ON THE INTERPRETATION OF MULTIPLE QUESTIONS[1]

ŽELJKO BOŠKOVIĆ
University of Connecticut

Abstract: The paper shows that crosslinguistically, overt movement of a wh-phrase to SpecCP results in the loss of the single-pair interpretation for multiple questions, i.e. it forces the pair-list interpretation. It is shown that the damaging effect of overt movement to SpecCP on the availability of single-pair answers can be accounted for with an extension of Hagstrom's (1998) semantics of questions to languages with overt wh-movement. More precisely, the effect is argued to follow from Relativized Minimality: In questions with a single-pair interpretation, the Q morpheme, which is base-generated below C, induces a relativized minimality effect when a wh-phrase crosses it on its way to SpecCP.

Keywords: multiple questions, pair-list answers, relativized minimality, single-pair answers, superiority, wh-movement.

1. Pair-list vs single-pair answers to multiple questions

It is well-known that a pair-list answer is obligatory in English questions such as (1).[2]

---

[1] For helpful comments and discussion, I thank participants of my syntax seminars at the University of Connecticut, Marcel den Dikken, Paul Hagstrom, Howard Lasnik, and especially Mamoru Saito. The paper in fact grew out of discussions with Mamoru Saito. For help with (non-English) judgments, I thank Michèle Bacholle, Cédric Boeckx, and Géraldine Legendre (French), Roumyana Izvorski and Penka Stateva (Bulgarian), Sandra Stjepanović and Saša Vukić (Serbo-Croatian), Arthur Stepanov (Russian), Masao Ochi and Mamoru Saito (Japanese), Suba Rangaswami (Hindi), Sigrid Beck (German), and C.-T. James Huang (Chinese). An earlier version of the paper was posted at http://mitpress.mit.edu/celebration in honor of Noam Chomsky's 70th birthday.

[2] The observation is sometimes attributed to Mark Ryser. However, it appears that it was first made by Wachowicz (1974). For relevant recent discussion, see Barss (2000), Comorovski (1996), and Hornstein (1995), among others. For some exceptions to Wachowicz's observation, which will not be discussed here, see Ausín (in preparation), Bošković (2000b), and Comorovski

(1) Who bought what?

(1) cannot be felicitously asked in the following situation: John is in a store and in the distance sees somebody buying a piece of clothing, but does not see who it is and does not see exactly what the person is buying. He goes to the sales clerk and asks (1).

Interestingly, single-pair answers are not crosslinguistically infelicitous with questions such as (1). Thus, the Japanese counterpart of (1) can have either a single-pair or a pair-list answer.[3] That is, in addition to situations appropriate for pair-list readings, (2) can also be used in the situation described above, in contrast to English (1).

(2) Dare-ga nani-o katta no?
who-nom what-acc bought Q
'Who bought what?'

Nonsubject questions can also have a single-pair answer in Japanese.

(3) John-wa dare-ni nani-o ageta no?
John-top who-dat what-acc gave Q
'What did John give to whom?'

Chinese and Hindi pattern with Japanese in the relevant respect. German, on the other hand, patterns with English. One obvious difference between English/German and Japanese/Chinese/Hindi is that the former are languages with overt movement of wh-phrases to SpecCP, whereas the latter are wh-in-situ languages; that is, interrogative SpecCPs must be filled in overt syntax by a wh-phrase in English and German, but not in Japanese, Chinese, and Hindi.[4] It is possible that the obligatoriness of syntactic movement of a wh-phrase to SpecCP for some reason forces the pair-list interpretation. French provides strong evidence to this effect.

French is a language that can employ either the in-situ or the wh-

---

(1996).

[3] The Japanese data were brought to my attention by Mamoru Saito.

[4] I ignore here the possibility of null operator movement in wh-in-situ languages (see Watanabe 1992) and concentrate on what happens to wh-phrases themselves.

movement strategy in questions.[5] Significantly, single-pair answers are possible in French, but only in in-situ questions. Thus, the in-situ multiple question in (4a) can have a single-pair answer. This answer is degraded with (4b), involving overt wh-movement.

(4) a. Il a donné quoi à qui?
he has given what to whom
'What did he give to whom?'
b. Qu'a-t-il donné à qui?

