Readings of Hebrew Multiple Questions

Hadas Kotek
Massachusetts Institute of Technology

1. Introduction

This paper investigates the possible readings of Hebrew multiple *wh*-questions. It expands on a correlation between the syntax and semantics of multiple questions observed in Kotek (ms.):

(1) *The interaction between superiority, intervention effects and readings of Hebrew questions*
    a. Superiority-obeying questions never exhibit intervention effects; they may have single-pair answers as well as pair-list answers.
    b. Superiority-violating questions are grammatical but they are sensitive to intervention effects; they may only have pair-list answers but not single-pair answers.

In particular, the paper surveys more evidence for the restriction on single-pair readings of multiple questions. This is a surprising finding in light of previous literature that show that in some cases, the single-pair reading is the *only* available reading of a multiple question (Dayal 2002).

The paper is structured as follows: the remainder of this section briefly surveys the syntax of multiple questions assumed in this paper, and discusses the single-pair and pair-list readings of multiple questions. Section 2 discusses the correlation between superiority and readings of multiple questions in Hebrew, and presents some related data from German. An economy-based account of these data based on the proposals in Fox (ms.) and Kotek (ms.) is sketched. Section 3 presents novel data from embedded questions, where different embedding predicates seem to strongly prefer or even force just one kind of reading in a way that is unpredicted from the account of section 2. Finally, desiderata for a full theory of economy and readings of multiple questions are discussed.

1.1. The syntax of multiple questions

Pesetsky (2000) observes a correlation between superiority and intervention effects in English multiple questions with D-linked *wh*-phrases. Examples of the data that motivate this observation are given in (2)-(3): (2a-b) show that English generally allows both superiority-obeying questions and superiority-violating questions with D-linked *wh*-phrases. (3a-b) show that when an intervener—here, negation—is introduced into the questions, only the superiority-obeying structure is grammatical. The superiority-violating question is ungrammatical.

(2) *D-linked questions can violate superiority*
    a. *Which boy read which book*?   Superiority-obeying
    b. *Which book did which boy read?*   Superiority-violating

(3) *Intervention effect in a D-linked question*
    a. *Which boy didn't read which book*?   Superiority-obeying
    b. **Which book didn't which boy read?*   Superiority-violating

To explain the grammaticality pattern of (2)-(3), Pesetsky (2000) assumes that *wh*-phrases in multiple questions have different movement options available to them depending on the structure that they are in: Superiority-obeying questions can be derived from a structure in which all *wh*-phrases move to C at LF (cf. also Beck 2006, Cable 2010). Interrogative probing, abiding by the *Attract Closest* principle (Chomsky 1995, a.o.), ensures that the *wh*-phrases are attracted to C in an order-preserving manner. A *pronunciation rule* will ensure that when there are multiple elements in specifiers of C, the highest one will be pronounced at the head of its movement chain, and all others will be pronounced at the tail of their respective chains.

To derive a superiority-violating question, it is necessary to not raise the *wh*-phrase realizing the structurally higher argument of the predicate to Spec,CP. This allows the *wh*-phrase realizing the structurally lower argument of the predicate to be attracted to the highest specifier of C. The resulting structures are given in (4), where for each *wh*-phrase, the position of pronunciation is underlined.

(4) *Structure of superiority-obeying and superiority-violating questions*
    a. [$_{Spec,CP}$ [<u>*wh*-phrase</u>$_1$] [*wh*-phrase$_2$] [C [$_{TP}$ … t$_1$… <u>t</u>$_2$]]]   Superiority-obeying
    b. [$_{Spec,CP}$ [<u>*wh*-phrase</u>$_2$] [C [$_{TP}$ … [<u>*wh*-phrase</u>$_1$] … t$_2$]]]   Superiority-violating

Intervention effects occur when an intervener – an element that associates with focus – occurs between an in-situ *wh*-word and the C head that it Agrees with at LF (Beck 2006).

(5) *LF Configuration of an intervention effect*
    *[C [... INTERVENER ... *wh*-word ...]]

Given this schema for intervention effects, we predict that such effects should arise for superiority-violating questions when an intervener is introduced between the *wh*-word which is left in situ and C. We expect not to find intervention effects for superiority-obeying questions, since all *wh*-phrases in that question move to C by LF. This is summarized in (6) below.

(6) *The interaction of superiority and interveners at LF*
    a. Superiority-obeying questions: no intervention effects
       ✓ [$_{Spec,CP}$ [*wh*-phrase$_1$] [*wh*-phrase$_2$] [C [$_{TP}$ … INTERVENER … t$_1$… t$_2$]]]
    b. Superiority-violating questions: intervention effects
       * [$_{Spec,CP}$ [*wh*-phrase$_2$] [C [$_{TP}$ … INTERVENER … [*wh*-phrase$_1$] … t$_2$]]]

1.2. Readings of multiple questions

The literature recognizes three different readings of multiple *wh*-questions: the pair-list reading, the single-pair reading, and the echo-question reading (Wachowicz 1974, Pope 1976, Bolinger 1978, Comorovski 1989, Dayal 1996). This paper concentrates on the first two readings, and will not discuss the last one. To see the difference between the single-pair answer and the pair-list answer to a question, consider two situations in which the multiple *wh*-question *who cooked what?* can occur and the answers it admits in those situations.

Suppose that we are in a context in which we know that one person was cooking and that they only cooked one dish, but we are ignorant as to who the cook was and what dish they cooked. In that case, we might ask (7a) in order to find out the identity of the single cook-dish pair given in the context. This is the *single-pair* reading of the question, with the possible answer in (7b).

(7) *Single-pair answer to a multiple question*
    a. *Who cooked what?*
    b. John cooked the meat.

Next suppose that we are in a context in which there are several dishes on the table, and we know that several people have cooked these dishes. We can then ask the question in (8). In this case, we are

interested in the proper pairing between two sets that are given in the discourse. Crucially, this reading presupposes that there are at least two pairs in the list. This is the *pair-list* reading of the question.

(8) *Pair-list answer to a multiple question*
    a. *Who cooked what?*
    b. John cooked the meat, Bill cooked the rice, and Sue cooked the vegetables.

Dayal (2002) shows that pair-list readings presuppose (a) <u>Exhaustivity</u>: every member of the set quantified over by the overtly moved *wh*-phrase is paired with a member of the set quantified over by the in-situ *wh*-phrase; and (b) <u>Point-wise uniqueness</u> (functionhood): every member of the set quantified over by the overtly moved *wh*-phrase is paired with no more than one member of the set quantified over by the in-situ *wh*-phrase. The exhaustivity and uniqueness presuppositions are illustrated in examples (9)-(10) (taken from Fox ms.).

The context in (9a) allows for a pair-list answer (as well as a single-pair) because it is possible to give an exhaustive answer that accounts for each of the children. In the context in (9b), on the other hand, to give a pair-list answer we would be forced to assume that two kids are assigned to the same chair, making this reading deviant. Hence only a single-pair answer is felicitous in this context.

The context in (10a) allows for a unique chore to be assigned to each boy, but (10b) leaves one chore that is not assigned to any boy, or else the 1:1 pairing is lost. Hence only a single-pair answer is felicitous in this context.

(9) *Exhaustivity presupposition:*
    a. Guess which one of these 3 kids will sit on which of these 4 chairs
       good with a single-pair answer and with a pair-list answer
    b. Guess which one of these 4 kids will sit on which of these 3 chairs
       only good with a single-pair answer

(10) *Uniqueness presupposition:*
    The Jones family (3 boys) will not sit down for dinner before the boys do all of the chores.
    a. I wonder which one of the 3 boys will do which one of the 3 chores.
    b. #I wonder which one of the 3 boys will do which one of the 4 chores.
      Suggests that the boys will not do all of the chores.

Although generally both a single-pair reading and a pair-list reading are available to a multiple question, Dayal (2002) finds that there can be syntactic restrictions on possible readings. When the lower *wh*-phrase is contained inside an island, only a single-pair reading of the question is possible.[1,2] Following the standard assumption that possible answers to a question specify values for all and only those *wh*-expressions that take matrix scope in that question, the island sensitivity data in (11) led Dayal (2002) to propose that pair-list readings are derived through actual movement of the lower *wh*-phrase, but the single-pair reading is derived using a choice-function mechanism (Reinhart 1997).

(11) *Multiple question with island: only single-pair is possible*
    a. Which linguist will be offended if we invite which philosopher?
    b. Professor Smith will be offended if we invite Professor Brown.
    c. #/*Professor Smith will be offended if we invite Professor Brown, and Professor King will be offended if we invite Professor Matthew

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[1] With the exception of the so-called "*wh*-triangle," which I will not discuss here.
[2] Note however that these judgments have recently been disputed; cf. e.g. Cheng and Demirdache (2010). In (i) (attributed in C&D to Tancredi (p.c.)), only a pair-list reading is available. The single-pair answer is infelicitous.

(i)a. Context: each of two philosophers will be offended if we invite one of two linguists. What I want to know is,
   b. Q: Which philosopher will be offended if we invite which linguist?
   c. A: Quine will be offended if we invite Chomsky and Lewis will be offended if we invite Kayne.
   d. #A: Quine will be offended if we invite Chomsky.

2. Restrictions on readings of Hebrew questions

Reinhart (1998), inspired by unpublished work in Golan (1993), suggests a semantic account of superiority. The account aims to explain the difference in grammaticality between superiority-obeying and superiority-violating question-pairs like (12a-b). According to this account, English has economy principles that require optimization of syntactic structures that are paired with semantic meaning. If more than one structure may express the same meaning, the simpler one is chosen. Hence, in the case of (12a-b), the superiority-violating question is blocked by the existence of the superiority-obeying construction.

(12) a. Who cooked what?
   b. *What did who cook?

Reinhart's formulation is too strong, as it blocks the attested D-linked superiority-violating question in (13b). Fox (ms.) proposes an account similar to Reinhart's which is designed not to completely block certain syntactic structures but rather to regulate the distribution of possible readings of those structures.

(13) a. Which student cooked which dish?
   b. Which dish did which student cook?

Under this account, a superiority-violating question is possible only when its meaning is different from that of its superiority-obeying counterpart. That is, economy principles like "shortest move" are relativized to interpretation: one convergent derivation blocks another if it has shorter links and results in an interpretively equivalent LF representation. Derivations resulting in non-equivalent LFs are not compared and hence cannot block each other. This condition is inspired by Fox's (2000) work showing that optional movement is motivated only if it has an effect on the output. This paper will adopt a re-formulation of Fox's (ms.) principle of the Semantically Sensitive version of Shortest Move, proposed in Kotek (ms.).

(14) *Semantically Sensitive version of Shortest Move (SSSM)*
   Interrogative probes on C must attract the closest interrogative phrase they can to derive a designated semantic interpretation.

To see the predictions of SSSM, consider the possible answers to a pair of a superiority-obeying question and its superiority-violating counterpart. For each possible answer, a box marks the member of the pair(s) in the answer set to which the exhaustivity presupposition applies.

(15) Superiority-obeying question: *which student cooked which dish*?
   a. pair-list: ⟨ ⌐student1⌐ , dish a ⟩
        ⟨ student2 , dish b ⟩
        ⟨ student3 , dish c ⟩
             ...
   b. single-pair: ⟨ student , dish ⟩

(16) Superiority-violating question: *which dish did which student cook?*
   a. pair-list: ⟨ ⌐dish a⌐ , student1 ⟩
        ⟨ dish b , student2 ⟩
        ⟨ dish c , student3 ⟩
             ...
   b. single-pair: ⟨ dish , student ⟩

Under SSSM we predict that superiority violating questions should <u>allow</u> pair-list readings. This is so because overtly raising wh_2 over wh_1 yields a different meaning than overtly raising wh_1 above wh_2: the exhaustivity presupposition and the uniqueness presupposition apply to different sets in the

discourse, resulting in two distinct meanings of the two questions. For the superiority-obeying question in (15), exhaustivity and uniqueness apply to the students. The answer must pair each contextually relevant student with exactly one dish (but some dishes may not be mentioned at all, or some may be mentioned more than once). For the question in (16), exhaustivity and uniqueness apply to the dishes. The answer must therefore pair each dish with exactly one student (but some students may not be mentioned at all, or some may be mentioned more than once). Hence, these two answers are distinct from one another.

Crucially, SSSM predicts that superiority-violating questions should <u>not</u> allow single pair readings. This is so because applying the exhaustivity and uniqueness presuppositions to the first member of a single pair or to the second member of that pair necessarily results in the same meaning. Hence, the single-pair answers to (15) and (16) necessarily pick out the exact same pair. Consequently, the availability of the single-pair answer to the more-economical superiority-obeying question (15b) blocks that same answer from being available to the less-economical superiority-violating question (16b).

(17) *Availability of readings under SSSM*
    a. Superiority-obeying question:
      ✓ pair-list
      ✓ single-pair
    b. Superiority-violating question:
      ✓ pair-list
      ✗ single-pair

Kotek (ms.) shows that Hebrew exemplifies this exact pattern, cf. (18)-(19). Example (18) contains a superiority-obeying question. In that case, both a pair-list continuation (18a) and a single-pair continuation (18b) are felicitous. Example (19), on the other hand, contains a superiority-violating question. In that case, only a pair-list continuation (19a) is grammatical. The single-pair continuation (19b) is infelicitous.[3,4]

(18) *Possible answers to superiority-obeying question:* single-pair and pair-list
    ani yoda'at [*mi*] kara [*ma*]
    I   know who read what
    a. Yosi kara et   *LGB* ve-Dani kara et *Aspects*
       Yosi read OM *LGB* and-Dani read OM *Aspects*
       'Yosi read *LGB* and Dani read *Aspects*'.
    b. Yosi kara et   *LGB*
       Yosi read OM *LGB*
       'Yosi read *LGB*.

(19) *Possible answers to superiority-violating question:* pair-list only
    ani yoda'at [*ma*] kara [*mi*]
    I   know what read who
    a. et   *LGB* kara Yosi ve-et   *Aspects* kara Dani
       OM *LGB* read Yosi and-OM *Aspects* read Dani
       'Yosi read *LGB* and Dani read *Aspects*'.
    b. #/*et *LGB* kara Yosi

When a question occurs in a context in which it is known that there could only be one possible answer-pair, the superiority-violating variant of the question is ungrammatical.

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[3] I note that pair-list and single-pair answers with superiority-obeying structures as in (18a-b) are felicitous replies to superiority-violating questions such as (19). However, answers with superiority-violating structures as in (19a-b) are *not* felicitous answers to superiority-obeying questions. I thank Noah Constant for a discussion of this point.
[4] *et* is an object marker (OM), occurring on specific or definite direct objects in Hebrew. See relevant discussion in section 3.2.

(20) *Ungrammaticality caused by blocking of pair-list reading (Hebrew)*
    (i) Peter is walking his stubborn dog on the leash.
       The dog is dragging really hard in the direction of his favorite tree.
       a. [mi] molix kan [et   mi] le-tiyul?
         who walk   here OM who to-trip
         'Who is walking whom here?'
       b. *[et   mi] molix kan [mi] le-tiyul?
          OM who walk   here who to-trip
    (ii) I am sure that Peter and Mary must have talked to each other on the phone.
       a. ata   yodea [mi] hitkašer [le-mi]?
         you know who called   to-who
         'Do you know who called whom?'
       b. *ata yodea [le-mi] hitkašer [mi]?
         you know to-who called   who

Wiltschko (1997) observes a similar pattern in German multiple questions: superiority-violating questions whose answers are contextually constrained to single-pair are ungrammatical. One example is given in (21). Wiltchko characterizes this finding as a superiority effect, but native speakers inform me that, in fact, data similar to (18)-(19) also occurs in German: superiority-obeying questions allow for both pair-list and single-pair answers. Superiority-violating questions only allow pair-list answers. The single-pair answer is at least strongly dispreferred, if not impossible.

(21) *Ungrammaticality caused by blocking of pair-list reading (German)*
    Peter is walking his stubborn dog on the leash.
    The dog is dragging really hard in the direction of his favorite tree.
    a. Wer führt denn hier wen   an der Leine?
      who leads PRT here whom on the leash
      'Who is leading whom here on the leash?'
    b. *Wen führt denn hier wer an der Leine?

To summarize, we observe that superiority-obeying questions in Hebrew may have single-pair and pair-list answers; superiority-violating questions may only have pair-list answers but not single-pair answers. This generalization is explained by the "semantically sensitive shortest move" economy principle, under which one convergent derivation blocks another if it has shorter links and results in a interpretively equivalent LF representation.

3. More restrictions on readings of Hebrew questions

This section discusses novel data which is unpredicted from the SSSM principle of section 2. It first surveys two types of data that pose a problem for SSSM, and then discusses desiderata for a theory that explains these data, along with the original observation of section 2.

3.1. Embedded questions and embedding predicates

This section discusses multiple questions in embedded contexts. Of particular interest is the fact that different embedding predicates can favor, and sometimes even force, just one kind of reading— either pair-list or single-pair—regardless of whether the embedded question is superiority-obeying or superiority-violating. What is important in this case is the properties of the embedding predicate and the types of questions that they take. As a result, either the wording or the scope of the SSSM must be redefined.

As noted in Section 2, in out-of-the-blue cases – when no special context has been provided and when the question is not embedded – superiority-obeying questions allow both a pair-list answer and a single-pair answer in Hebrew; superiority-violating questions only allow pair-list answers but not single-pair answers. Under different question-embedding predicates, we observe that certain predicates bias or force one kind of reading. Predicates can thus be sorted into 5 types; a partial list is provided below.

(22) *Hebrew predicates sorted by the reading of the multiple question they embed*
    a. <u>No preference</u>: factive predicates (cf. Karttunen 1977 a.o.) – 'šaxax' (forget), 'zaxar' (remember), 'yodea' (know), 'hixlit' (decide)
    b. <u>Pair-list preferred</u>: 'gila' (find out), 'xašuv' (it's important), 'taha' (wonder), 'hisbir' (explain)
    c. <u>Pair-list only</u>: list-predicates (cf. Berman 1991, Schwarz 1993) – 'mana' (count), 'lo barur' (it's unclear), 'mešane' (it matters)
    d. <u>Single-pair preferred</u>: weak-exhaustive predicates (cf. Beck and Rullmann 1998) – 'nixeš' (guess), 'xaza' (predict)
    e. <u>Single-pair only</u> : 'lo ta'amin' (you wouldn't believe)

Crucially for this paper, there are predicates in (22) that can prefer or force a single-pair interpretation and can embed superiority-violating questions. The SSSM leads us to expect such a situation to lead to ungrammaticality, contrary to fact. Before discussing this in more detail, however, let us briefly attend to the other types of embedding predicates. One example of each predicate-type in (22a,b,c) is given in (23)-(25) below. The possible readings of each structure/predicate pairing are given in parenthesis.

(23) *Embedded question with* know: same reading possibilities as unembedded question
    a. Dani yodea eize   student bišel   eize tavšil
      Dani knows which student cooked which dish
      'Dani knows which student cooked which dish' (Pair-list and single-pair)
    b. Dani yodea eize   tavšil bišel   eize   student
      Dani knows which dish   cooked which student
      'Dani knows which dish which student cooked' (Pair-list only)

(24) *Embedded question with* wonder: pair-list preferred
    a. Dani taha   eize   student bišel   eize tavšil
      Dani wondered which student cooked which dish
      'Dani wondered which student cooked which dish' (Pair-list (preferred) and single-pair)
    b. Dani taha   eize tavšil bišel   eize student
      Dani wondered which dish   cooked which student
      'Dani wondered which dish which student cooked' (Pair-list only)

(25) *Embedded question with* unclear: pair-list only
    a. lo barur eize   student bišel   eize tavšil
      neg clear which student cooked which dish
      'It's unclear which student cooked which dish' (Pair-list only)
    b. lo barur eize tavšil bišel   eize student
      neg clear which dish   cooked which student
      'It's unclear which dish which student cooked' (Pair-list only)

Examples (26)-(27) show embedding predicates that either prefer or force a single-pair reading of the question that they embed. The embedded question may have a single-pair reading when it is superiority-obeying, but unexpectedly also when it is superiority-violating.

(26) *Embedded question with* guess: single-pair preferred
    a. lo   tenaxš eize   student bišel   eize tavšil!
      neg guess which student cooked which dish
      'you wouldn't guess which student cooked which dish' (Pair-list and single-pair (preferred))
    b. lo   tenaxš eize   tavšil bišel   eize student!
      neg guess which dish   cooked which student
      'you wouldn't guess which dish which student cooked' (Pair-list and single-pair (preferred))

(27) *Embedded question with* believe: single-pair only[5]
    a. lo   ta'amin eize   student bišel   eize   tavšil!
      neg believe   which student cooked which dish
     'you wouldn't believe which student cooked which dish' (Single-pair only)
    b. lo   ta'amin eize   tavšil bišel   eize   student!
      neg believe   which dish   cooked which student
     'you wouldn't believe which dish which student cooked' (Single-pair only)

    The availability of a single-pair reading for the superiority-violating question in these cases is not predicted by SSSM. Rather, since SSSM categorically rules out the possibility of having single-pair readings of superiority-violating questions, we might expect that predicates that embed only questions with single-pair readings will simply be incompatible with superiority-violating questions.

    A less severe problem, yet one that is not explained thus far, is the case of predicates that only take questions with pair-list readings. All things being equal, SSSM predicts that we should always be able to embed questions with single-pair readings if they are superiority-obeying. However, this seems to be blocked by the specifications of the predicates. Although not predicted, this state of affair is compatible the SSSM. The problem is a general one: an account of this phenomenon in unembedded contexts (cf. Beck and Sharvit 2002 and prior works cited therein) should be able to extend to embedded cases as well.

    The presence of single-pair for superiority-violating questions and the possible absence of pair-list or single-pair for superiority-obeying questions under certain embeddings both indicate that the current SSSM is too restrictive. In particular, what seems to be missing is an explicit definition of the domain that the SSSM applies to. The original SSSM only considers the syntactic derivation of a certain question and compares it with other alternative derivational paths that lead to the same meaning. However, it is possible to also consider the speech-act level presuppositions that are attached to the question, the implicatures, and other aspects of the pragmatics of use of the question. In light of the data from embedded predicates above, it follows the SSSM must consider not only derivational paths but also presuppositions and other information-structural requirements of the question and the environment it appears in. Consequently, the SSSM compares not only structures but also uses, making it flexible enough to capture the data presented in this section.

3.2. The scope of SSSM

    A more flexible construal of the SSSM may help account for one additional fact: Kotek (ms.) shows that Hebrew distinguishes between two kinds of *wh*-phrases: those that are headed by a *wh*-word (<u>*wh*-headed phrases</u>: *what*, *who*, [$_{DP}$ *which* X], *where*, *how* ...) and those that contain a *wh*-word but are headed by another element (<u>*wh*-containing phrases</u>: [$_{NP}$ N *of wh*], [$_{PP}$ P *wh*]). The two categories are distinguished by the interrogative probing operations that apply to them: *wh*-headed phrases can be targeted by Agreement and movement operations that are not available to *wh*-containing phrases. This behavior is observed in multiple *wh*-questions with a base-generated higher *wh*-containing phrase and lower *wh*-headed phrase. In that case, the superiority-violating question (in which the *wh*-headed phrase has been overtly extracted over the *wh*-containing phrase) exhibits superiority-obeying-like behavior: it is not sensitive to intervention effects and it can have a single-pair reading as well as a pair-list reading.

    The relevant data is given in (28) below. The questions in (28b-c) vary minimally in whether or not they contain the object marker *et* on the *wh*-word *ma* ('what'). The object marker introduces a D-linking-like effect, where answers must be selected from a contextually-specified familiar set (Danon 2001), and it can be optionally omitted when it occurs before *ma*. Hence, the addition of *et* affects the speech-level presuppositions of a question, but not its meaning. Following Danon (2001) and Falk (1991) *et* is treated as a preposition. Under the Kotek (ms.) classification, then, bare *ma* is a *wh*-headed phrase but *et ma* is a *wh*-containing phrase.

    The context in (28) limits the possible answer set to just one pair. Following section 2, we predict that the superiority-obeying question will be grammatical but the superiority-violating question will be ungrammatical, since superiority-violating questions in Hebrew may only have pair-list readings. We

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[5] I thank Hagit Borer for a discussion of this example, as well as contexts with other embedding predicates.

find, however, that although the superiority-violating question in (28b) is indeed ungrammatical, the minimally different variant which lacks the object marker on *ma* in (28c) is grammatical.

(28) *Single-pair answer unexpectedly possible with unembedded superiority-violating question*
    I know that the teacher assigned one book to one particular student. Can you tell me:
    a. [et mi] ha-mora šixne'a ___ [likro (et) ma]]?
        OM who the-teacher persuaded to.read OM what
        'Who did the teacher persuade to read what?'
    b. *[et ma] ha-mora šixne'a [et mi] [likro ___]?
        OM what the-teacher persuaded OM who to.read
    c. ✓ [ma] ha-mora šixne'a [et mi] [likro ___]?
        what the-teacher persuaded OM who to.read
       'What did the teacher persuade whom to read?'

To account for this data, Kotek (ms.) argues that the Hebrew interrogative probing system is fine-grained. The C head does not probe for *wh*-phrases wholesale; rather it is sensitive to the features: *wh* and *Q*. *Wh*-containing phrases have a *Q* feature (cf. Cable 2010, Hagstrom 1998); *wh*-headed phrases have a *Q* feature and in addition also a *wh* feature. Under these conditions, it is possible to derive the question in (28c) from a superiority-obeying-like structure, but that it is not possible to give (28b) a similar derivation. This system makes correct predictions about an intricate set of data involving intervention effects in Hebrew multiple questions and provides an explanation for the availability of the single-pair reading of superiority-violating questions with structures like (28c).[6]

Although we have an explanation for the grammaticality pattern of (28b-c), under the SSSM of section 2 we may encounter difficulties explaining why questions with bare *ma* do not entirely block parallel questions with *et ma* (that is, why (28a) with *et ma* – under any reading – and (28b) under a pair-list reading, are grammatical). The question that lacks the object marker is identical in meaning to the one that contains it, except for the D-linking effect it introduces. Structurally, the two questions differ in that one contains an extra morpheme that the other lacks. Since the SSSM of section 2 prefers simpler ways of expressing the same meaning over more complex ways, and is not sensitive to speech-act level presuppositions of the questions, it may lead us to expect that questions with *et* should be blocked entirely. The more sensitive SSSM that operates on pragmatic information as well as pure semantic and syntactic information, however, does not make a similar prediction. Under this version of the SSSM, the D-linking effect of the object marker *et* creates a difference in meaning between questions like (28b-c) which the SSSM is sensitive to. Therefore, the *et*-less question will not block the question that contains *et*. Hence, we have a second argument for broadening the scope of the SSSM.

4. Conclusion

This paper explored the implications of the observation made in Kotek (ms.) that the readings a question may have vary depending on its structure: Superiority-obeying questions may have a single-pair reading as well as a pair-list reading, while superiority-violating questions may only have a pair-list reading but not a single-pair reading. Following Fox (ms.), this finding was analyzed in Kotek (ms.) as stemming from a global economy condition, the Semantically Sensitive version of Shortest Move (SSSM), which blocks a structure from having a certain meaning if the same meaning could be expressed through a simpler structure.

The paper introduced two challenges to this version of the SSSM:

First is the existence of classes of predicates which embed multiple questions and require that the embedded question have just one type of reading. Of particular interest were predicates which favored

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[6] Recall that that *et ma* is a *wh*-containing phrase but *ma* is a *wh*-headed phrase. Hence, the structure associated with (28b) is QP ≫ QP, and the structure associated with (28c) is QP ≫ *wh*QP. In a probing system that searches for *wh* and *Q* features, we can find the lower phrase in (28c) in the first probing operation if we search for a *wh*-feature. There is no operation that can find the lower QP in (28b) without first finding the higher QP. This difference in probing options leads to different derivational paths for these two questions, leading to different predictions for the readings of these questions as well as the pattern of intervention effects they give rise to. The reader is referred to Kotek (ms.) for additional details.

or forced a single-pair interpretation of their embedded question regardless of whether it is superiority-obeying or superiority-violating. The availability of superiority-violating questions with single-pair interpretations in these embedded contexts is not predicted by the SSSM.

Second is the grammaticality of questions with the optional object marker *et*. The object marker creates a D-linking presupposition on the *wh*-word it occurs with. This changes the conditions of use of the question – affecting the speech-level presuppositions – but it does not change the meaning of the question itself. This identity in meaning causes the SSSM to incorrectly predict that questions with the object marker should always be blocked by the parallel questions without the object marker.

To solve both problems, the paper suggested that the SSSM should be sensitive not only to the pure syntax and semantics of the question, but also to the pragmatics – or conditions of use – of the questions it compares. A full theory of the SSSM is left for future work.

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