Approximation derived from a scalar exclusive particle associating with covert focus: The case of Hebrew *be-sax ha-kol* ¹

Dina Orenstein dinaorenstein@gmail.com

&

Yael Greenberg yaelgree@gmail.com
Bar Ilan University

(Pre-final version, September 2020, Accepted to Glossa)

Abstract

This paper propose a unifying analysis of two readings –exclusive and approximative - of the Hebrew particle *be-sax ha-kol*, arguing that under both readings the particle is a scalar focus sensitive exclusive, expressing a positive and a negative inference, i.e. the truth of its prejacent and the exclusion of stronger focus alternatives, respectively. The difference between the readings is argued to derive from a minimal difference in the overtness vs. covertness of the focus associate of *be-sax ha-kol*: Whereas the exclusive reading is standardly derived by associating the particle with overt and prosodically marked material, the approximative reading results from its association with the covert degree modifier *pos* modifying gradable expressions, resulting in an inference: "x is pos A, but not maximally A".

We show that this reading of *be-sax ha-kol* is only licensed when the scale associated with the gradable expression is upper-bound, but the standard of comparison is not necessarily maximal, *pace* Kennedy & McNally 2005, and compare it with the effects of 'true' approximators (like *more or less*). We also observe that relative to *only* and to the exclusive reading of *be-sax ha-kol*, the (not) at-issueness status of the positive and negative components in the approximative reading is reversed, being at-issue vs. not-at-issue, respectively. We discuss this observation in light of claims about the mirror imaged status of components of *only* vs. *p-exh* argued in Bassi et al. 2019, and in light of theories arguing for the gradience and flexibility of at-issueness status of interpretive components and its sensitivity to information structure (as in Abrusán 2011, Tonhauser et a 2018, 2020).

¹ For constructive discussions and helpful comments on this and previous versions of the paper we would like to thank Elitzur Bar-Asher-Siegal, Gennaro Chierchia, Luka Crnič, Micky Daniels, Edit Doron, Mitcho Erlewine, Danny Fox, Andreas Heida, Aaron Hirsch, Nirit Kadmon, Lena Miashkur, Barbara Partee, Moria Ronen, Susan Rothstein, Aynat Rubinstein, Galit Sassoon, Aldo Sevi, Todd Snider and Malte Zimmermann. Many thanks to three anonymous Glossa reviewers for their valuable comments and questions and to Min-Joo Kim, the associate editor, for the helpful editorial guidance. All remaining errors are ours. This research was support by ISF grant 1655/16 to Yael Greenberg.

1. Introduction

This paper proposes an analysis of an interesting phenomenon found with the Hebrew focus sensitive particle *be-sax ha-kol* (literally translated as 'in sum the all /whole'), and examines implications of the analysis for issues in the research of focus / alternative sensitivity, typologies of scalar particles, gradability and (not-) at-issueness.

The core observation illustrating this phenomenon is two readings that *be-sax ha-kol* can give rise to. The first is an *exclusive* reading, of the sort we find with the English exclusive particles *only* or *just*, as in e.g. (1), and the second is what we call the *approximative* reading, which is similar to the one found with *more or less*, as in e.g. (2):²

- (1) saba sheli haya **be-sax ha-kol** pakid Grandfather mine was be-sax ha-kol clerk "My grandfather was only / just a clerk".
- (2) ha-xeder **be-sax ha-kol** naki the-room be-sax ha-kol clean "The room is more or less clean".

Based on preliminary suggestions and observations made in Orenstein & Greenberg 2013; Orenstein 2015; 2016; Greenberg & Orenstein 2016, we propose that despite inducing these two readings, *be-sax ha-kol* is not ambiguous, i.e. does not denote an exclusive and an approximative operations. Instead, we propose that in both readings it should be analyzed as a member of a typology of exclusive particles in Hebrew, along particles like *rak* ('only') and *stam* ('merely'). Following previous work, we take members in this typology cross linguistically to convey a positive and a negative

Dany be-sax ha-kol already 80 years old

²There are two additional readings of *be-sax ha-kol*, discussed in Orenstein & Greenberg 2013; Orenstein 2016, namely the 'precise' and the 'discursive' readings. The former, translated as *altogether*, is obtained when *be-sax ha-kol* combines with numeral expressions:

⁽i) tsipiti Se-yagiu 10 orxim. basof higiu **be-sax ha-kol** 20 I-expected that-will-arrive 10 guests, eventually arrived be-sax ha-kol 20 "I expected 10 guests to arrive. Eventually there were altogether 20".

On this reading *be-sax ha-kol* indicates that the number of guests who arrived is precisely 20. The reading is different from the exclusive reading of *be-sax ha-kol* as well as from the one we get with the unmarked exclusive in Hebrew *rak* ('only'). For example, in a context like (i), with a discourse salient alternative is weaker than *p*, *rak*, as well as *only* are infelicitous (cf. Orenstein 2016; Greenberg 2019), but *be-sax ha-kol* is fine.

The 'discursive' reading, translated as *after all*, implies that the prejacent is relevant to all things being considered in the context (in (ii) these can be Danny's behavior, memory, health conditions, etc.):

⁽ii) dani be-sax ha-kol kvar ben 80

[&]quot;After all, Danny is already 80 years old"

We leave future examination of these readings, and a potential unification with the approximative and exclusive readings of *be-sax ha-kol* to future research.

semantic component, namely, the truth of their prejacent, p, and the exclusion of stronger alternatives on a relevant scale, respectively, but to potentially vary along several parameters.

Various studies have already suggested some parameters along which exclusive particles – both within and across languages – can vary. Some examples of such parameters are given below:

- (a) The ordering of alternatives along the scale: For example, Beaver & Clark (2008); Orenstein & Greenberg (2010) and Coppock & Beaver (2014) show that whether the alternatives are ranked in terms of entailment (where stronger alternatives asymmetrically entail weaker ones) or in terms of some evaluative or rank-based ordering can distinguish between exclusive particles. For example, whereas English merely and Hebrew stam are specified for evaluative ordering, English exclusive, exclusively, sole and Hebrew yaxid, are specified to operate over entailment scales. Other particles, like English only and Hebrew rak seem to be compatible with both types of orderings.
- (b) *The nature of the alternatives to p* e.g. whether they are atom-based or sumbased alternatives, discussed in Liu (2007). Liu shows that this distinction can derive different uses of Mandarin *jiu*: an exclusive use vs. a rank-order use, respectively.
- (c) The strength of the exclusive component discussed in Liu (2017) as well: This parameter distinguishes Mandarin *jiu* from *zhi*. While *zhi* (like English *only*) requires the rejection of all 'non-weaker' alternatives, *jiu* has the weaker requirement that all alternatives stronger than *p* are rejected.
- (d) The semantic type of the particle discussed in Coppock & Beaver (2014). This suggestion can explain contrasts of e.g. The only/sole candidate vs. Only/#sole John arrived
- (e) The question under discussion (QUD) that the exclusive helps answering discussed in Coppock & Beaver (2014) as well. According to them, sentences like e.g. x is a mere P are used to answer the question What is x like?, whereas sentences like x is a sole P of y answer the relational question What is an R of y?
- (f) The position of the prejacent on the scale discussed in Orenstein & Greenberg (2010) and Orenstein (2016). For example, while the prejacent of only and rak can be very close to the top of the scale (e.g. having only one alternative above it), that of English merely and Hebrew stam needs to be low, having more alternatives above it.

(g) The status of the preajcent and of the exclusive component discussed in Bassi et al. (2019), who suggest that with overt *only* the prejacent is presupposed and the exclusive component is asserted, whereas with covert *exh* the status of these components is reversed.

The main goal of this paper is to suggest an additional relevant parameter of variation that should be used to enrich the typology of exclusive particles, namely the ability vs. inability of the particle to operate over 'overt-based' vs. 'covert-based' alternatives. In particular, we will suggest below that on both readings *be-sax ha-kol* conveys the same type of interpretative components, namely the truth of the prejacent and the exclusion of stronger alternatives, as all scalar exclusives do. However, unlike the unmarked Hebrew exclusive *rak* ('only'), *be-sax ha-kol* can associate with covert focused material – specifically the covert degree modifier *pos* – and operate over alternatives which vary with respect to this element. We will suggest that the fact that this particle can get an approximative interpretation results precisely from this ability, and will examine wider implications of our proposal regarding the relationship between scale structure and standards with gradable expressions, the difference between 'true' and 'derivative approximators, and factors affecting variability in the (not) at-issue status of interpretive components.

The paper is structured as follows. In the next section we present differences between *rak* and *be-sax ha-kol*, concentrating on the exclusive and approximative readings of the latter. Section 3 offers our proposal of how to derive the two readings of *be-sax ha-kol*, and explores the types of gradable expressions which can and which cannot license the approximative reading in light of the literature on the scale structure and standards with such expressions. Section 4 is devoted to examining and rejecting a potential simpler analysis where *be-sax ha-kol* is ambiguous between an exclusive and an approximative operator. We argue that this suggestion is not only less economical than ours, but unlike our theory, it fails to capture differences between the approximative reading of *be-sax ha-kol* and 'true' approximative particles (like *more or less*). Section 5 discusses the observation that the (not)-at-issuness status of the interpretive components with the approximative reading of *be-sax ha-kol* is reversed relative to the one found with the exclusive reading and with typical exclusive particles like *only/just*. We examine ways to capture this difference within our proposal, relying on theories which point out other cases of reversed (not)-at-issueness with exclusives,

as well as those which take the status of interpretive content to be more flexible than has been traditionally assumed. Section 6 concludes.

1. Data: Two readings of be-sax ha-kol³

This section describes in more detail the exclusive and the approximative readings of the Hebrew particle *be-sax ha-kol* mentioned above, which at least on the surface seem very different from one another.

On its exclusive reading *be-sax ha-kol* can be translated as *only* or *just*. This is seen again in (3), where *be-sax ha-kol* is interchangeable with *rak*, the unmarked exclusive particle in Hebrew.

- (3) a. saba sheli haya **rak** / **be-sax ha-kol** pakid grandfather mine was only/ be-sax ha-kol clerk "My grandfather was only / just a clerk".
- b. dani hizmin **rak** / **be-sax ha-kol** et rina la-mesiba dani invited rak/ be-sax ha-kol acc.Rina to-the party "Danny invited only / just Rina to the party".

Similarly to *rak* in (3a, b), *be-sax ha-kol* gives rise to the inferences that my grandfather did not have any other more important or prestigious profession,⁴ and that Danny did not invite more people (besides Rina) to the party, respectively.

However, when *be-sax ha-kol* appears with some gradable expressions (e.g. gradable adjectives or verbs), the prominent reading it yields is approximative, similarly to the reading induced by *paxot o yoter* ('more or less').

- (4) a. ha-xeder paxot or yoter /be-sax ha-kol naki the- room less or more / be-sax ha-kol clean "The room is more or less clean".
 - b. ani paxot o yoter / **be-sax ha-kol** mevin et ha-teorya I less or more/ be-sax ha-kol understand acc. the-theory
 - "I more or less understand the theory".