That the availability of single-pair answers correlates with the possibility of not moving any wh-phrase to SpecCP overtly is also confirmed by the interpretation of multiple questions in South Slavic. As shown in (5), South Slavic languages Bulgarian and Serbo-Croatian (SC) front all wh-phrases in questions.[6]

(5) a. Koj na kogo kakvo e kazal? (B)
who to whom what is said
'Who said what to whom?'
b. Ko je kome šta rekao? (SC)
who is whom what said

Rudin (1988) shows that in spite of the superficial similarity, SC and Bulgarian multiple wh-fronting questions have a different structure. According to Rudin, whereas in Bulgarian all fronted wh-phrases are located in SpecCP, SC does not allow more than one wh-phrase to be located in SpecCP overtly, other fronted wh-phrases being located below the CP projection. In Bošković (1998a, 1999, 2000b) I show that the difference between Bulgarian and SC is even deeper. In particular, I show that SC questions such as (5b) do not have to involve any overt wh-movement (i.e. movement to SpecCP).

Turning now to the interpretation of multiple questions in South Slavic, notice that Bulgarian, a multiple wh-fronting language in which interrogative SpecCPs are obligatorily filled by a wh-phrase overtly, patterns with English with respect to the availability of single-pair answers, whereas SC, a multiple wh-fronting language in which no wh-phrase has to move to interrogative SpecCPs

[5] The in situ-strategy actually has a very limited distribution in French. (For discussion, see Bošković 1998b, 2000a). Notice that I confine my discussion of French to non-subject questions, where it is clear whether the wh-movement or the wh-in-situ option is employed.

[6] For some exceptions that need not concern us here, see Bošković (1998a, 2000b).

overtly, patterns with Japanese: whereas Bulgarian (6a) must have a pair-list answer, SC (6b) can have either a pair-list or a single-pair answer.

(6) a. Koj kakvo e kupil? (B)
who what is bought
'Who bought what?'
b. Ko je šta kupio? (SC)
who is what bought

I argue in Bošković (1998c, 2000b) that interrogative C is responsible for the different behavior of Bulgarian and SC with respect to overt wh-movement. I argue that in both languages, C has a strong +wh feature, which under Chomsky's (1995) virus theory of strength means that it triggers overt wh-movement immediately upon its insertion into the structure. The difference between SC and Bulgarian is that in SC, interrogative C can be inserted either covertly or overtly in questions like (5b) and (6b), whereas in Bulgarian questions like (5a) and (6a), interrogative C must be inserted overtly. Since overt insertion of C triggers overt wh-movement, wh-movement always must take place overtly in Bulgarian. This is not the case in SC, where interrogative C can be inserted covertly, hence wh-movement does not have to take place overtly. The reason why Bulgarian C must be inserted overtly is that it is lexically specified as a PF affix on a finite verbal element, which is not the case with SC interrogative C. The presence of PF information in its lexical entry prevents Bulgarian interrogative C from entering the structure covertly. (Only elements whose phonological lexical specification is null can enter the structure covertly because phonological information is uninterpretable at LF. If such elements enter the structure overtly, spell-out strips off phonological information, so that it does not enter LF.) Evidence for the different status of the Bulgarian and SC interrogative C with respect to PF affixood is provided by the fact that in Bulgarian, interrogative C must be adjacent to a verbal element, which is not the case in SC. This is illustrated in (7).[7]

[7] The different behavior of French and English with respect to the obligatoriness of overt wh-movement, illustrated in (i), is analyzed in the same way in Bošković (2000a), where it is claimed that French wh-in-situ constructions involve LF C-insertion. LF C-insertion is blocked in English for the same reason it is blocked in Bulgarian: English interrogative C is lexically specified as a PF verbal affix, which is not the case with French interrogative C. Like Bulgarian and SC, French and English differ in that inversion in matrix question is obligatory in English, but not in French. (See (ii). This holds for matrix questions in English. For an analysis of the lack of inversion in English embedded questions, see Bošković 2000a.) We thus have a uniform account of the different behavior of Bulgarian, SC, French, and English with respect to the obligatoriness of inversion and overt wh-movement.

(7) a. *Kakvo toj dade na Petko? (B)
what he gave to Petko
'What did he give to Petko?'
b. Kakvo dade toj na Petko?
c. Šta on dade Ivanu? (SC)
what he gave Ivan
'What did he give to Ivan?'

Interestingly, there are some constructions in which C must be inserted overtly in SC, hence wh-movement must take place overtly. One such construction is the left-dislocation construction (LD), illustrated in (8).[8]

(8) Tom čoveku, ko je šta poklonio?
that man who is what given
'To that man, who gave what?'

Rudin (1993) discusses the LD construction in Bulgarian and argues that LD phrases are adjoined to CP. If this is correct LD phrases can be present in the structure only when the CP projection is present overtly. Overt insertion of the interrogative C triggers wh-movement. (8) then must involve overt wh-movement. Significantly, as expected, (8) allows only a pair-list answer.

It is worth noting here that in Bošković (1998a,c 1999), I show that the well-known fact that Bulgarian questions such as (6a) exhibit Superiority effects whereas SC questions like (6b) do not (see Rudin 1988) also can be accounted for if Bulgarian questions must involve movement to SpecCP while SC questions do not have to. (Those questions where SC must have wh-movement do exhibit Superiority effects, see Bošković 1997, 1998a,c, 2000b.) The analysis of multiple wh-fronting presented in Bošković (1998a,c, 1999, 2000b) thus presents a uniform account of the different behavior of Bulgarian and SC with respect to Superiority,

---

(i) a. Tu as vu qui?
you have seen who
'Who did you see?'
b. *You have seen who?
(ii) a. Qui tu as vu?
who you have seen
'Who did you see?'
b. *Who you have seen?

[8] For other such cases, running the test performed below for the LD construction faces interfering factors, as observed in Bošković (2000b).

inversion in questions, and the availability of single-pair answers.

The analysis is also nicely confirmed by Russian, which, like SC, does not exhibit Superiority effects, allows single-pair answers with questions like (9), and does not have to have inversion in constructions corresponding to (7) (see Stepanov 1998a and Bošković 1998a, 2000b).

(9) Kto čto kupil?
who what bought
'Who bought what?'

(10) Čto on dal Ivanu?
what he gave Ivan
'What did he give to Ivan?'

Stepanov (1998) argues that Russian differs from SC in that its interrogative C has a weak +wh feature, hence does not trigger overt wh-movement even when it is inserted overtly. This proposal nicely accounts for the fact that, in contrast to SC (8), Russian LD constructions like (11) do allow single-pair answers. (The proposal, however, makes the inversion test irrelevant.)

(11) A etomu čeloveku kto kogo predstavil?
and that man who whom introduced
'And to that man, who introduced whom?'

The data considered above strongly indicate that syntactic movement of a wh-phrase to SpecCP results in the loss of the single-pair interpretation, i.e., it forces the pair-list interpretation. In the following sections I will show that Hagstrom's (1998) theory of interpretation of questions can explain the damaging effect of overt movement to SpecCP on the availability of single-pair answers given some rather straightforward assumptions.

2. Hagstrom (1998)

Hagstrom (1998) provides a semantics for single-pair and pair-list readings of multiple questions in wh-in-situ languages. He proposes that the types of a multiple question with a pair-list reading and a multiple question with a single-pair reading differ; while a single-pair multiple question is a set of propositions (type <pt>[9]), a pair-list reading multiple question stands for a set of questions, i.e., a set of sets of propositions (type <pt,t>). Hagstrom makes the following

[9] P stands in for whatever the appropriate type of a proposition is in basic terms (see Hagstrom 1998:129).

assumptions about the pragmatics of questions, which result in single-pair answers for utterances of type <pt> and pair-list answers for utterances of type <pt,t>.

(12) Single Question Recognition
If the semantic value of an utterance is of type <pt> (a set of propositions), then the utterance is a (single) question.
To respond: (a) one proposition from the set is selected,
or (b) the presupposition (that there is an answer) is denied.

(13) Multiple Question Recognition
If the semantic value of an utterance is of type <pt,t> (a set of questions), then the utterance is a (pair-list) multiple question.
To respond: For each member set A,
(a) one proposition from the set A is selected,
or (b) the presupposition (that there is an answer in A) is denied.

The crucial ingredient in Hagstrom's analysis is his proposal that the Q-morpheme in languages he considers (all wh-in-situ languages) is an existential quantifier over choice functions,[10] which originates in a clause internal position and then moves to within the interrogative CP projection. (Hagstrom assumes that the semantic value of a wh-word is a set of individuals.) In multiple questions, which we are interested in here, the movement takes place from one of the following two positions[11]: from the lower wh-phrase (on this derivation Q is merged with the lower wh-phrase), in which case the choice function variable left behind by Q-movement has the lower, but not the higher wh-phrase in its scope, or from a position above both wh-phrases (on this derivation Q is merged with a node dominating both wh-phrases)[12], in which case the choice function variable left behind by Q-movement has both wh-phrases in its scope. Hagstrom shows that the first option results in questions with pair-list answers and the second option

[10] A function f is a choice function if it applies to a (non-empty) set and yields a member of that set.

[11] I limit my discussion to multiple questions with two wh-phrases.

[12] Hagstrom's analysis is slightly more complicated. He suggests that the Q-morpheme is actually moving to this position prior to undergoing Q-movement by an island-insensitive operation he refers to as Q-migration. I disregard Q-migration here, since it has no semantic import in Hagstrom's analysis.

in questions with single-pair answers.[13]

Consider first the pair-list reading, with an abstract structure in (14), where Q marks the LF position of the choice function variable.

(14) C [WH1 V WH2+Q]

The choice function takes WH2, a set of individuals, as its argument, returning an individual, which is in turn taken by the verb as an argument. WH1, which is outside the scope of Q, has a set as its value. With the help of flexible functional application,[14] further composition is performed with each of the individuals in the set of individuals WH1, yielding a set of sets of propositions, one set of propositions for each value x in the set of WH1. With WH1 being *who*, WH2 *what*, and V *bought*, we get a set like (15),

(15) {{A bought f_1 (WHAT), A bought f_2 (WHAT),...},
{B bought f_1 (WHAT), B bought f_2 (WHAT),...},...}

or, informally, the set {What did A buy?, What did B buy?...}. (For details of the

---

[13] Hagstrom also suggests that in some wh-in-situ languages (i.e., languages that do not have overt movement to SpecCP), the second option is simply not available, which rules out single-pair answers to multiple questions in such languages. I will show below that this option is always ruled out on principled grounds in languages with overt wh-movement to SpecCP. The state of affairs we will be left with is then the following: Languages with obligatory overt movement to SpecCP never allow single-pair answers (see, however, section 3 for one exceptional configuration), while wh-in-situ languages (I include here languages like SC) may, but do not have to, allow single-pair answers to multiple questions. It is important to bear this in mind when testing the predictions of the current analysis crosslinguistically.

[14] Flexible functional application is a way of repairing some semantic type mismatches, including the case where a function receives a set of arguments instead of a single argument. The repair is done by applying the function to each argument in the set of arguments, with results collected into a set. Following Rullmann and Beck (1997), Hagstrom gives the following formalization for flexible functional application:

(i) Flexible Functional Application
⟦f a⟧= (where F and a are sisters)
(i) f(a)
(ii) $\lambda m \exists x.[m=f(x) \wedge a(x)]$
(iii) $\lambda m \exists g.[m=g(a) \wedge f(g)]$
(iv) $\lambda m \exists g \exists x.[m=g(x) \wedge f(g) \wedge a(x)]$
whichever is defined.

composition, see Hagstrom 1998). A proper answer to a question like (14) will then provide an answer to each of the constituent questions, given (13).

Questions with single-pair answers have an abstract structure in (16), with both wh-phrases inside the scope of the choice function.

(16) C [Q [WH1 V WH2]]

Recall that the reason why (14) results in a set of questions is that WH1 is outside the choice function's domain. As a result, the set WH1 propagates through the semantics eventually yielding a set of sets of propositions. In (16), on the other hand, both wh-phrases are contained within the choice function's variable argument, as a result of which the set WH1 is reduced to one of its members, instead of propagating. Let us see how this happens.

WH2 yields a set of properties with the help of flexible functional application. This set of properties is applied to the set WH1, with each property in the set of properties being applied to each member of the set WH1. We end up with a set of propositions, one for each possible subject with each possible object. (V in (16) is *bought*.)[15]

(17) {A bought α, A bought β,... B bought α, B bought β, ...}
(where WH1={A,B...} and WH2={α, β,...})

(12) then ensures a single-pair answer.

3. Explaining the loss of single-pair answers with overt wh-movement

Recall that Hagstrom develops his semantics with respect to wh-in-situ languages. What he shows is that wh-movement is not required to derive the semantics of questions in such languages. If he is right, wh-phrases in wh-in-situ languages remain in situ throughout the derivation and they are eventually interpreted in situ. What moves is the Q-morpheme.

Chomsky (1995: 359) suggests that interpretive operations at the interface should be as simple as possible. To achieve this, forms that reach the level of LF should be unique if that is possible. We would then expect English and Japanese questions to have the same LF if that is possible. Accomplishing this appears

---

[15] See Hagstrom (1998) for details of the semantics. The following theorem Hagstrom gives is important in determining the contribution of the choice function. The theorem ensures that given a set A, the set of things one can choose from A in some manner will be that same set A.

(i) λa∃f.a=f(A) characterizes A.
(for A a set and f a choice function)

straightforward.[16] We need to posit a Q-morpheme in English, which would originate below the CP projection and would be interpreted in the same way as in Japanese-type languages. Finally, wh-phrases would be interpreted in situ, as in Japanese. The latter is straightforward under the copy theory of movement. What should be interpreted in English are copies left by wh-movement. Wh-phrases in SpecCP should then be deleted under copy-deletion in LF. English and Japanese questions would then be virtually identical in LF. Hagstrom's semantics of questions, developed with respect to wh-in-situ languages, can thus be applied to English questions.[17] This approach implies that overt wh-movement to SpecCP in English is driven by a strictly formal syntactic requirement, not present in Japanese. It is not driven by a semantic requirement.[18]

Consider now what implications this analysis has for the interpretation of multiple questions in languages with overt wh-movement. Recall that in a question with a single-pair answer, the Q-morpheme has to be generated above both wh-phrases. The wh-phrase moving to SpecCP overtly in English-type languages then has to cross the Q-morpheme.

(18) WH C Q [t wh]

It seems plausible to assume that the Q-morpheme interferes with the movement of the wh-phrase to the interrogative C (more precisely, SpecCP) via some version of relativized minimality.[19] The consequence of the intervening effect of the Q-morpheme is the loss of single-pair answers for multiple questions in English-type languages (i.e. languages with overt movement of a wh-phrase to SpecCP), a

[16] Hagstrom does not give an analysis of English.

[17] There are, of course, many details that remain to be worked out.

[18] Hagstrom draws the same conclusion.

Notice that the system can easily incorporate Cheng's (1997) analysis of cross-linguistic variation with respect to wh-movement. Incorporating Cheng's analysis would mean that wh-phrases are moving to SpecCP overtly to type a clause as a question in languages in which the Q-morpheme is phonologically null. Given Cheng's essentially functional motivation for overt movement to SpecCP in questions (the movement could still be implemented through a formal syntactic requirement), the Q-morpheme would be moving in LF in languages with overt wh-movement. For discussion of how Cheng's analysis can be applied to multiple wh-fronting languages, see Bošković (2000b), where it is argued that even wh-fronting that does not land in SpecCP in these languages can type a clause as a question.

[19] The +wh-feature is plausibly present in the interrogative C, the wh-phrase, and the Q-morpheme.

desirable result given the discussion in section 1.[20]

Questions with pair-list answers can be derived without any problems. Recall that in such questions the Q-morpheme is merged with the lowest wh-phrase. As a result, it does not interfere with wh-movement of the higher wh-phrase.[21]

(19) WH C [t wh+Q]

I conclude, therefore, that when applied to languages with overt wh-movement to SpecCP, Hagstrom's analysis of the semantics of questions explains the damaging effect that overt movement of a wh-phrase to SpecCP has on the availability of single-pair answers to multiple questions.

There is another respect in which Hagstrom's analysis of wh-in-situ languages can be profitably extended to English-type languages. It is well-known that scrambling of a direct object wh-phrase over a subject wh-phrase in Japanese constructions such as (20) does not result in a Superiority violation.

(20) a. Dare-ga kinoo nani-o katta no?
who-nom yesterday what-acc bought Q
'Who bought what yesterday?'
b. Nani-o dare-ga kinoo katta no?

Interestingly, Hagstrom observes that (20a) and (20b) do not receive the same interpretation. Whereas (20a) allows both a single-pair and a pair-list answer, (20b) allows only a single-pair answer.

---

[20] It follows that in multiple wh-fronting languages like SC and Russian, which have overt wh-fronting to a position below CP (see Bošković 2000b), the Q-morpheme is located above the position in question so that it is not crossed by the fronting of wh-phrases that land below SpecCP. Notice also that, given Chomsky's assumption that traces/copies are invisible to the operation Move (i.e., they cannot induce relativized minimality effects), the Q-morpheme itself cannot induce relativized minimality effects in LF in its base-generated position since its base-generated position is invariably filled by a trace in LF. (This is relevant for, for example, French wh-in-situ constructions, if they involve LF movement of a wh-phrase, as suggested in Bošković 1998b, 2000a).

[21] Recall that in English-type languages the Q-morpheme moves to the CP projection in LF (see fn. 18). Given that traces/copies of wh-phrases are invisible to the operation Move (see fn. 20), this movement proceeds without any problems. (It is also plausible that wh-phrases do not possess the feature that drives Q-to-C movement. For much relevant discussion, which seems to lead to this conclusion, see Hagstrom 1998, who gives several cases of intervention effect with respect to the Q-to-C movement.)

SC appears to pattern with Japanese in the relevant respect. As noted above, SC allows Superiority "violations", i.e., it allows a wh-phrase to move over another wh-phrase in constructions such as (21b) (see Rudin 1988 and Bošković 1997, 1998a,c, 1999, 2000b).

(21) a. Ko je šta kupio?
who is what bought
'Who bought what?'
b. Šta je ko kupio?

In my judgment, whereas (21a) allows both a single-pair and a pair-list answer, (21b) allows only a single-pair answer.[22] I will refer to the loss of the pair-list reading in grammatical constructions in which a wh-phrase is moved overtly over another wh-phrase as the interpretive superiority effect. Hagstrom provides an analysis of the interpretive superiority effect in Japanese which can be readily extended to SC. He assumes that Q cannot be stranded under movement of the wh-phrase merged with it in Japanese and observes that as a result, the Q-morpheme is fronted together with the direct object wh-phrase in (20b). In the fronted position Q has both wh-phrases in its scope. (More precisely, the choice function variable left by further movement of Q to the CP projection has both wh-phrases in its scope.) Consequently, the construction is compatible with a single-pair, but not with a pair-list answer.

Significantly, English also exhibits the interpretive superiority effect, which can be accounted for in essentially the same way as the interpretive superiority effect in Japanese and SC. Notice first that, in contrast to Japanese and SC, English exhibits the syntactic superiority effect in constructions corresponding to (20b) and (21b). As a result, such constructions are unacceptable in English regardless of their interpretation (**What did who buy?*). However, English also has constructions in which the syntactic superiority effect is voided. In particular, the syntactic superiority effect is voided in D-linked questions, as discussed in Pesetsky (1987).

(22) a. Which man saw which woman?
b. Which woman did which man see?

Significantly, Barss (1992) (see also Barss 2000) observes that (22b) differs from

[22] My judgment on the grammaticality status of (21b) on the pair-list reading is not shared by all speakers. It is possible that for the speakers who accept (21b) on this reading, the construction can be accounted for along the lines of German (23), discussed below.

(22a) in that it cannot have a pair-list answer. A single-pair answer is the only possibility with (22b). The interpretive superiority effect is thus also operative in English.[23] It can be accounted for in essentially the same way as in Japanese. Recall that with pair-list answers, the Q-morpheme is merged with the lowest wh-phrase. Overt wh-movement then places the whole complex *which woman*+Q in SpecCP. In LF Q must undergo QR from its SS position, which then corresponds to the LF position of the choice function variable. Since the choice function has both wh-phrases in its scope, the question is compatible only with a single-pair answer.[24]

Interestingly, Hagstrom argues on independent grounds that Q can be stranded by wh-movement of the wh-phrase it is merged with in German. (His argument is based on Beck's 1996 data.) If this is indeed true we would expect German constructions corresponding to (20b), (21b), and (22b) not to exhibit the interpretive superiority effect. (Note that German patterns with Japanese and SC with respect to syntactic superiority.) Since Q does not have to be affected by the movement of the direct object wh-phrase in (23) it can still undergo its LF movement from a position below the subject wh-phrase. The subject wh-phrase can then remain outside the scope of the choice function.

(23) Was hat wer gekauft?
what has who bought

The prediction is borne out. In contrast to (20b), (21b), and (22b), (23) is compatible with pair-list answers.[25]

---

[23] The status of (22a) on the single-pair reading is somewhat controversial. (The pair-list reading is clearly available.) Barss (1992, 2000) seems to imply that a single-pair answer is possible with D-linked questions like (22a). Other authors (for example, Comorovski 1996) give similar D-linked questions and consider them unacceptable on the single-pair reading. My informants do find single-pair answers to be somewhat more accessible with D-linked questions like (22a) than with non-D-linked questions like (1). Under the current analysis, on which *which man* in (22a) and *who* in (1) must move across a Q when undergoing wh-movement on the single-pair reading, the contrast between (22a) and (1) on the relevant reading can be related to the well-known fact that, in contrast to non-D-linked wh-phrases, D-linked wh-phrases in English can cross a wh-phrase in situ without inducing a Superiority effect and give a weaker violation than non-D-linked wh-phrases when crossing a wh-phrase in SpecCP (i.e. when moving out of a wh-island.)

[24] Recall that the wh-phrase in SpecCP deletes.

[25] It appears that (23) is incompatible with single-pair answers, which could be interpreted as indicating that Q-stranding is obligatory in German constructions like (23), which would disallow the single-pair reading. Hagstrom in fact reaches the same conclusion for different reasons.

To summarize, we have seen that Hagstrom's account of the semantics of questions, developed with respect to wh-in-situ languages, can be profitably extended to English-type languages, which have overt wh-movement. The extension enables us to account for the damaging effect that overt movement of a wh-phrase to SpecCP has on the availability of single-pair answers and the interpretive superiority effect in English.

References

Ausín, Adolfo. in preparation. "Two types of questions in English". Ms., University of Connecticut, Storrs.

Barss, Andrew. 1992. "Questions: Determining binding and VP-adjunction". Paper presented at University of Connecticut, Storrs.

Barss, Andrew. 2000. "Minimalism and asymmetric wh-interpretation". *Step by step: Essays on minimalism in honor of Howard Lasnik* ed. by Roger Martin, David Michaels, and Juan Uriagereka, 31-52. Cambridge, Mass.: MIT Press.

Beck, Sigrid. 1996. "Quantified structures as barriers for LF movement". *Natural Language Semantics* 4.1-56.

Bošković, Željko. 1997. "Superiority effects with multiple *wh*-fronting in Serbo-Croatian". *Lingua* 102.1-20.

Bošković, Željko. 1998a. "Wh-movement and wh-phrases in Slavic". Paper presented at Comparative Slavic Morphosyntax Workshop, Bloomington, Indiana.(http://www.indiana.edu/~slavconf/linguistics/index.html)

Bošković, Željko. 1998b. "LF movement and the Minimalist Program". *Proceedings of the North Eastern Linguistic Society* 28, 43-57. GLSA, University of Massachusetts, Amherst.

Bošković, Željko. 1998c. "Multiple wh-fronting and economy of derivation". *Proceedings of the West Coast Conference on Formal Linguistics* 16, 49-63. Stanford University, Stanford, Calif.

Bošković, Željko. 1999. "On multiple feature-checking: Multiple wh-fronting and multiple head-movement". *Working minimalism* ed. by Samuel D. Epstein and Norbert Hornstein, 159-187. Cambridge, Mass: MIT Press.

Bošković, Željko. 2000a. "Sometimes in SpecCP, sometimes in situ". *Step by step: Essays on minimalism in honor of Howard Lasnik* ed. by Roger. Martin, David Michaels, and Juan Uriagereka, 53-87.Cambridge, Mass.: MIT Press.

(According to Hagstrom, syntactic superiority "violations" must involve scrambling of the wh-phrase moving to SpecCP, which is necessary to void the syntactic superiority effect. He then claims that a wh-phrase in German cannot "carry" Q under scrambling.)

Bošković, