixlal   tall
    'Danny is tall, and his brother is even taller / very tall'

We could, of course, try and posit two silent alternative adverbials: one for *bixlal* in (45) and one for (46), but it is not clear what their semantics would look like.

Another problem with this option is that holding it we can no longer assume that *bixlal* is a sentential operator which indicates that its <u>prejacent</u> is stronger than a (contextually salient) alternative, since on this option the whole sentence <u>with *bixlal*</u> is taken to be stronger than an alternative sentence.

We thus propose another possibility, according to which stress on *bixlal* indicates **no stress** on other elements in p. (cf. Egg & Zimmerman (2011) on stressed *doch,* Kadmon & Sevi (2011) on stressed *only*). Given this option *bixlal* functions here as a 'place holder' for stress. Hence, no standard "Roothian" alternatives to p (*q,r,s*) are triggered. But, since the semantics of *bixlal* makes reference to alternatives ("p is stronger than its contextually salient alternatives"), the way

to get these alternatives is to interpret p in different ways (*p, p', p''*). We thus end up with different versions / interpretations of p itself.

 Further research should examine these two options, and their applicability to other cases of focused focus sensitive operators in various languages.

5 The *actually* (Apparently 'Non-scalar') Use of *bixlal*

5.1 The Problem

As observed by Migron, *bixlal* has a function similar to *actually*, typically found with contrastive focus on another element in the sentence:

(48) **A:** Rina hi belgit?
   'Is Rina Belgian?'
  B: lo, he bixlal [carfatiya]contrastive F
   no, she bixlal French
   'No, she is actually [French]contrastive F.'

Clearly, *Rina is French* and *Rina is Belgian* are not ordered on any scale (neither an entailment nor a non-entailment scale).I.e. p cannot be considered 'stronger' (more informative / more significant) than q. Indeed, Migron concludes that this is a 'non-scalar' use of *bixlal*, involving an unscaled set of alternatives, which merely triggers a shift from one alternative to the other.

 However, if this is so, then this use cannot be part of the 'strengthening' analysis of *bixlal*. In the following subsections we propose a way to nonetheless subsume this use under the 'strengthening' analysis, thus making it more unified.

5.2 An Intuitive Observation: *bixlal* Creates Significant Contrast

Our main observation is that in the *actually* use the sentence with *bixlal* seems to induce a <u>stronger contrastive effect</u> than the one without it. What supports this intuition is the fact that the versions with *bixlal* are odd in contexts where the contrast is not naturally evaluated as significant (notice that in this sense *bixlal* is not identical to *actually*). Consider, for example,(48) an (49):

(49) **A:** dani mi-rishon?
   'Is Danny from rishon?'
  B: Lo. hu bixlal mi- [tel Aviv]contrastive F
   No. He bixlal from-Tel Aviv
   'No, He is bixlal from [Tel Aviv]contrastive F'

(50) ha-toar Sel rina hu bixlal be-[biogenetica]F, lo be-biologya mulacularit
  the degree of rina is bixlal in biogenetics, not in molecular biology
  'Rina's degree is bixlal in [bigenetics]contrastive F, not in molecular biology.'

In (48) the use of *bixlal* indicates that the speaker takes the contrast between being from Rishon and being from Tel Aviv to be significant. Similarly, in (49), the use of *bixlal* indicates that the speaker takes the contrast between having a degree in biogenetics and molecular biology as significant. In both cases, then, a speaker would avoid using *bixlal* in contexts where, given her perspective, the contrast is insignificant (e.g. in an international forum in the case of (48), and in a discussion about accepting Rina to a second degree in literature, in the case of (49)).[4]

Our intuitive observation, then, is that whereas *p* with contrastive focus expresses contrast with a salient alternative q, when *bixlal* operates on *p* with contrastive focus it indicates a **significant** contrast with q.

How can such an observation be made more precise? Can we find theories of contrast or of contrastive focus which will allow us to model degrees of (significance of) contrast?
A promising direction is proposed in Umbach (2007), who takes contrast between p and q involves both similarity and dissimilarity between p and q, (and denial of q by p). Given this idea using contrast would indicate that p is dissimilar from q (this will only be informative if p and q are similar in some sense to start with), and using significant contrast (e.g. with *bixlal*) will indicate that p is significantly / highly dissimilar from q.
In the next subsection we attempt to model this idea using Morzicky's (2011) alternative-based approach to (Dis)similarity and (Im)precision.

5.3 Using Morzicky's (2011) Approach to (Dis)similarity and (Im)precision to Capture (Significant) Contrast

Morzycki's (2011) develops an alternative-based approach to imprecision for his analysis of metalinguistic comparatives (*John is more dumb than crazy)*, which compare degrees of precision (of e.g. *dumb* and *crazy*). In this framework the interpretation function is relativized to contexts and degrees of precision (which are based on degrees of similarity). What is important for our discussion is that degrees of precision determine a set of alternatives (of the same semantic type), which are similar to the expression in question to a degree d (a real number in the interval [0,1], as illustrated in (50):

(51) $[[\text{tel aviv}]]^{d,C} = \{f_l: f \approx_{d,C} tel\ aviv\}$ *(l is location}*

Given this idea, the higher the degree of precision used, the smaller the set used in the interpretation will be. Thus, for example, *Tel Aviv* interpreted completely precisely (with degree of precision 1) will denote the singleton set {*tel Aviv*}, as in (51). *Tel Aviv* interpreted completely imprecisely (with degree of precision 0) will denote the set of all locations (and hence will be completely uninformative), (52):

(52) $[[\text{tel aviv}]]^{1,C} = \{tel\ aviv\}$
(53) $[[\text{tel aviv}]]^{0,C} = D_l$

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[4] Notice, though, that even in such contexts informants may find the use of *bixlal* felicitous. We assume that this is because the need to be precise can be always taken to be considered significant, even if for other contextual purposes a contrast (e.g. between studying biogenetics and molecular biology) is not significant at all.

The interesting cases are the mid-way degrees, illustrated in (53)-(55):

(54) $[[\text{tel aviv}]]^{0.9.5,C}$ = {*tel aviv, yafo,*}
(55) $[[\text{tel aviv}]]^{0.9,C}$ = {*tel aviv, yafo, givatayim, bat yam*}
(56) $[[\text{tel aviv}]]^{0.6,C}$ = {*tel aviv, yafo, givatayim, bat yam, xolon, rishon, bney brak, herzeliya*}

Let us now try to apply Morzicky's ideas to modeling (degrees of) contrast with contrastive focus. Consider first the dialogue in (56):

(57) **A:** dani mi-rishon?
　　　　'Is Danny from rishon?'
　　B: Lo. hu　mi-　[tel Aviv]$_{\text{contrastive F}}$
　　　　No. He from-Tel Aviv
　　　　'No, He is from [Tel Aviv]$_{\text{contrastive F}}$'

The insight we want to develop that is that speaker B in (56) does not necessarily interpret his utterance with a degree of precision 1. That is, she may truthfully say *He is from tel Aviv* by using a lower degree of precision d, i.e. even if in actuality Danny lives in Yafo, which in C is considered 'sufficiently similar' to Tel Aviv.

　　Crucially, however, we propose that by using contrastive focus, the speaker indicates that given this degree of precision d, living in Rishon is NOT sufficiently similar to living in Tel Aviv. That is, that she is not willing to (further) lower the degree of precision so *He is from Rishon* will be also considered true in C. Thus, with this degree of precision d *Rishon* and *Tel Aviv* are considered <u>dissimilar</u>, and *He is from Rishon* is considered false. This is captured in (56'):

(56') $\exists d, p [p \in [[Danny\ is\ from\ Tel\ Aviv]]^{d,C} \wedge p\ (w_0) \wedge d > MAX \{d': [Danny\ is\ from\ rishon]^{d',C}\}$
　　<u>Paraphrase:</u> There is a degree of precision d, s.t. some alternative proposition in
　　"Danny is from Tel Aviv", interpreted w.r.t to this degree d in C, is true,
　　and the maximal degree of precision w.r.t. which "Danny is from Rishon" is
　　interpreted in C, is lower than this degree d.

Turning now to the use of *bixlal* in (57), our intuition above was that under this use *bixlal* with contrastive focus indicates a stronger, or more significant contrast:

(58) **A:** dani mi-rishon?
　　　　'Is Danny from rishon?'
　　B: Lo. hu bixlal mi-[tel Aviv]$_{\text{contrastive F}}$
　　　　No. He bixlal from-Tel Aviv
　　　　'No, He is bixlal from [Tel Aviv]$_{\text{contrastive F}}$'

Following our formulation of contrastive focus as in (56'), we now propose that the addition of *bixlal*, as in (57) indicates that the dissimilarity ('similarity distance') between <u>*Danny is from tel*</u>

aviv and *Danny is from rishon* is significant, or high. This is represented as in (57'), where <<
here indicates "much lower than":

(57') $\exists d, p \ [p \in [[Danny\ is\ from\ Tel\ Aviv]]^{d,C} \wedge p\ (w_0) \wedge d >> MAX\ \{d':\ [Danny\ is\ from\ rishon]]^{d',C}$

   Paraphrase: There is a degree of precision d s.t. some alternative proposition in
   "Danny is from Tel Aviv", interpreted w.r.t to this degree d in C, is true,
   and the maximal degree of precision w.r.t. which "Danny is from Rishon" is
   interpreted in C is much lower than this degree d.

Given this proposal the presence of *bixlal* leads to strengthening, as in all its uses above: *hu bixlal mi[tel aviv]* contrastive F is stronger, in fact entails *hu mi[tel aviv]* contrastive F, since if a degree of precision d' is much lower than d, this entails that d' is lower than d. This can be seen as strengthening operation on a speech act or an utterance (i.e. strengthening the contrast created by using p+contrastive focus in C) and not on a meaning of the proposition *p* itself. (cf. Morzycki 2011, Potts 2007).

   This proposal, then, subsumes the apparently non-scalar 'actually' use of *bixlal* under the scalar, 'strengthening' analysis, thus making it more unified.

   Notice that a potential problem for this more unified proposal lies in the fact that under the analysis of the 'actually' use of *bixlal* just proposed, the alternatives in the scale are different versions of *hu bixlal mi[tel aviv]* contrastive F (*'He is bixlal from Tel Aviv'*). This utterance is interpreted in such a way that it is stronger (expresses stronger contrast) than the default interpretation of such an utterance *hu mi[tel aviv]* contrastive F (*'He is from Tel Aviv')*. This is similar to cases we looked at above, where *bixlal* is stressed, and p is interpreted in such a way that it entails other (salient / default) interpretations of p.

   But this seems problematic, since in this 'actually' use *bixlal* is not stressed. Instead, another element (e.g. *Tel Aviv*) is stressed (marked with contrastive focus).

   A potential explanation may be found in Krifka (1995), who also discusses stressed and non-stressed polarity sensitive particles, and argues that they correspond to strong and weak NPIs, respectively. Krifka's observes that in some cases, typically cases with contrastive focus, a particle behaves as strong although it is *not* stressed. He proposes that "…strong NPIs do not always carry the main stress of a sentence. In particular, contrastive stress overrides stress on strong NPIs, as in JOHN didn't lift a finger to help me, not MARy" (p. 217)

   Although the stressed/non-stressed distinction with *bixlal* is not the same as Krifka's strong/weak distinction, it may be that here too, the contrastive stress on *mi-tel aviv* overrides the stress on *bixlal*.

6 Widening and/or Strengthening with *bixlal*?

We proposed that the main function of *bixlal* is **strengthening**: *p* is taken to be stronger (higher on a scale) than a contextually salient alternative. However, there are some cases where *bixlal* seems to induce **widening** as well, similar to *any* under Kadmon and Landman's (1993) analysis.

   Kadmon & Landman propose that with such widening we add entities to the domain of quantification which in the normal case are considered irrelevant / minor, as in (58). According to them widening with *any* is felicitous if it leads to Strengthening.

(59) I don't have any potatoes (not even rotten ones / ones in small quantities)

Notice that *bixlal* (and *at all*) have a very similar effect, illustrated in (59):

(60) Ein li tapuxey adama [bixlal]F
    I don't have potatoes bixlal
    'I don't have potatoes at all' (not even rotten ones / ones in small quantities)

Should Widening be added to or even replace Strengthening in the characterization of *bixlal* (and the English *at all*)? Such a proposal seems to be supported by two observations about additional cases where *bixlal* (and *at all*) seems to induce widening.

The first of these observations concerns widening with multidimensional adjectives. Sassoon (2010) takes such adjectives to express universal or existential quantification over 'respects' or dimensions. Conjunctive adjectives, like *healthy* express universal quantification over 'respects' or dimensions, as illustrated in (60), whereas disjunctive ones express existential quantification over 'respects' or dimensions, as in (61):

(61) $\lambda x.\Box \forall Q \in DIM(healthy)$, healthy-wrt(x,Q) (To be healthy is to be healthy w.r.t. all dimensions in 'healthy')
(62) $\lambda x.\Box \exists Q \in DIM(healthy)$, healthy-wrt(x,Q) (To be sick is to be sick w.r.t. at least one dimension in 'sick')

Widening with such adjectives would amount to adding 'respects' or 'dimensions' which are normally considered contextually irrelevant / minor. Indeed, *bixlal* seems to have such a widening effect with such adjectives, as illustrated in (62):

(63) A: dani xole – ramat ha-sukar Selo gvoha
      'Danny is sick – his sugar level is high'.
   B: ve-moSe
      'And MoSe?'
   C: hu lo   xole [bixlal]F -   gam nazelet ein lo
      He not sick bixlal –   also cold   he don't have
      'He is not sick at all – he doesn't have a cold either'

A second observation supporting a 'widening' analysis of *bixlal* is inspired by Anderssen's (2006) analysis the German *uberhaput* – a particle which is similar to *bixlal* both in the range of readings it induces, and in the fact that, unlike *at all*, it is not limited to DE contexts. Anderssen's main claim is that *uberhaupt* is a generalized <u>widening</u> operator, which removes contextual restrictions. Anderssen shows that in addition to widening domain of quantification (in case like "*I don't have potatoes at all*") *uberhaupt* can widen the comparison class for adjectives. The same holds for *bixlal*, as illustrated in (63):

(64) **A:** Dani gavoha biSvil miSehu Se-adayin gadel
    'Danny is tall for someone who is still growing up'
   B: hu [bixlal]F gavoha
    He bixlal tall
    'He is tall in general'??

However, a closer look shows that widening <u>cannot</u> be considered part of the semantics of *bixlal* (and probably not of *at all* and *uberhaupt* either, cf. Rojas-Esponda (2011). There are several observations which indicate that. First, *bixlal* is felicitous when the comparison class does not change, as in (64):

(65) biSvil yalda bat 10,   rina lo   gvoha bixlal
    for   girl   10 years old Rina not tall   bixlal
    'For a ten years old girl, Rina is not tall at all'

Second, *bixlal* is felicitous even when the domain is narrowed down, as in (65):

(66) ba-balSanut   hu tov,   ve-be-semantika formalit hu [bixlal]F tov!
    At linguistics he good and-at-semantics formal   he bixlal   good
    'He is good at linguistics, and he is even better / very good at formal semantics'

Third, *bixlal* is felicitous also when no domain (of comparison class / application of the predicate / quantification) is relevant at all, as in (66)-(67):

(67) **A:** hem makirim?
    'Do they know each other?'
   B: hem bixlal [nesu'im]F!
    they bixlal married
    'They are even married (to each other)' (Migron 2003)
(68) **A:** dani mi-rishon?
     'Is Danny from rishon?'
   B: Lo. Hu bixlal mi-[tel Aviv]_{contrastive F}
    No. He bixlal from-Tel Aviv
    'No, He is actually from [Tel Aviv]_{contrastive F}'

Moreover, we can find felicitous cases of *bixlal* with disjunctive (existential) multidimensional adjectives in positive (UE) contexts, where widening cannot lead to strengthening:

(69) **A:** dani xole – ramat ha-sukar Selo gvoha
     'Danny is sick – his sugar level is high'.
   B: ve-moSe?
     And MoSe?'
   C: hu [bixlal]F xole –ramat ha-sukar Selo ba-Samayim / ha-lev Selo lo oved
     'He is very sick- his sugar level is extremely high / his heart doesn't function'

Indeed, in n (68C) no widening occurs, i.e. i.e. no minor 'respects' are added. Instead – we add 'major' 'respects'. Instead what license the presence of *bixlal* is strengthening: The degree to which Moshe is taken to be sick in (68C) is higher than the alternative (sick to the degree determined by the previous utterance). Here the higher degree of sickness is achieved through a higher degree in a single, important 'respect' (e.g. heart functioning), and not by having more 'respects' (cf. Sassoon (2011) discussion of comparative multi dimensional adjectives like *healthier))*.

To conclude, widening is not a systematic component in the semantics of *bixlal*. Instead, its core operation is indeed **strengthening**, and widening is just one of the potential strategies to achieve strengthening.

7 Conclusions and Directions for Further Research

In this paper we developed and improved a suggestion made in Migron (2003)) and claimed that the wide variety of interpretations of the Hebrew *bixlal* and the constraints on its distribution can be accounted for if we assume that it is a flexible strengthening operator. This 'flexibility' can be now appreciated when comparing *bixlal* to the two English particles *any* and *at all* along the following five parameters:

First, like *any*, which can appear in UE contexts (as free choice *any*), but unlike the NPI *at all*, *bixlal* is not restricted to DE contexts. Second, unlike *any*, which is categorically restricted (to nominal constructions) and like *at all*, *bixlal* is cross categorical and can modify adjectives, verbs, nouns, etc. Third, unlike both *any* and *at all*, *bixlal* can appear with both entailments and non-entailment scales. Fourth, unlike both *any* and *at all, bixlal* can operate not only on propositions but also on utterances or speech acts (as in the 'actually' case, where it induces 'significant contrast'). Finally, *bixlal* is very flexible in terms of the possible placements of intonational stress it is compatible with, and consequently in the wider range of readings it induces.

The discussion of the strengthening vs. widening operations associated with *bixlal* may lead to interesting implications in the study of NPIs and of more general topics in semantic-pragmatic interface. For example, in the literature on *any* (Kadmon & Landman 1993, Israel 1996, Krifka 1995, Chierchia 2006) widening is taken to be the main operation and strengthening is taken to be a licensing condition. Our examination of *bixlal,* though, seems to suggest almost the opposite picture: With *bixlal* strengthening is the main operation, and widening is found only in cases it can make this operation work. To the extent that this conclusion is on the right track it may have wider implications concerning the widening / strengthening balance in other PSIs. We need to check, for example, the possibility that the widening effect lexically associated with *any* is there also just to achieve strengthening.

Another potential implication concerns the status of the strengthening operation. There is a debate in the literature about whether strengthening is lexically associated with *any* (Kadmon and Landman 1993)) or a result of a local informativity-based constraint (Chierchia (2006)). In our case strengthening seems to be lexically associated with *bixlal*, as this is the operation shared by all uses of *bixlal*. This conclusion is supported by the fact that *bixlal* can operate on non-entailment scales (see sections 1.2, 2.2.3) above), since with such scales strengthening cannot be seen as resulting from a general pragmatic informativity-based constraint, Rather, it is a genuine

lexical operation tied to this particle. We may view, then, *bixlal* as a lexicalization of an emphatic operator (perhaps similar to Krifka's EMPHATIC ASSERT operator). Further research should examine this question in more detail.

Further directions for further research include the correlation between syntactic position and interpretation of *bixlal,* the context (in)dependence of sentences with *bixlal*, and the 'degree of association with focus' of *bixlal,* given Beaver & Clark's (2008) non-monolythic theory of association with focus.

References

Amaral, Patricia Fabio Del Prete. 2010. 'Approximatong the Limit: The Interaction Between Quasi 'Almost' and Some Temporal Connectives in Italian'. *Linguistics and Philosophy, 33(2),* 51-115.

Anderssen, Jan.2006. 'Generalized Domain Widening uberhaupt', In Proceedings of the 25th West Coast Conference on Formal Linguistics, Donald Baumer, David Montero, and Michael Scanlon (eds.), 58-66.

Beck, Sigrid. 2006. 'Focus on *Again*'. *Linguistics and Philosophy, 29(3),*277 - 314.

Beaver, David and Brady Z. Clark. 2008. *Sense and Sensitivity: How Focus Determines Meaning* (Explorations in Semantics), Oxford: Blackwell.

Chierchia, Gennaro. 2006. 'Broaden your views. Implications of domain widening and the "logicality" of language'. *Linguistic Inquiry, 37(4)*, 535-590.

Coppock, Elizabeth and David Beaver (to appear). '*Mere*-ology'. In *Alternatives in Semantics,* Anamaria Falaus (ed.).

Egg, Markus and Malte Zimmermann. 2011.'Stressed Out! Accented Discourse Particles – the Case of "Doch"', a talk given in S&B 16, Utrecht.

Féry, Caroline. (to appear). 'Prosody and information structure of the German particles *selbst* , *wieder*, and *auch*', In *Prosody Matters*, Borowsky, T. et al. (eds), Equinox.

Greenberg, Yael (in progress) 'Focused focus sensitive particles: The case of the Hebrew *davka* and *stam'* ms. Bar Ilan University.

Israel, Michael. 1996. 'Polarity Sensitivity as Lexical Semantics'. *Linguistics and Philosophy, 19(6), 619-666.*

Kadmon, Nirit and Fred Landman. 1993. 'Any'. *Linguistics and Philosophy,16*, 353-442.

Kadmon, Nirit and Aldo Sevi. 2011. 'Without Focus'. In *The Baltic International Yearbook of Cognition, Logic and Communication*, *Vol. 6, Formal Semantics and Pragmatics: Discourse, Context, and Models*.

Kay, Paul. 1990. 'Even'. *Linguistics and Philosophy*, 13, 59-111.

Kennedy, Christopher and Louise McNally. 2005. 'Scale Structure, Degree Modification, and the Semantics of Gradable Predicates'. *Language, 81(2),* 345-381.

Krifka, Manfred. 1995. 'The Semantics and Pragmatics of Polarity Items'. *Linguistic Analysis*, *25,* 1-49.

Ladusaw, William. 1980. 'On the Notion 'Affective' in the Analysis of Negative-Polarity Items'. *Journal of Linguistic Research, 1(2),* 1-16.

Ladusaw, William. 1996. 'Negation and Polarity Items.' In *The Handbook of Contemporary Semantic Theory,* Shalom Lappin (ed.), 321-341, Oxford: Blackwell.

Migron, Hagit. 2003. "*ma kore po Bixlal* ? " handout of a talk in HU.

Morzycki, Marcin. 2011. 'Metalinguistic Comparatives in an Alternative Semantics for Imprecision'. *Natural Language Semantics, 19(1),* 39–86.

Orenstein, Dina. (in progress). 'The semantics, Pragmatics and Focus Sensitivity of Exclusive Expressions in   Hebrew', Bar Ilan University.

Orenstein, Dina and Yael Greenberg. 2010. 'The Semantics and Focus Sensitivity of the Hebrew (unstressed) *Stam*', proceedings of IATL 26

Potts, Christopher. 2007. ' The Dimensions of Quotation'. In Proceedings from the Workshop on Direct Compositionality, Chris Barker, and Polly Jacobson (eds.), 405–431, Oxford University Press.

Rojas-Esponda, Tania. 2011. 'A Discourse Model for *Uberhaupt',* a talk given in *S&B16, Utrecht*

Rooth, Mats.1985. *Association with Focus*. Doctoral dissertation, University of Massachusetts, Amherst.

Rooth, Mats. 1996. 'Focus'. In *The Handbook of Contemporary Semantic Theory,* Lappin Shalom (ed.), 271–297. , Oxford: Blackwell Publishing.

Sauerland, Uli and Penka Stateva. 2007. 'Scalar vs. Epistemic Vagueness. Evidence from Approximators'. In *Proceedings of Semantics and Linguistic Theory (SALT)*17, Masayuki Gibson , and Tova Friedman (eds.), CLC Publications, Ithaca, NY.

Sassoon, Galit. 2010. 'A Typology of Multidimensional Adjectives', ms. University of Amsterdam.

Umbach, Carla.2004. 'On the Notion of Contrast in Information Structure and in Discourse Structure*'. Journal of Semantics, 21*, 155-175.