On this approximative reading, *be-sax ha-kol*, like *paxot or yoter* ('more or less') raises two main inferences. To illustrate, (4a) conveys that the room is not maximally clean, but it is nonetheless considered clean. The presence of the first inference is supported by the felicity contrasts between the responses in (5) and (6).

³ The data in this paper is based on introspection, as well as on attested examples collected in natural conversations and web materials.

⁴ We discuss a slight difference between *rak* and *be-sax ha-kol* on this reading in section 3.3. Thanks to two Glossa reviewers for raising this issue.

(5) A: ha-xeder **be-sax ha-kol** naki.

The-room be-sax ha-kol clean

"The room is more or less clean".

B: Lo naxon / #naxon. Ha-xeder legamrey naki.

Not right / right. The-room completely clean

"That's not right. / #That's right. The room is completely clean".

(6) A: ha-xeder naki.

The-room clean

"The room is clean".

B: #Lo naxon / naxon. Ha-xeder legamrey naki.⁵

Not right/ right. The-room completely clean

#"That's not right / That's right. The room is completely clean".

To support the presence of the second inference, namely that the room is considered clean, we can rely on a diagnostic suggested in Amaral & del Prete (2010) concerning differences between approximators like *around*, *more or less*, and *almost* as shown in (7) and (8).

(7) A: Leo arrived almost at 3 p.m.

B: That's false, actually Leo arrived at 3 p.m.

(8) A: Leo arrived around 3 p.m.

B: # That's false, actually Leo arrived at 3 p.m.

As can be seen in the contrast between (9) and (10) below, *be-sax ha-kol* behaves like *around / more or less*, and unlike *almost (kim'at)*, in this respect.

(9) A: ha-xeder kimat naki B. lo. le-ma'ase ha-xeder naki

The-room almost clean No. Actually the-room clean

"The room is almost clean". "No. Actually, the room is clean".

(10) A: ha-xeder **be-sax ha-kol** naki B: #/??lo. le-ma'ase ha-xeder naki

The-room be-sax ha-kol clean No. Actually the-room clean

"The room is more or less clean". #/??"No. Actually the room is clean".

The difference between negating vs. entailing the prejacent with *kim'at* ('almost') vs. *be-sax ha-kol* is further supported by the contrast in (11).

(11) A: ha-xeder naki?

The-room clean?

"Is the room clean?"

B: lo. / #ken. hu kim'at naki. B': #lo. / ken. hu be-sax ha-kol naki

No. / yes. It almost clean No. / yes. it be-sax hakol clean

"No. / #Yes. It is almost clean". "#No. / Yes. It is more or less clean".

⁵The infelicity of this reaction is improved if *legamrey* (*completely*) is accented. This can happen, for example, if the question of whether the room is completely clean is salient in the context.

Notice, however, that the approximative reading of *be-sax ha-kol* is constrained: while it is perfectly felicitous with adjectives associated with scales which have an upper-bound, it is degraded with one-dimensional adjectives associated with lower closed and with open scales. This is illustrated by the felicity contrast in (12) with the totally closed, lower closed and open scale one-dimensional adjectives *full, dirty* and *expensive*, respectively.

(12) ha-kos **be-sax ha-kol** mele'a /#meluxlexet /#yekara the-cup be-sax ha-kol full/ #dirty/ #expensive "The cup is more or less full/ #dirty/# expensive".

Given these data, there seem to be two main options with which to analyze *be-sax ha-kol*. One is to treat the particle as ambiguous between an exclusive and an approximative operator. The other option is to derive its two readings from a parametric variation arising from a basically unified semantics. In this paper we adopt the second option, which we detail in the next section. In section 4 we reject the first option.

3. Proposal

3.1 The basic idea

We suggest that on both of its readings be-sax ha-kol is a focus sensitive particle which conveys the positive and negative components conveyed by scalar exclusive particles cross linguistically, i.e. the truth of its prejacent, p, and the falsehood of all stronger alternatives in C (the contextually supplied set of focus alternatives to p). This is seen in (13).

(13) <u>Interpretative components conveyed by scalar exclusive particles:</u>⁷

a. The positive component: $w \in p$

b. The negative component: $\forall q \in \mathbb{C} \land q >_s p \rightarrow w \notin q$

⁶ Notice that the negative component here is scalar (requiring all alternatives stronger than p on the scale to be false). We follow here theories like Klinedinst (2005); Beaver & Clark (2008); Roberts (2011) and Coppock & Beaver (2014), who take this component to apply to all exclusive particles, both 'scalar' (using Horn's 1969 terminology) as in (ia), and crucially also those which look non-scalar, as in (ib).

⁽i) a. John is only a clerk b. Only John arrived.

These theories argue that both kinds of exclusives are inherently scalar, and that they differ in the type of scales involved. Those as in (i) involve evaluative / rank-order scales (e.g. rejecting alternatives like John is a manager) whereas apparently non-scalar cases, as in (ii), involve entailment-based scales (e.g. rejecting alternatives like John and Mary arrived).

⁷ Notice that (13) is not yet a lexical entry for scalar exclusives in general, or for any specific scalar exclusive particle, since it does not specify the potential type of the particles, nor the asserted vs. presupposed status of the two interpretive components. We deal with this in section 5 below.

(13) (see e.g. Beaver & Clark 2008 and Roberts 2011) is based on the assumption that exclusive particles are focus sensitive, namely that they operate on alternatives triggered by focus. This is captured in the literature by letting the focus sensitive operator associate with a focused element (which is usually also stressed and accented) and to create a set of alternatives C, which is a contextually supplied subset of the focus semantic value of this element. These alternatives are constructed by substituting this element with another element of the same semantic type (cf. Rooth 1985; 1992).

Our main claim is that although be-sax ha-kol shares these interpretative components with e.g. Hebrew rak and English only, it differs from them in that it is more flexible regarding the overtness or covertness of its associate, and as a result, with respect to the kind of alternatives it operates over. In particular, we suggest that be-sax ha-kol, but not rak, can associate with the covert degree modifier pos (cf. e.g. von Stechow 1984a and Kennedy & McNally 2005a). In this case too alternatives are constructed by substituting this focused element with other (covert or overt) elements of the same semantic type, i.e. with other degree modifiers. We suggest that the approximative reading of be-sax ha-kol results from its association with the covert pos.

Preliminary support for the idea that the apparent ambiguity of *be-sax ha-kol* follows from its ability to operate over two different sorts of alternatives can be seen in (14). In particular, we observe that changing the salience of alternatives in the context affects the prominence of the two readings. Above we saw that a sentence like (2) ((14b here) has an approximative reading. But (2) can also have an exclusive reading, indicating that the room is clean, but does not have other properties. This reading is made more prominent when properties which can replace the one denoted by the overt adjective *clean* are made salient in the context:

(14) <u>Context</u>: John and Mary booked a room in a hotel for their important guests and asked that the room will be clean, large, and with view to the sea. John says:

a. ha-xeder rak naki

The-room only clean

"The room is only clean" (= it is not clean and large and has view to the sea)

b. ha-xeder **be-sax ha-kol** naki

The-room be-sax ha-kol clean

"The room is only clean". / "The room is more or less clean".

3.2 Theoretical background: The 'type of alternative' parameter, and association with overt vs. covert focus

Before showing in more detail how the exclusive and approximative readings of *be-sax ha-kol* can be derived from the difference in the type of alternatives this particle operates over, we would like to point out that our suggestion is similar in its general reasoning to a suggestion made in Liu (2017) regarding apparent ambiguities between Mandarin *jiu*, and *dou*. Let us quote Liu here:

"I take it to be our basic assumption that an FP [a focus particle] operates on a set of alternatives (Rooth 1985). Then, the meaning of an expression containing an FP is a function of (a) the meaning of the FP, (b) the meaning of FP's prejacent, π and (c) π 's alternatives. With this background, what we propose about Mandarin FPs is that (c), instead of (a), is the locus of `ambiguity': with varieties of alternatives, apparent distinct meanings can be derived without altering the semantics of the FP." (Liu 2017: 62)

Liu takes this behavior of Mandarin focus particles to be part of a more general pattern, where different sorts of alternative sets are posited for a single alternative operator to create different interpretations (cf. Chierchia 2013 for different alternatives for *only*-like and for *even*-like operators). To the extent that our suggestion is on the right track, the behavior of *be-sax ha-kol* in Hebrew can further support this pattern.

More specifically, the variation in the type of alternatives we propose concerns overt-based vs. covert-based alternatives, which we take to derive from the association of *be-sax ha-kol* with overt vs. covert focused material.

This claim is not trivial, though, since focused elements are usually taken to be overt and prosodically marked. Moreover, some authors explicitly claim that focus *must* be realized phonologically, as in the discussion of Second Occurrence Focus⁸ (SOF henceforth) illustrated in (15)-(16).

- (15) Everyone already knew that Mary only eats [vegetables]_F. If even [Paul]_F knew that Mary only eats [vegetables]_{SOF}, then he should have suggested a different restaurant. (Partee 1999)
- (16) People who [grow]_F rice usually only [eat]_F rice. (Rooth 1992)

Partee argues that the second occurrence of *vegetables* is not prosodically marked, although it is bound by *only*, and concludes that it is not focused. Rooth makes a similar claim regarding the second occurrence of *rice* in (16).

In contrast, some theories argue that SOF is prosodically marked after all, although not in the same form as the first occurring focus (see e.g. Beaver et al. 2007). What is more important to us are suggestions that prosodic prominence is actually not

_

⁸ Thanks to two Glossa reviewers for raising this point.

a necessary condition for the status of an expression as focused. For example, Féri & Ishihara (2009:8) argue that in many cases "phonetic marking of focus can be masked by independent phonetic/phonological effects", such as de-accentuation due to competition with stronger phonetic realization on another element in the sentence, or having an element in post-nuclear position. In such cases, Féri & Ishihara propose, an element can be focused even if it has no prosodic prominence.

Similar cases were pointed out in e.g. the free-focused construction in (17), where an element is de-accented due to givenness, although it is focused (cf. Kadmon 2001and Wagner 2012).

(17) A: Smith walked into a store. What happened next? B: A detective ARRESTED Smith. (Wagner 2012: 3)

Even more relevant to our proposal is (18) from Kadmon & Sevi (2011), where the exclusive particle *only* is argued to associate with the focused element *Larry*, even though it is not accented (see also Umbach 2009 on accented *noch* and Egg & Zimmermann 2011 on accented *doch*):

(18) A: Larry danced with Mary.

B: Yes. The problem is that ONLY [Larry]_F danced with Mary. (p. 8)

In general, then, focused material is argued to optionally carry no prosodic prominence, and focus sensitive particles were shown to be able to associate with such focus.

Our proposal takes such suggestions one step further, in that it takes *be-sax ha-kol* to be able to associate with elements which, by virtue of being covert, have no phonological realization, and hence *cannot* be accented. We can take this to be a special (and, in fact extreme) case of Féri & Ishihara's (2009) idea that a focused element can have no phonological marking if this marking is blocked due to some other phonological conditions (in our case, due to being covert).

Importantly, in this sense too, *be-sax ha-kol* is not isolated, since the ability to associate with covert material has been reported for other focus sensitive operators as well, for example for the covert *O* and *E* (as in the interpretation of *any* and *give a damn*) and the overt Hindi *bhii* (Chierchia 2013), the *only*-like particle *just* in English (Wiegand 2017), yielding 'unexplanatory' readings, and the *even*-like *BIXLAL* in Hebrew (Greenberg 2020), and *voobsce* in Russian (Miashkur 2017; 2018), yielding intensification ('very') and 'at all' readings. The ability to associate with covert material was claimed in these theories to explain special readings of these operators, which are

not found with the unmarked correlates of these particles, e.g. the exclusive *only*, or the unmarked *even*-like particles in Hebrew (*afilu*) and Russian (*daze*).

Given this background, we turn now to show in detail how the ability of *be-sax ha-kol* to associate with both overt and covert material, can derive its exclusive and approximative readings, respectively.

3.3 Deriving the exclusive reading of be-sax ha-kol

Henceforth, we will refer to the exclusive reading of *be-sax ha-kol* as in (3), repeated here, as *be-sax ha-kol_{excl}*. We propose that this reading results from the fact that *be-sax ha-kol* associates with overt focused elements, just like *rak* (and *only*) do, leading to standard, 'Roothian' alternatives.

(3) a. dani hizmin rak / be-sax ha-kol_{excl} et [rina]_F la-mesiba dani invited rak/ be-sax ha-kol_{excl} acc. Rina to the party "Danny only / just invited [Rina]_F to the party".

b. saba sheli haya rak / be-sax ha-kol_{excl} [pakid]_F grandfather mine was rak / be-sax ha-kol_{excl} clerk "My grandfather was only / just [a clerk]_F".

Given these focused elements, the sets of alternatives in (3a,b) look like (19a,b), respectively, where the prejacent is underlined.

a. {.....<u>Danny invited Rina</u>, Dani invited Rina and Yosi, Danny invited Rina, Yosi, and Moshe.....}
b. {....<u>My grandfather was a clerk</u>, my grandfather was a manager, my grandfather was the president of the company...}

Given the two semantic components conveyed by exclusives in (13) and these sets of alternatives, (3a) and (3b) convey (a) the truth of the prejacent, i.e. that Danny invited Rina /that my grandfather was a clerk, and (b) the negation of all stronger alternatives in C, e.g. that it is false that Danny invited Rina and Yosi, Rina and Yosi and Moshe / that it is false that my grandfather was a manager or the president of this company.

Notice that *be-sax ha-kol_{excl}*, like *rak*, is compatible both with entailment scales, as in (19a), where stronger alternatives asymmetrically entail weaker ones, and with evaluative, or 'rank order' scales, as in (19b) (cf. Orenstein 2016). However, there is a slight difference between *rak* and *be-sax ha-kol_{excl}* in terms of the scales. For example, in (3b) with *rak* we can also get the 'complement exclusion' reading, where my grandfather had no other profession besides being a clerk, derived by an operation over entailment scales. Though this reading is less prominent than the evaluative reading

(probably due to the real-world knowledge according to which people have one profession at a time), it is still possible. In contrast, with *be-sax ha-kolexcl* this reading is harder to get, and the evaluative reading, where my grandfather never had any profession more prestigious than being a clerk is much more prominent. On this reading, even if my grandfather worked for some time in a less prestigious job, e.g. as a cleaning person, the sentence is still true and felicitous. When an evaluative ordering is salient, then, it seems that *be-sax ha-kolexcl* prefers it, whereas *rak* is more neutral, or less specified.⁹

3.4 Deriving the approximative reading of be-sax ha-kol

3.4.1 The basic derivation

We now examine the more interesting story, which is the approximative reading of *be-sax ha-kol*, which we will henceforth refer to as *be-sax ha-kolapprox*. To do that, we assume that *be-sax ha-kolapprox* conveys the same two interpretative components as *be-sax ha-kolexol*, but differs from it in associating with a covert degree modifier, *pos*, which was argued to modify gradable adjectives in the 'positive form'. Let us first briefly review the relevant claims regarding *pos*.

We follow the view that gradable adjectives are of type <d, <e,t>> (e.g. von Stechow 1984; Kennedy & McNally 2005a, among many others), indicating that an individual x has the degree d on the scale associated with the adjective, as in (20), where $\mathbf{m}_A(x)$ represents the projection of x onto the scale associated with the adjective A.

(20)
$$[[A]]^{c,g} = \lambda d\lambda x$$
. $\mathbf{m}_A(x) = d$ (Kennedy & McNally 2005a: 367)

The value of the degree d argument is not saturated and can be set by overt degree modifiers as in (21), which following Kennedy & McNally (2005a), we take to be of type <<d,<e,t>>, <e, t>>, as seen in (22), where R represents some restriction on d.

(21) a. John is two meters tall.

reading with adjectives.

- b. The cup is completely full.
- (22) $[[Deg (P)]]^{c,g} = \lambda G \lambda x$. $\exists d[R(d) \wedge G(d)(x)]$ (Kennedy & McNally 2005a: 367)

⁹ Thanks to two Glossa reviewers for raising these issues. Notice that similar observations on preference towards a particular type of scale are reported elsewhere (cf. Coppock & Beaver 2014 on *only* vs. *just*). ¹⁰ We assume that the same holds for gradable verbs like *understands*. However, given that most of the literature on gradability, scale structure, standards, etc. is on adjectives, and given the more complex event-based semantics of verbal expressions, we will from now on concentrate on the approximative

For example, the measure phrase *two meters / completely* in (21a), specify the degree d to be at least two meters / is at the maximal endpoint of the scale, respectively.

In the case of apparently unmodified gradable adjectives, i.e. those in the 'positive form', as in (23a), the d argument is taken to be given a value through a covert degree modifier, pos, as in (23b). Pos, type <<d,<e,t>>,<e,t>> as well, relates the degree d to a relevant standard of comparison set on the scale associated with the adjective, as seen in (24).

- (23) a. John is tall b. John is pos tall
- (24) $[[pos]]^{g,c} = \lambda G\lambda x$. $\exists d[standard (d)(G)(C) \land G(d)(x)]$ (Kennedy & McNally 2005a: 350)

For example, (23b) is true if John's tallness is at least as high as the standard of tallness in C.

Given this background, we now suggest that be-sax ha- kol_{approx} associates with the covert degree modifier pos. For example, (2) above, repeated as in (25a) is represented as in (25b) where pos is in focus.

- (25) a. ha-xeder be-sax ha-kol_{approx} naki the-room be-sax ha-kol clean "The room is more or less clean".
 - b. The room is be-sax ha-kol_{approx} [pos]_F clean the-room be-sax ha-kol clean

"The room is more or less clean".

Since in this case *pos* is in focus, it is the source of the alternatives. Following Rooth's ideas (1985; 1992) the alternatives are propositions identical to *The room is pos clean* where *pos* is replaced by other elements of the same semantic type, that is, by other degree modifiers of the type <<d,<e,t>>,<e,t>>.¹¹ This is schematically seen in (26).

(26) {.... The room is pos clean, The room is DegMod clean....}

Now, given the semantics of be-sax ha-kol, all alternatives q in C which are stronger than p are negated. We suggest that such alternatives are those with maximizing degree modifiers, i.e., The room is maximally / completely clean, as seen in (27).

(27) a. $\{\dots \text{ the room is } pos \text{ clean, } \text{ the room is completely/ maximally clean} \}$ b. $\{\exists \underline{d[stand.(d)(clean)(C) \land clean(d)(the room)}, \exists \underline{d[d = max(clean) \land clean(d)(the room)}\}$

_

¹¹ See Breheny et al. (2018) for a similar suggestion regarding scalar implicatures.

The result of combining these two interpretative components is exactly the one we observed in section 2, namely that the room is considered clean (since its degree of cleanness is at least as high as the standard), but it is not maximally clean. The approximative reading of *be-sax ha-kol* is then successfully derived.

Notice, however, that this kind of derivation relies on a non-trivial assumption, namely that the standard degree with total adjectives like *clean* can be non-maximal. We turn to this point in the next subsection.

3.4.2 The approximative reading of be-sax ha-kol with total adjectives and the value of the standard

A prominent claim in the literature on gradable adjectives, made in Kennedy & McNally (2005a), is that the value of the standard degree is constrained by the structure of the scale associated with the adjective. Thus, open scale adjectives like *tall* are interpreted relative to a contextual standard (determined by, e.g. comparison classes). In contrast, the standard of lower-closed scale ('partial') adjectives like *dirty* and *wet* is just above the scale minimal point, and crucially, that of upper-closed scale ('total') adjectives like *clean*, *straight* and *transparent*, is always at the maximal endpoint of the scale.¹²

But if the standard with upper-closed adjectives is indeed always at the maximal endpoint of the scale, then for example, the negative component conveyed by sentences with *be-sax ha-kolapparox* as in (2) and (25) (that the room is not completely clean) would contradict the positive component (that the room is pos clean, i.e. clean to at least the standard degree). This would wrongly predict sentences with *be-sax ha-kolapprox* to be systematically infelicitous. Thus, our suggestion above can only hold if we assume that

¹² Kennedy & McNally suggest that this correlation between scale structure and standards is derived from the functional principle of 'interpretative economy'.

pos A does not necessarily equal *completely A* for total adjectives. But this would clash with what is suggested in Kennedy & McNally (2005a).¹³

There are, though, independent suggestions, e.g. Rotstein & Winter (2004); McNally (2011) and Toledo & Sassoon (2011) which take the standard with at least some total, upper-closed adjectives in the positive form to be potentially lower than the maximal endpoint. In this paper we follow this view, and take it to explain how in sentences like (2) the room can be considered clean but not completely clean at the same time.

This position can now lead to a prediction: to the extent that a certain total adjective, or a certain use of such an adjective, **does** require a maximal standard, the status of *be-sax ha-kol_{approx}* with it will be degraded. Rotstein & Winter (2004) label adjectives with such maximal standards 'pointal'. Based on contrasts like (28), they take *complete* to be such a pointal adjective, as opposed to *clean*, which is non-pointal.

(28) a. Both towels are clean, but the red towel is cleaner than the blue one.b. ?Both your painting and my painting are complete, but your painting is more complete than mine. (Rotstein & Winter 2004: 14)

Similarly, Toledo & Sassoon (2011) argue that while a full tank is many times not completely full, an empty one tends to be taken as completely empty. This is motivated by contrasts in (29). Using Rotstein & Winter's terminology, then, *empty*, unlike *full*, tends to behave as pointal, at least when applied to objects like tanks.

(29) a. The gas tank is full, but you can still top it off. It's not completely full yet. b.?The gas tank is empty, but there are still a few drops left. It's not completely empty yet. (Toledo & Sassoon 2011: 139).

Our prediction, then, is that *be-sax ha-kolapprox* will be degraded in sentences with such pointal adjectives. As can be seen in (30) and (31) this is borne out.¹⁴

- (30) ha-xeder ha-ze **be-sax ha-kol**approx naki / ??shalem The-room the-this be-sax ha-kol clean complete "This room is more or less clean / complete".
- (31) ha-mexal ha-ze **be-sax ha-kol**approx male / ??rek
 The-tank the-this be-xax ha-kol full / empty
 "This tank is more or less full / empty".

¹³ Thanks to a Glossa reviewer for highlighting this point, as well as the prediction below.

¹⁴ Notice that, the English gloss with *more or less* is good with both types of adjectives. We come back to this point in section 4, where we argue against assigning an approximative semantics to *be-sax ha-kol_{approx}*.

Moreover, we follow Rotstein & Winter (2004) and Toledo & Sassoon (2011) in taking the pointal vs. non-pointal distinction to be sensitive to context. For example, although *empty* behaves as pointal when applied to tanks (as shown in (29a)), it seems to have a non-pointal use as well, as in *The theatre is empty*, originally pointed out in Kennedy & McNally (2005a) which can be rather easily uttered when there are still a few people in the theatre. While Kennedy & McNally (2005a) take such cases to illustrate imprecise uses (modelled using e.g. Lasersohn's 1999 'pragmatic halos'), and thus to still be compatible with the view that the standard of *empty* is maximal, we assume here that such cases illustrate a non-pointal use of *empty*, namely one with a non-maximal standard.

We predict, then, that the status of *be-sax ha-kol_{approx}* with *rek* ('empty') will be better when the subject is *the theatre* than when it is *the tank*. As seen in (32), this prediction is borne out. Although we got some variations in speaker judgements regarding the status of the former, our consultants agreed that it is better than the latter:

(32) (?) ha-teatron /??ha-mexal **be-sax ha-kol**approx rek hayom the-theatre /the-tank be-sax ha-kol empty today "The theatre / the tank is more or less empty today".

Thus, the behavior of *be-sax ha-kolapprox* can be taken to provide further support for the independently made claims that the standard of total adjectives in the positive form is not necessarily at the maximal endpoint of the scale, and more generally, that scale structure and standards can be, at least to some extent, dissociated (*pace* Kennedy & McNally 2005a, and as in McNally 2011 and Toledo & Sassoon 2011).

It is important to emphasize, though, that our theory does not rule out the fact that in general the standard for total adjectives in the positive form *can* be set to the maximal endpoint. In fact, in many cases this is the default situation, and it is always one of the possible values of the standard with such adjectives. Crucially, then, when *be-sax ha-kolapprox* associates with *pos*, its presence leads to constraining the standard, i.e. to reinterpreting the prejacent so that the standard variable in it is set to be *necessarily* non-maximal. Without such a re-interpretation, we can get a clash between the default or contextually supplied interpretation of the prejacent, in which the standard can be maximal, and the negative component. This process is reflected in

¹⁵ We come back to this point in section 5, where we discuss a potential consequence of such reinterpretations of the standard for the at-issueness status of positive and negative components of *be-sax ha-kol*.

(33), where the constraint on the standard is in boldface. In particular, (33a), the positive component, conveys that the room is clean to some degree which is at least as high as the standard for cleanness, where this standard is not maximal. And (33b), the negative component, conveys that this degree of cleanness is not maximal either, i.e. that the room is not maximally clean.¹⁶

- (33) a. Positive component: $\exists d[stand.(d)(clean)(C) \land clean(d)(the room) \land stand._{CLEAN} < Max (clean)]$
 - <u>b.</u> Negative component: $\neg \exists d[d = max(clean) \land clean(d)(the room)]$

3.4.3 Why the approximative reading is degraded with (one dimensional) open scale adjectives

In section 2 (example (12) we pointed out that *be-sax ha-kolapprox*. prefers upper-closed adjectives, and is degraded with open-scale and Lower-closed adjectives. In this section we examine a possible reason for this fact.

A number of theories (e.g. cf. Roberts 2011; Alxatib 2013) suggest that when no stronger alternative to the prejacent exists, the use of exclusives is infelicitous. This is illustrated by the infelicity of *only* in e.g. #Only all students arrived, where the prejacent, namely, All students arrived is the strongest in the relevant set of alternatives C, i.e. in {some students arrived; most students arrived; all students arrived}. A proposition stronger than the prejacent simply does not exist in this set (because the quantifier all is maximal). The result is that the exclusive operation of *only* is vacuous, violating the general non-vacuity constraint (Crnič 2011), and hence infelicitous.¹⁷

Making the right choice here depends on wider issues discussed in the literature, e.g. whether the weaker alternatives are given an exhaustified / 'exactly' reading, and whether the weaker alternatives are members of C, to start with (cf. Guerzoni 2003; Crnic 2012 and Greenberg 2019, suggesting that p is the weakest alternative in C for only). We leave, then, further examination of the type of scale here to future research.

 $^{^{16}}$ As a Glossa reviewer points out, given our proposal, p (e.g. *The room is pos clean*) is entailed by stronger alternative (e.g. *The room is completely clean*), but it is not clear that the stronger alternatives and p entail weaker alternatives (e.g. *The room is a little bit clean*). Is the scale for *be-sax ha-kolapprox*, then, an entailment-based or an evaluative scale?

 $^{^{17}}$ Roberts (2011) and Alxatib (2013) argue that the requirement for having at least one alternative stronger than p in C with exclusive particles should not be hardwired into the semantics of such exclusives (cf. (13) above), since it is derived from a general constraint on non-vacuous operation. We follow these authors on this assumption. Another reason for not hardwiring such a requirement into C is that the definition of C (as defined in Rooth 1992) is supposed to be uniform for all focus-based phenomena. Thanks to a Glossa reviewer for raising this issue.

Now, it seems that when *be-sax ha-kolapprox*. associates with the covert *pos* modifier of (one dimensional) lower-closed, or open scale adjectives, we get a similar problem, i.e. no stronger alternatives exist in C. Consider (34).

(34) ha-kvish ha-ze **be-sax ha-kol**approx batu'ax / ?? mesukan / ??raxav The-road this be-sax ha-kol safe/ ?? dangerous/?? wide "This road is be-sax ha-kol safe/?? dangerous/?? wide".

When p is This street is $[pos]_F$ dangerous or This street is $[pos]_F$ wide, a stronger alternative with completely modifying the adjective is not available in C, since completely cannot modify such adjectives. We propose, then, that it is the unavailability of stronger degree modifiers of lower-closed and relative adjectives associated with open scales which leads to a vacuous operation of be-sax ha-kol_{approx}, and thus to infelicity.

Two apparent issues with this proposal, though, are the ability of such adjectives to be modified by *meod* ('very') and *mamaS* ('really'). Consider first the sentence in (35).

(35) ha-rexov ha-ze **meod** mesukan The-street this very dangerous "This street is very dangerous"

The particle *meod* ('very') seems to be stronger than *pos*, and therefore (35) seems to be a potential stronger alternative than the prejacent *This street is pos dangerous*. If this is indeed the case, then we wrongly predict that sentences that have the template of *The road is be-sax ha-kol dangerous* could mean that the street is dangerous but not very dangerous. But this reading is absent from such sentences.

One way to rule out the availability of *meod* ('very') as a legitimate substitution for *pos* is to follow Kennedy & McNally (2005b), who analyze *very* as a modifier of type <<e,t>>, different from 'true' degree modifiers (e.g. *two meters / pos*), type <<d,<e,t>>, e,t>>. Based on previous analyses of *very* (e.g. Klein 1980), Kennedy & McNally (2005b) suggest that *very* takes [pos Adjective], type <e,t>, and adjusts the standard of comparison associated with the gradable adjective that it modifies, based on a comparison class which includes only those individuals for whom the base standard applies. For example, in *very tall*, *very* applies to *pos tall*, and computes a new greater standard of height, based on a comparison class whose members are only those objects who exceed the standard of height determined by *pos tall*.

If this claim is adopted, then, we can argue that despite the fact that *meod* ('very') is a stronger modifier than *pos*, it cannot substitute the focused element *pos*, and thus cannot be used to construct a stronger alternative to the prejacent, because it is not of the right semantic type (as required in Rooth 1985; 1992).

Another apparent candidate that comes to mind as a potential stronger substitute for *pos* is the Hebrew modifier *mamaS* ('really'). The sentence in (36) with *mamaS* is intuitively stronger than its minimally contrasting variant with *pos*.

(36) ha-rexov ha-ze **mamaS** mesukan The-street this mamaS dangerous "This street is really dangerous".

However, this modifier does not seem to be a true degree modifier either. Similarly to Kennedy & McNally's (2005b) claim regarding *very*, McNabb (2012) analyzes *mamaS* as a modifier of properties, type <<e,t>,< e,t>>. Moreover, given this analysis, *mamaS* does not make reference to degrees at all. It takes a property *P* of an individual *x* and returns a property which is true of the individual in all possible contexts, leading to an intensification effect (cf. also Beltrama & Bochnack 2015). McNabb supports this suggestion by showing that *mamaS* can also modify non-gradable expressions, as in (37).

(37) a. ha-Skia mitraxeSet mamaS axSav
The-sunset happening mamaS now
"The sunset is happening right now".
b. ha-malon mamaS be-merkaz Roma
the-hotel mamaS in-center Rome
"The hotel is right in the center of Rome".

Taking stock, we showed that *be-sax ha-kolapprox* is felicitous with upper-closed adjectives, like *clean*, but not with lower-closed or open scale ones like *dangerous* or *wide*. We proposed that this is because of the (un)availability of stronger substitutes for *pos*, modifying the latter types of adjectives, namely maximality degree modifiers, which are of the same type as *pos*. Since with no stronger alternatives available, the exclusive function of *be-sax ha-kol* is vacuous, the approximative reading is blocked with such adjectives.

One adjective that can be used to test this claim is the Hebrew correlate of *open*, namely *patu'ax*. Given Kennedy & McNally's (2005a) classification, unlike e.g. *clean*, or *full*, this adjective is partial in that its standard is minimal (e.g. a box which is just a little bit open can be considered already open). However, it is associated with an upper-

closed scale, and it can be modified by *completely*. Thus, given our suggestion above this adjective is predicted to license *be-sax ha-kolapprox* although it is not total.

The prediction is borne out, as can be seen in (38), where *be-sax ha-kolapprox* is much better (fine or close to fine) with *open* than with the open-scale adjective *expensive*:

(38) a. ha-kvish ha-ze **be-sax ha-kol**approx (?)patu'ax / #yakar The-road the-this be-sax ha-kol open / expensive "This road is more or less ?open / #expensive".

Another support for our proposal is the felicity of *be-sax ha-kolapprox* with relative multidimensional adjectives, as opposed to its infelicity with relative one-dimensional ones, illustrated in (39)-(40). We follow Sassoon (2013; 2018) in taking multidimensional adjectives to associate with several scales, each representing a 'respect' or a 'dimension', e.g. being talented with respect to math, or to history (in (39)), or being good with respect to service, food or comfortability (in (40)).

- (39) Danny **be-sax ha-kol**approx #gavoha / nexmad / idiot / muxshar Danny be-sax ha-kol tall / nice / idiotic / talanted "Danny (is) more or less #tall / ?nice / ? idiotic / / ?talented "18"
- (40) ha-tisa hayta **be-sax ha-kol**approx #aruka /tova/ gru'a
 The flight was be-sax ha-kol expensive / good / bad
 "The flight was more or less #long / ?good / ?bad / fine".

Following ideas in Sassoon (2018) and Greenberg (2019a) to be $pos\ A$ in the multidimensional reading is to have the adjectival property A with respect to a number n of relevant dimensions, where n is at least as high as the standard number of dimensions for this adjective.

Sassoon argues that the standard number of dimensions for multidimensional adjectives as in (39)-(40) is contextually determined, similarly to the standard degree with relative one-dimensional adjectives like *tall*. Importantly, however, multidimensional adjectives can be still classified as upper-closed, since they can be taken to associate with a scale with an upper-closed end, namely the scale involving all relevant dimensions of the adjectival property. Indeed, all such adjectives can be modified by the maximizing degree modifier *be-kol ha-muvanim* ('in all respects').

¹⁸ Notice that *be-sax ha-kol_{approx}* is felicitous with both *good* and *bad*. We take this to indicate that it is not sensitive to the distinction between positive and negative adjectives. Thanks to a reviewer for raising this point.

To derive the approximative reading of be-sax ha-kol with multidimensional adjectives as in (39)-(40), then, we propose that here too the particle associates with a covert focused pos. In these cases, though, pos is used to set the standard number of dimensions for these adjectives (cf. Greenberg 2020 for a proposal). To illustrate, The flight was be-sax ha-kolapprox [pos]_F good (cf. (40)), conveys the truth of the prejacent The flight was pos good as its positive inference, i.e. that the number of dimensions with respect to which the flight was good is at least as high as the contextually supplied standard number of relevant dimensions of being good. It also conveys the negative inference that the stronger alternative to the prejacent is false, namely that the flight was not good with respect to all relevant dimensions of being good. These are indeed the inferences we get with such a sentence.

Notice that unlike the previous cases where a felicitous *be-sax ha-kol_{approx}* is easily translated with *more or less*, in (39)-(40) the translation with *more or less* is degraded. We discuss this point in the next section, where we argue against giving an approximative semantics to *be-sax ha-kol*.

4. Examining (and rejecting) an alternative analysis: be-sax ha-kol as ambiguous between an exclusive and an approximator particle

We proposed above that *be-sax ha-kol* always conveys the positive and negative components of scalar exclusive operators, and that *be-sax ha-kol*_{approx} is just a special case of it, derived from its association with the covert *pos*.

But there seems to be a potential alternative hypothesis which one may consider, namely that *be-sax ha-kolapprox* is simply an approximator, similarly to e.g. *more or less, about, sorta* or *-ish*. Such approximators are usually analyzed as indicating that a standard of precision with respect to which a sentence with a scalar item is evaluated is coarse (cf. Sauerland & Stateva 2007), a denotation within the 'pragmatic halo' of the modified expression (cf. Lasersohn 1999; Morzycki 2011), etc.

One might want, then, to hypothesize that *be-sax ha-kol* is simply ambiguous between denoting an exclusive operation and an approximative operation. While this hypothesis is less economical than our own, in which this particle conveys the same interpretive components on both readings, it may seem simpler in that it does not force us to make the non-traditional assumption concerning the association of a focus

sensitive particle with covert material (though see section 3.2 for more particles reported to have this property).

Assuming that *be-sax ha-kol_{approx}* is simply an approximator may also seem natural given that in many cases it can be easily substituted with 'real' approximators such as e.g. *paxot o yoter* ('more or less') or *be-erex* ('around'), as illustrated in (41).

(41) ha-xeder **be-sax ha-kol**approx/ **paxot o yoter/ be-erex** naki
This-room be-sax ha-kol / less or more / approximately clean
"This room is more or less clean".

With all three expressions we get a similar reading that the room is close to being clean (but is not completely clean).

However, a closer inspection of the data reveals differences between be-sax ha- kol_{approx} on the one hand, and 'typical' approximative expressions, on the other hand.

Two of these differences were briefly mentioned above. First, unlike be-sax ha- kol_{approx} , which as discussed in section 3.4.2 above is degraded with pointal adjectives, typical approximative particles are felicitous with such adjectives. For example, when trying to replace paxot o yoter in the following attested example with the pointal adjective shalem ('complete')¹⁹ with be-sax ha-kol, the result is degraded.

(42) yadati she-ha-ofano'a yaxzor elay **paxot o yoter** / ??**be-xax ha-kol**approx shalem I-knew that-the-motorcycle will-return to me less or more / be-sax ha-kol complete "I knew that the motorcycle will come back to me more or less complete".

The opposite fact is illustrated in (43): Unlike *be-sax ha-kol_{approx}*, which as we saw in section 3.4.3 above is felicitous with relative multidimensional adjectives, *paxot o yoter* (as well as *more or less*) is degraded with many of these adjectives.

(43) dani **be-sax ha-kol**_{approx} / ??**paxot o yoter** nexmad / muxshar.

Danny be-sax ha-kol / less or more nice / talented
"?Danny is more or less nice / talented".

In addition, unlike true approximators, *be-sax ha-kol* cannot modify measure phrases. Consider, for example, the interpretational difference between (44a) and (44b).

- (44) a. ha-temperatura kan hi **paxot o yoter/ be-erex** 20 maalot The-temperature here she less or more/ approximately 20 degrees "The temperature here is more or less/approximately 20 degrees".
 - b. ha-temperatura kan hi **be-sax ha-kol** 20 maalot The-temperature here she be-sax ha-kol 20 degrees

http://fullgaz.co.il/forums/showthread.php/9832-%D7%A4%D7%A8%D7%92%D7%95%D7%9F-%D7%9C%D7%9C-%D7%9E%D7%A7%D7%A6%D7%95%D7%A2.

"The temperature here is only 20 degrees".

As seen in (44b), unlike the approximative reading we get with *paxot o yoter* (*The temperature is close to, but not precisely 20 degrees*), the only reading we get with *be-sax ha-kol* is exclusive, namely, that the temperature is 20 degrees, and not higher (e.g. that it was expected to be warmer). The approximative reading is infelicitous here.

This difference is unexplained if *be-sax ha-kol_{approx}* is simply an approximator. In contrast, it is directly predicted if in order to get the approximative reading this particle must associate with a covert focused *pos*, which does not exist in (44).

Thus, we can now predict that, unlike real approximators, if we let *be-sax ha-kol* modify a gradable adjective which is itself modified by an overt degree modifier, the approximative reading will be blocked. Again, this is because in such cases too there is no covert *pos* to associate with.

Indeed, the prediction is borne out, as seen in (45).

- (45) a. ha-kos **paxot o yoter / be-erex** xaci mele'a The-glass more or less/approximately half full "The glass is more or less/approximately half full".
 - b. ha-kos **be-sax ha-kol** xaci mele'a The-glass be-sax ha-kol half full "The glass is only half full".

Here too, as in (44a), the true approximators *more or less / about* give rise to an approximative reading (indicating that the glass is close to be half full), whereas *be-sax ha-kol* lacks this reading. The only reading available is the classical 'exclusive' reading, namely that the glass is half full but not more than that.

To summarize, we pointed out a number of differences between *be-sax ha-kolapprox*. and 'true' approximators, which cannot be explained if this particle has an approximative semantics. These differences seem to directly follow from our proposal above that *be-sax ha-kol* is a focus sensitive particle which conveys the same interpretative components as scalar exclusives, but it associates with covert material. Therefore, we conclude that *be-sax ha-kol* should not be considered ambiguous between the exclusive and approximative operations, and that its approximative reading is derivative.

5. The status of the interpretative components with be-sax ha-kol

5.1 A difference in the status of the prejacent and the exclusion of stronger alternatives

In the previous sections we argued that *be-sax ha-kol* on both its readings conveys the same two components as scalar exclusive particles cross linguistically, namely the truth of the prejacent (the positive component) and the exclusion of stronger alternatives (the negative component).

However, a close look at these readings reveals that they differ in the status of these components. For be-sax ha- kol_{excl} this status is the same as the one reported for typical exclusive particles: The prejacent is presupposed / not-at-issue, and the exclusion of stronger alternatives is asserted / at-issue. In contrast, for be-sax ha- kol_{approx} the status seems to be the opposite, and in fact more similar to what we find with true approximators like more or less.

This conclusion is supported by several diagnostics. For space reasons we present here two of them. The first is embeddability under antecedents of counterfactuals, which is supposed to target at-issue / asserted content. With *be-sax ha-kol_{excl}* what is being targeted by the counterfactual is the negative component that no stronger alternative is true: for example, from (46a) we infer that Danny has more than two dogs (and that this is why I am complaining). As seen in (46b) the same holds for English *only / just*.²² In contrast, for *be-sax ha-kol_{approx}* what is being targeted seems to be the positive component: from (47a) we do not infer that the room is maximally clean but that the room is not considered clean (and that if it **was** clean my aunt would agree to sleep in it). The same holds for the English translation with *more or less* seen in (47b):

- (46) a. im le-dani hayu **be-sax ha-kol**exel sheny klavim lo hayiti mitlonen If danny had be-sax ha-kol two dogs not would-I complain "If Danny had only /just two dogs I wouldn't have complained".
 - b. If Danny had only /just two dogs I wouldn't have complained.
- (47) a. im ha-xeder haya **be-sax ha-kol**_{approx} naki doda sheli hayta maskima lishon bo If the-room was be-sax ha-kol clean aunt mine was agreed to-sleep in-it "If the room was more or less clean my aunt would have agreed to sleep in it".

²² Notice that in some such cases we also get the inference that the positive inference, i.e. the prejacent is false. E.g. from (i) we infer that John is not a clerk:

²⁰ While the asserted vs. presupposed is not identical to the at-issue / not-at-issue distinction (the former is a special case of the latter, see e.g. Tonhauser et al. 2013), we will not try to distinguish between these terms here and will often use the terms interchangeably.

²¹ Thanks to a Glossa reviewer for raising this issue.

⁽i) If John was just a clerk Mary wouldn't agree to marry him See also Coppock & Beaver (2014) and Orenstein (2016), who show that this happens with rank order readings when the alternatives are mutually incompatible with each other.

b. If the room was more or less clean my aunt would have agreed to sleep in it.

Another diagnostic involves *because*-clauses. Coppock & Beaver (2014) show that such clauses target asserted / at-issue content, and that in the case of scalar exclusives like *only* or *just* they target the negative component, namely the exclusion of stronger alternatives, which they indeed assume to be asserted / at-issue. This seems to be the case for the negative component of *be-sax-ha-kolexcl* as well: from (48a) we infer that the reason that Danny is sad is because he didn't publish more than two papers (and not because he published two papers). This is what makes the minimally contrasting version with *happy* a bit odd, given that people typically want to publish as many papers as they can. As seen in (48b) the same for English *only*, as expected.

In contrast, for *be-sax ha-kol_{approx}* the situation is reversed, and the *because*-clause seems to target the positive component: from (49a) we infer that Danny is happy because the room is clean (and not because it isn't completely clean). This is what makes the minimally contrasting version with *sad* a bit odd, given that people typically prefer cleaner to less clean rooms. As seen in (47b) the same seems to hold for English *more or less*:

- (48) a. Danny haya acuv / ?sameax ki hu pirsem **be-sax ha-kol**exel shney Danny was sad happy because he published be-sax ha-kol two ma'amarim papers
 - "Danny was sad / ? happy because he published only two papers".
 - b. Danny was sad / ? happy because he published only two papers
- (49) a. Danny haya sameax / ?acuv ki ha-xeder haya **be-sax ha-kol**approx naki Danny was happy sad because the-room was be-sax ha-kol clean "Danny was happy / ?sad because the room was more or less clean".
 - b. Danny was happy / ?sad because the room was more or less clean

In sum, while *be-sax ha-kol_{excl}* behaves like typical exclusive particles in terms of the status of its components, *be-sax ha-kol_{approx}* behaves like typical approximators.

One can attempt to take this observation as an indication that *be-sax ha-kol* is ambiguous between an exclusive and an approximative operator after all. However, given the differences we pointed out in the previous section between *be-sax ha-kolapprox* and clear approximators (in terms of compatibility with pointal adjectives, with relative multidimensional adjectives, with precise measure expressions and with adjectives which are themselves modified by degree modifiers), we believe that this direction is not the right one to take. Instead, in the next section we explore two ways to handle this data within the present proposal.

5.2. Lexical or pragmatic variability in the status of the components with be-sax ha-kol

One way to handle the data above is to simply take *be-sax ha-kol* to have two entries as in (50a) and (50b), for the exclusive and the approximative readings, respectively. ²³ (50) a. $||be-sax\ ha-kol_{excl}/\ rak\ /\ only||^{g,c} = \lambda C.\ \lambda p.\ \lambda w:\ w\in p.\ \forall q\in C \land q>_s p \to \ w\notin q$ b. $||be-sax\ ha-kol_{approx}||^{g,c} = \lambda C.\ \lambda p.\ \lambda w:\ \forall q\ q\in C \land q>_s p \to \ w\notin q.\ w\in p.$

The entry in (50a) is the typical entry for scalar exclusives, and (50b) differs minimally from it just in the reversed status of the positive and negative components. While on this proposal *be-sax ha-kol* is strictly speaking ambiguous, we think that taking this particle to have developed two closely related entries is still a more economical and plausible suggestion than taking it to be associated with two entirely distinct semantic operations (as an exclusive particle and as an approximator).

A relevant point to make here is that although on this hypothesis be-sax ha-kolapprox differs from be-sax ha-kolexcl and from typical exclusive operators (like English only and just, Hebrew rak, etc.), there is at least one other exclusive operator which seems similar to it in this respect. As already mentioned in the introduction, Bassi et al. (2019) argue that in order to account for a number of puzzles with scalar implicatures it is necessary to assume that unlike only, which presupposes its prejacent and asserts the exclusion of stronger (or non-weaker) alternatives, the covert exclusive operator, which Bassi et al. call p-exh, has the same interpretive components but with the opposite status, so the prejacent is asserted and the exclusion of non-weaker alternatives is presupposed (similarly to what has been sometimes claimed for clefts). This is in contrast to previous analyses of exh, the covert operator assumed to be involved with scalar implicatures, which took it to assert both components (see e.g. Chierchia et al. 2011 and much subsequent work). To the extent that this suggestion is in the right direction, the status of the positive and negative components can be seen as one of the parameters of variation along which exclusives differ. Thus, the fact that be-sax ha-kol

²³ Notice that in these entries we follow the traditional assumption which takes exclusive particles to be propositional operators (even if their surface position is not sentence initial). Thus, we do not deal with the 'type' (nor with the QUD parameters) introduced in Coppock & Beaver (2014), which are not crucial for the main claim made in this paper.

can be associated with the two lexical entries in (50) is less surprising, and still allows us to consider it as part of the typology of exclusive operators. *Be-sax ha-kol* may then be taken to be unspecified along this parameter.²⁴

A second, more unified hypothesis we would like to examine is that *be-sax ha-kol* has only the entry in (50a), typical for exclusives. In this case, unlike the previous proposal, where *be-sax ha-kol* differs from classical exclusive particles in two distinct properties (the ability to associate with covert focus and the status of its interpretative components), on this proposal it differs from them only in the former, and the different status of the interpretative components, observed in the approximative reading, will be pragmatically derived.

This kind of hypothesis is inspired by recent research on the flexibility of the asserted vs. presupposed status of interpretive content. While traditionally, this status was assumed, implicitly or explicitly, to be totally fixed, and lexically determined (cf. Heim, 1992; van der Sandt, 1992) for each lexical item, there are now various theories which question one of these assumptions, or even both. We now briefly review some relevant claims made in such theories (although for space reasons we cannot do justice to their richness nor to the differences between them).

5.3 Existing claims regarding gradience and variability in projectivity and (not)-at-issueness

If the-room be-sax ha-kol clean aunt mine will-agree to-sleep in-it

the-room be-sax ha-kol_{approx} clean actually it completely clean

.

-

²⁴ Notice that, similarly to what is usually argued to be the default case for scalar implicatures (as in (i)), the exclusive (negative) component of *be-sax ha-kolapprox.*, as in (ii), seems to be cancelled in antecedents of conditional. We understand that if the room was at least *pos* clean (and possibly completely clean), my aunt would agree to sleep in it:

⁽i) If some students fail the exam then we should prepare an easier one.

⁽ii) im ha-xeder be-sax ha-kol_{approx} naki doda sheli taskim lishon bo.

[&]quot;If the room is more or less clean my aunt agrees to sleep in it".

One could try to argue that this similarity indicates that the exclusive inference of *be-sax ha-kol_{approx}* is also an implicature. However, unlike what happens with scalar implicatures, trying to cancel this inference in matrix sentences, as in (iii), leads to oddness, and to the feeling of self-correction (e.g. the conclusion that the speaker checked again the room and found out that, unlike what she originally thought, the room has no dirt at all):

⁽iii) ha-xeder be-sax ha-kol naki. ??lemaase hu legamrey naki.

[&]quot;The room is more or less clean. In fact it is completely clean."

Given the independently made claim that scalar implicatures are the result of the operation of p-exh (as in Bassi et al. 2019), we hypothesize, then, that the similarity between (i) with this p-exh and (ii) with be-sax ha- kol_{approx} is not due to the implicated nature of the exclusive inference, but due to the fact that with both operators this inference is presupposed / not at issue, and hence is not targeted by the conditional to start with. We leave a more thorough examination of this issue to future research.

As is well known, presupposed / not at issue material is traditionally assumed to project over entailment cancelling operators like negation, questions, possibility modals, etc. even when embedded under such operators. However, various authors observed cases where such material does not project. In general, such authors observed that projectivity is gradient — some presuppositions are judged to be more projective than others. Moreover, projectivity of presupposed material has been argued to be affected by information structural factors, which in turn affect the degree to which such material ends up being at-issue, or up for debate / up for discussion.

To illustrate, consider the sentential complement of factive verbs like *find out* or *discover*, which is assumed to be presupposed, and does indeed usually project. As Simons et al. (2017:161) show, such commitments are weakened or disappear when relevant parts of such sentential complements are accented (which they take to indicate that they are focused), as in (51), or are answers to explicit or implicit questions in the context, (e.g. the question of where Sally is in (52)).

- (51) A: James just found out that Harry's having a graduation party, and I just can't understand why he's so upset about it.B: He didn't find out that HARRY's having a graduation party, he found out that HARRIET is having a graduation party.
- (52) [Interlocutors are aware that their friend Bill is trying to discover the whereabouts of his grown daughter Sally]
 If Bill discovers that Sally is in New York, he'll be relieved.

Given this and similar observations, Tonhauser et al. (2018) hypothesize that a content C projects to the degree to which it is not-at-issue (what they call the 'gradient projection principle'). This hypothesis was given experimental support in e.g. Amaral et al. (2011); Cummins et al. (2012); Smith and Hall (2011) and Xue and Onea (2011). For example, based on examining the projectivity of content in 19 constructions in English (e.g. non-restrictive relative clauses, possessive NPS, the prejacent of *only* and complements of *stop, discovered, annoyed*), as well as the at-issueness of such contents (using assent / dissent reactions), Tonhauser et al. (2018) found that the more not-at-issue a content is judged, the more projective it is.

A result which is of particular interest to us is that of all these 19 constructions, the prejacent of *only* was found to have the lowest degree of not-at-issueness, and also the lowest degree of projectivity. A similar result regarding *only* was also reported in Amaral et al. (2011).

As to the sensitivity of projective content to information structure factors, we follow Abrusán's (2011) approach, who assumes that while not-at-issueness / presuppositional status can be originally conventionalized / lexicalized in the semantics of presupposition triggers, it can be overridden when we 'pay attention to' the not-at-issue material, so it becomes at-issue (in which case it is not presupposed to begin with). Here is a relevant quotation:

"Some aspects of the information conveyed are such that we pay attention to them by default, even in the absence of contextual information. On the other hand, contextual cues or conversational goals can divert attention to types of information that we would not pay attention to by default. Either way, whatever we do not pay attention to, be it by default, or in context, is what ends up presupposed. (Abrusán 2011: 499)

5.4 Back to be-sax ha-kol

Given the claims in the above reviewed theories, let us now go back to the status of the components of *be-sax ha-kol*. Following Abrusán's (2011) view, let us assume that the lexical entry for this particle starts out as (50a) above, where the prejacent is presupposed / not-at-issue and the exclusive component is asserted / at-issue.

With *be-sax ha-kol_{excl}* nothing interesting happens, so the components keep their status. But something does happen with *be-sax ha-kol_{approx}*. We hypothesize that this might have to do with the way the interpretation of the prejacent in this reading is calculated: As already pointed out in section 3.4.2, when calculating the meaning of the prejacent and the exclusive component with *be-sax ha-kol_{approx}*, there is a possible clash between them. To illustrate again, the interpretation of the positive component of *The room is be-sax ha-kol clean*, namely the prejacent *The room is pos clean*, is that the degree to which the room is clean is at least as high as the standard, where crucially the context can, and often does set this standard at the scale maxima. The negative component, on the other hand, requires that the room is not maximally clean. In a context where the standard in the prejacent is maximal, then, the two components clash.

Hence, as argued in section 3.4.2 above, the presence of *be-sax ha-kol* forces us to go back to the prejacent and re-interpret it in such a way that the value of the standard variable is set to being non-maximal (no matter what the original value of this standard is set to by the context).

-

²⁵ Cf. Simons et al. (2017) and Tonhauser (2019).

²⁶ Another – alternative-based - family of theories dealing with variability in projective content is Abusch (2010) and Romoli (2015). For space reasons we do not review this approach here.

We thus hypothesize that although the prejacent of *be-sax ha-kolapprox* is originally backgrounded, this process of re-interpreting the prejacent may be the reason why it cannot stay backgrounded anymore. In particular, this re-interpretation moves the prejacent to the foreground so it becomes at-issue. In Abrusán's (2011) terms, this can be considered a case where a "conversational goal... can divert attention to types of information that we would not pay attention to by default", and hence makes this type of information at-issue.

Given that there is independent experimental evidence that the not-at-issueness of the prejacent of exclusives seems rather weak to start with (cf. again Amaral 2011; Tonhauser et al. 2018), we end up with the prejacent of *be-sax ha-kolapprox* getting an at-issue status.

This is not the whole story, though, because remember that given the data in section 5.1 the change in the status of the prejacent of *be-sax ha-kolapprox* - from being not-at-issue to being at-issue – is accompanied by a change in the status of the exclusive component - from being at-issue to being not-at-issue. Why don't both interpretive components with *be-sax ha-kolapprox* end up being at-issue?

A suggestion made in Bassi et al. (2019) can perhaps help shed some light on the reason for this issue. As pointed out above, Bassi et al. argued that unlike what is traditionally assumed for covert *exh*, *p-exh* presupposes exclusion of non-weaker alternatives and asserts the prejacent, in a way which mirror-images overt *only*: "*Only* presupposes its prejacent and asserts exhaustivity; *p-exh* asserts the prejacent and presupposes exhaustivity; and *exh* presupposes nothing and asserts both the prejacent and the exhaustivity component" (p. 23). Importantly, they further suggest that this proposal for *p-exh* fares better than the proposal for *exh* in that *p-exh* is compatible with the general requirement (which they take to be inspired by Schlenker 2007) that "a contribution must not lead to multiple novel inferences or answer different questions" (p.23).

Given such a general requirement, then, it may be used to explain why, as far as the status of the components is concerned, *be-sax ha-kol_{excl}* is the mirror image of *be-sax ha-kol_{approx}*, similarly to the way *only* is the mirror image of *p-exh* in Bassi et al. (2019).

This suggestion needs to be further clarified and motivated, as well as empirically validated.²⁷ At this point, however, we can at least point out one more construction where such a status mirror image is found, involving evaluative adjective sentences (EASs), described in Tonhauser et al. (2019). Tonhauser et al. discuss two meaning components conveyed by EASs, as in (53a), namely the truth of the prejacent (e.g. Feynman danced on the table) and the generalization (that for Feynman to dance on the table was stupid). The prejacent in such constructions is taken to be presupposed, while the generalization is asserted. This is evidenced in (53b), where the former, but not the latter projects.

- (53) a. Feynman was stupid to dance on the table.
 - b. Was Feynman stupid to dance on the table?

Tonhauser et al. attribute to Karttunen et al. 2014 the observation that there is variability in the status of the prejacent in this construction. This is seen in attested examples like (54), where the prejacent does not project, i.e. there is no commitment of the speaker that he went stumbling through the junkyard.

(54) Now I knew someone was in the junkyard and the cold wind was carrying the cries. I wasn't stupid to go stumbling through the junkyard in the dark and get hurt.

What is relevant for us is that Tonhauser et al. observe that in such cases there is variability in the status of the generalization as well. Thus, unlike the prejacent in (54), which indeed does not project, the generalization does project (there is commitment that stumbling through the junkyard is stupid). Tonhauser et al. conclude that in this construction "when the prejacent projects, the generalization does not, and when the prejacent does not project, the generalization does" (p. 3).

It seems, then, that the swapped status of the positive and negative components of *be-sax ha-kol_{excl}* and *be-sax ha-kol_{approx}* is part of a more general pattern found in other constructions, where a change in the not-at-issueness status of one interpretive component leads to a change of the at-issueness status of another component. Whether this pattern is indeed due to the general requirement suggested in Bassi et al. (2019), and whether it applies to all constructions are questions which require further research, and are beyond the scope of this paper.

²⁷ Abrusán (2011), for example, suggests that when not-at-issue content turns to at-issue it is added to the main point of the sentence as 'secondary main point'. See also Tonhauser et al. 2019 for a discussion.

6. Conclusion

In this paper we proposed that two readings –exclusive and approximative - of the Hebrew particle *be-sax ha-kol* are more closely related than they seem to be at first glance, in that under both the particle is a scalar exclusive, having a positive and a negative contribution, namely the truth of the prejacent and the exclusion of stronger focus alternatives. The difference between the exclusive and approximative readings, we suggested, result from a minimal difference in the overtness vs. covertness of the focus associate of *be-sax ha-kol*, respectively.

Specifically, we proposed that whereas the exclusive reading of *be-sax ha-kol* is derived in the usual way from its association with overt material, the approximative reading results from its association with the covert degree modifier *pos*, modifying gradable expressions. In this case the stronger alternative which is rejected is one where the focused *pos* is substituted with a maximality degree modifier, resulting in "x is pos A, but not maximally A".

In addition to accounting in a unified way for a wide range of distributional and interpretational observations regarding *be-sax ha-kol*, our analysis has implications regarding wider topics discussed in the semantics-pragmatics interface literature.

For example, we have shown that the approximative reading of *be-sax ha-kol* is only licensed when the scale associated with the gradable expression is upper-bound, but the standard on this scale is not necessarily maximal. This, we argued, supports a view where scale structure and standards can be dissociated (*pace* Kennedy & McNally 2005a, and like Rotstein & Winter 2004, McNally 2011, Toledo & Sassoon 2011).

We pointed out that *be-sax ha-kol* seems similar to other *only*-like and *even*-like operators cross linguistically which were reported to associate with covert material. An important implication of the paper, then, is that the ability vs. inability of focus sensitive particles to associate with covert focused material should count as one of the parameters along which focus sensitive particles vary. More generally, the behavior of *be-sax ha-kol* supports analyses (cf. Chierchia 2013, Liu 2017) where apparent ambiguities of focus particles are attributed to the type of alternatives operated over, rather than to two distinct semantic operations.

Indeed, we argued against taking *be-sax ha-kol* to be ambiguous between an exclusive and an approximative semantics. We supported this decision by pointing out

differences between the approximative reading of *be-sax ha-kol* and that of 'true' approximators (like *more or less*) which cannot be accounted for by an ambiguity-based analysis, but follow from our proposal. In this sense, our theory can also help sharpen the distinction between 'true' and 'derivative' approximators.

Another wider issue handled by our analysis concerns at-issueness and factors affecting it. We observed that the status of the interpretative components in the approximative reading of be-sax ha-kol - where the prejacent is at issue, and the exclusion of stronger alternatives is not-at-issue - is reversed relative to its exclusive reading and to typical exclusive particles like only. We examined two theoretical directions to capture this observation within our proposal. Given the first, this particle is associated with two closely related lexical entries, which differ minimally in terms of status, and given the second, there is a default lexical entry with one status, and the other status is derived pragmatically. Both directions are inspired by existing theories regarding at-issuenss, the first on the mirror imaged status of components of only vs. p-exh argued in in Bassi et al. 2019, and the second, on theories regarding the gradience and flexibility of status and its sensitivity to information structure. More research is clearly needed in order to decide between these two options. On both, though, it seems that the variability of the status of the components with be-sax ha-kol is not an isolated phenomenon, but part of a more general pattern. In this sense, understanding be-sax hakol can contribute to a better understanding of (not)-at-issueness and the factors affecting it.

In future research we would also like to examine the connection between the internal composition of *be-sax ha-kol* ('the sum the whole') and its semantic effects. One such effect, pointed out in Orenstein & Greenberg (2013) for *be-sax ha-kolapprox* is an inference that the sentence is uttered based on some 'summing-up' evidential basis. For example, uttering *The room is be-sax ha-kolapprox clean* seems to be based on checking the degree of cleanness in all parts of the room (e.g. under the sofa, at the windows, on the furniture, etc.), and summing the impression from all these parts. According to Orenstein & Greenebrg (2013), the fact that *be-sax ha-kolapprox* gives rise to this inference can explain felicity contrasts between (55) and (56): in (55) evidence that the door is closed cannot be based on examining parts of the door and summing up impressions about it. In contrast, one can sum up impressions about parts of the agreement document to see whether it is 'closed'.

(55) ??ha-delet **be-sax ha-kol**approx sgura.

The.door be-sax ha-kol closed

"The door is more or less closed".

(56) ha-heskem **be-sax ha-kol**approx sagur.

The agreement be-sax ha-kol closed

"The agreement is be-sax ha-kol closed".

Notice, though, that the full effects of *be-sax ha-kolapprox* cannot be reduced to this inference, as it cannot explain the negative component of this particle ('the maximal degree does not hold of the subject'), the felicity differences between pointal and non-pointal adjectives (cf. the discussion of *The tank is be-sax ha-kolapprox.full / ??empty* in section 3.4.2), and the potential similarity with the exclusive use of *be-sax ha-kol*. Capturing the intuition about this 'summing-up' inference in a precise and compositional way, then, and clarifying its status is left for future research.

References

- Abusch, Dorit. 2010. Presupposition triggering from alternatives. *Journal of Semantics* 27. 37–80. DOI: https://doi.org/10.1093/jos/ffp009
- Abrusán, Márta. 2011. Predicting the presuppositions of soft triggers. *Linguistics & Philosophy* 34(6). 491-535. DOI: 10.1007/s10988-012-9108-y
- Amaral, Patr'ıcia, Chris Cummins & Napoleon Katsos. 2011. Experimental evidence on the distinction between foregrounded and backgrounded meaning. In Gregory Kierstead (ed.), *Proceedings of the 2011 ESSLLI: Workshop on Projective Content*, 1-7. Columbus: The Ohio State University.
- Alxatib, Sam. 2013. 'Only' and Association with Negative Antonyms. Massachusetts: MIT dissertation.
- Amaral, Patricial & Fabio Del Prete. 2010. Approximating the Limit: The Interaction Between Quasi 'Almost' and Some Temporal Connectives in Italian. Linguistics and Philosophy 33. 51-115. DOI:10.1007/s10988-011-9088-3
- Bassi, Itai, Guillermo Del Pinal, & Uli Sauerland, 2019, Presuppositional Exhaustification, ms. (https://ling.auf.net/lingbuzz/004821)
- Beaver, David, Brady Clark, Edward Flemming, T. Florian Jäger & Maria Wolters. 2007. When semantics meets phonetics: Acoustical studies of second occurrence focus. *Language* 83(2). 245-276. DOI: 10.1353/lan.2007.0053

Beaver, David and Brady Clark. 2008. Sense and sensitivity: How focus determines meaning (Explorations in Semantics). Oxford: Blackwell.

DOI:10.1002/9781444304176

Beltrama, Andera & M. Ryan Bochnak. 2015. Intensification without degrees crosslinguistically. *Natural Language and Linguistic Theory* 33(3). 843–879. DOI: https://doi.org/10.1007/s11049-015-9294-8

- Breheny, Richard, Nathan Klinedinst, Jacopo Romoli & Yasutada Sudo. 2018. The symmetry problem: current theories and prospects. *Natural Language Semantics* 26. 86-110. DOI: 10.1007/s11050-017-9141-z
- Chierchia, Gennaro, Danny Fox & Benjamin Spector. 2011. The grammatical view of scalar implicatures and the relationship between semantics and pragmatics. In Paul Portner, Claudia Maienborn & Klaus von Heusinger (eds.), *Semantics:* An international handbook of natural language meaning, 2297–2331. Berlin: Mouton de Gruyter.
- Chierchia, Gennaro. 2013. *Logic in grammar: Polarity, free choice, and intervention*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199697977.001.0001
- Coppock, Elizabeth and David Beaver. 2014. Principles of the exclusive muddle. *Journal of Semantics* 31. 371-432. DOI: 10.1093/jos/fft007
- Crnič, Luka. 2012. Getting even. Massachusetts: MIT dissertation.
- Cummins, Chris, Patricia Amaral, & Napoleon Katsos. 2012. Experimental investigations of the typology of presupposition triggers. *Humana Mente Journal of Philosophical Studies* 23. 1–15.
- Egg, Markus and Malte Zimmermann. 2011. Stressed Out! Accented Discourse Particles the Case of "Doch". In Ana Aguilar Guevara, Anna Chernilovskaya, & Rick Nouwen (eds.), *Proceedings of SuB* 16, MIT working papers in Linguistics, 225-238.
- Féry, Caroline & Shinichiro Ishihara. 2009. The Phonology of second occurrence focus. *Journal of Linguistics* 459(2). 285-313. DOI: 10.1017/S0022226709005702
- Greenberg, Yael. 2018. A revised, gradability semantics for *even*. *Natural Language Semantics* 26. 51-83. DOI:10.3765/sp.9.2.
- Greenberg, Yael. 2019. *Even* and *Only*: Arguing for parallels in scalarity and in constructing alternatives. In Maggie Baird & Jonathan Pesetsky (eds.), *Proceedings of NELS 49*, 61-70. Ithaca: Cornell University.
- Greenberg, Yael. 2020. An overt *even* operator over covert-based focus alternatives: The case of Hebrew *BIXLAL*. *Journal of Semantics* 37(1). 1–42. DOI: https://doi.org/10.1093/jos/ffz010
- Greenberg, Yael and Dina Orenstein. 2014. Hebrew exclusive participle and the distinction between Roothian and 'internal' alternatives. In Nurit Melnik (ed.), *Proceedings of IATL 2013, MIT Working Papers in Linguistics* 72. 93-114.
- Greenberg, Yael, and Dina Orenstein. 2016. *Typologies for even-like and only-like particles: evidence from Modern Hebrew*. A paper presented at ESSLLI 28, Bolzano, 2016.
- Guerzoni, Elena. 2003. Why Even Ask? On The Pragmatics of Questions and the Semantics of Answers. Massachusetts: MIT dissertation
- Heim, Irene. 1992. Presupposition projection and the semantics of attitude verbs. *Journal of Semantics*. 9(3). 183-221. DOI: <u>10.1093/jos/9.3.183</u>

- Horn, Laurence. 1969. A presuppositional analysis of *only* and *even*. In *Papers from* the Fifth Regional Meeting, Chicago Linguistic Society [= CLS 5], 97-108. Chicago: University of Chicago.
- Kadmon, Nirit. 2001: Formal Pragmatics: Semantics, Pragmatics, Presupposition and Focus. Oxford: Blackwell Publishers.
- Kadmon, Nirit and Sevi, Aldo (2011) "Without 'Focus'". In *Barbara Partee, Michael Glanzberg & Jurgis Skilters (Eds.)*, Formal semantics and pragmatics. Discourse, context and models. The Baltic International Yearbook of Cognition, Logic and Communication, Vol. 6. Manhattan, KS: New Prairie Press. DOI: https://doi.org/10.4148/biyclc.v6i0.1585
- Karttunen, Lauri, Stanley Peters, Annie Zaenen, & Cleo Condoravdi. 2014. The chameleon-like nature of evaluative adjectives. In Christopher Piñón (ed.), *Empirical Issues in Syntax and Semantics* 10. 233–250.
- Kennedy, Christopher. 2007. Vagueness and grammar: The semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy* 30. 1 -45. DOI: https://doi.org/10.1007/s10988-006-9008-0
- Kennedy, Christopher & Louise McNally. 2005a. Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81. 345–381. DOI: 10.1353/lan.2005.0071
- Kennedy, Christopher & Louise McNally. 2005b. The Syntax and Semantics of Multiple Degree Modification in English. In Stefan Müller (ed.), *Proceedings of the 12th International Conference on Head-Driven Phrase Structure Grammar*, 178–191. Lisbon: University of Lisbon.
- Klein, Ewan. 1980. A semantics for positive and comparative adjectives. *Linguistics and Philosophy* 4. 1–45. DOI: 10.1007/BF00351812
- Lasersohn, Peter. 1999. Pragmatic Halos. *Language* 75. 522-551. DOI: 10.2307/417059
- Liu, Mingming. 2017. Varieties of alternatives: Mandarin focus particles. *Linguistics and Philosophy 40*. 61-95. DOI: 10.1007/s10988-016-9199-y
- McNabb, Yaron. 2012. *Hebrew mama's 'really' vs. real cases of degree modification*. A paper presented at LSA Annual Meeting, Portland, OR.
- McNally, Louise. 2011. The relative role of property type and scale structure in explaining the behavior of gradable adjectives. In Rick Nouwen, Robert van Rooij, Uli Sauerland & Hans-Christian Schmitz (eds.), *Vagueness in Communication*, 151–168. Springer. DOI: 10.1007/978-3-642-18446-8_9
- Miashkur, Lena. 2017. A Parametric Comparison of Russian Scalar Particles daže and voobšce. MA thesis, Bar Ilan University.
- Miashkur, Lena. 2018. A parametric comparison of two scalar particles in Russian. In Noa Brandel (ed.), *Proceedings of IATL33,MIT working papers in Linguistics* 89, 121-148.
- Morzycki, Marcin. 2011. Metalinguistic comparison in an alternative semantics for imprecision. *Natural Language Semantics* 19 (1). 39–86. DOI: 10.1007/s11050-010-9063-5.

- Orenstein, Dina. 2015. A family of exclusives in Hebrew. In Miriam Kaeshammer & Philip Schulz (eds.), *Proceedings of the 27th European Summer School in Logic, Language, and Information Student Session*, 96-106.
- Orenstein, Dina. 2016. The semantics, pragmatics and focus sensitivity of exclusive particles in Modern Hebrew. Bar Ilan University dissertation.
- Orenstein, Dina & Yael Greenberg. 2010. The Semantics and Focus Sensitivity of the Hebrew (unstressed) *Stam.* In Yehuda Falk (ed.), *Proceedings of IATL 26*. Bar Ilan University.
- Orenstein, Dina and Yael Greenberg. 2013. A Flexible Exclusive Particle: The Case of the Hebrew *be-sax ha-kol* ("all in all"). In Emmanuel Chemla, Vincent Homer, & Grégoire Winterstein (eds.), *Proceedings of Sinn und Bedeutung 17*, 381-397. Paris: ENS
- Partee, Barbara. 1999. Focus, quantification, and semantics-pragmatics issues. In Peter Bosch & Rob van der Sandt (eds.), *Focus: linguistic, cognitive, and computational perspectives*, 213–231. Cambridge: Cambridge University Press.
- Roberts, Craige. 2011. only: A case study in projective meaning. In Barbara Partee, Michael Glanzberg & Jurgis Skilters (Eds.), Formal semantics and pragmatics. Discourse, context and models. The Baltic International Yearbook of Cognition, Logic and Communication, Vol. 6. Manhattan, KS: New Prairie Press. DOI: 10.4148/biyclc.v6i0.1581
- Romoli, Jacopo. 2015. The presuppositions of soft triggers are obligatory scalar implicatures. *Journal of Semantics* 32. 173–291. DOI: https://doi.org/10.1093/jos/fft017
- Rooth, Mats. 1985. *Association with focus*. Massachusetts: University of Massachusetts dissertation.
- Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1. 75–116. DOI: 10.1007/BF02342617
- Rotstein, Carmen & Yoad Winter. 2004. Total adjectives vs. partial adjectives: Scale structure and higher-order modifiers. *Natural Language Semantics* 12. 259–288. DOI: 10.1023/B:NALS.0000034517.56898.9a
- Sassoon, Galit. 2013. A typology of multidimensional adjectives. *Journal of Semantics* 30. 335-380. DOI: https://doi.org/10.1093/jos/ffs012
- Sassoon, Galit. 2018. A degree-approach account of multidimensional gradability. Ms. Bar Ilan University.
- Sauerland, Uli & Penka Stateva. 2007. Scalar vs. epistemic vagueness: Evidence from approximators. In Tova Friedman and Masayuki Gibson (eds.), *Proceedings of SALT 17*, 228-245. Ithaca, NY: CLC Publications. DOI: 10.3765/salt.v17i0.3091
- Simons, Mandy, David Beaver, Craige Roberts, & Judith Tonhauser. 2017. The Best Question: Explaining the projection behavior of factive verbs. *Discourse Processes* 54(3). 187–206. DOI: 10.1080/0163853X.2016.1150660
- Schlenker, Philippe. 2007. Transparency: An incremental theory of presupposition projection. In Sauerland U., Stateva P. (eds.), *Presupposition and Implicature*

- *in Compositional Semantics*, 214-242. London: Palgrave Macmillan. DOI: https://doi.org/10.1057/9780230210752_8
- Smith, E. Allyn & Kathleen Currie Hall. 2011. Projection diversity: Experimental evidence. In Gregory Kierstead (ed.), *Proceedings of the 2011 ESSLLI Workshop on Projective Content*, 156–170. The Ohio State University.
- Solt, Stephanie. 2011. Notes on the comparison class. In Rick Nouwen, Robert van Rooij, Uly Sauerland & H.C. Schmitz (eds.), *Vagueness in communication: Lecture notes in artificial intelligence*, 189-206. Folli, Springer, Heidelberg.
- Toledo, Assaf & Galit Sassoon. 2011. Absolute vs. Relative adjectives variance within vs. between individuals. In Neil Ashton, Anca Chereches & David Lutz. (eds.), *Proceedings of SALT* 21, 135-154. Linguistic Society of America. DOI: https://doi.org/10.3765/salt.v21i0.2587
- Tonhauser, Judith, David Beaver, Craige Roberts & Mandy Simons. 2013. Toward a taxonomy of projective content. *Language* 89. 66–109. DOI: 10.2307/23357722
- Tonhauser, Judith, David Beaver, and Judith Degen. 2018. How projective is projective content? Gradience in projectivity and at-issueness. *Journal of Semantics* 35. 495–542. DOI: https://doi.org/10.1093/jos/ffy007
- Tonhauser, Judith, Judith Degen, Marie-Catherine de Marneffe & Mandy Simons. 2019. Evaluative adjective sentences: A question-based analysis of projection. ms. (under revision).
- Umbach, Carla. 2009. Another additive particle under stress: German additive noch. In *Proceedings of LOLA 10*, 149 156.
- van der Sandt, Rob. 1992. Presupposition projection as anaphora resolution. *Journal of Semantics* 9. 333–377. DOI: https://doi.org/10.1093/jos/9.4.333
- von Stechow, Arnim. 1984. Comparing semantic theories of comparison. *Journal of* van der Sandt *Semantics* 3. 1–77. DOI:10.1093/jo.
- Wagner, Michael. 2012. Focus and givenness: a unified approach. In Ivona Kuc´erova′ & Ad Neeleman (eds.), *Contrasts and Positions in Information Structure*, 102-147. Cambridge: Cambridge University Press. DOI:10.1017/CBO9780511740084.007
- Wiegand, Mia. 2017. *Exclusive morphosemantics: Just and covert quantification*. A paper presented at 35th West Coast Conference on Formal Linguistics, University of Calgary.
- Xue, Jingyang and Edgar Onea. 2011. Correlation between projective meaning and atissueness: An empirical study. In Gregory Kierstead (ed.), *Proceedings of the 2011 ESSLLI: Workshop on Projective Content*, 171–184. Columbus: The Ohio State University.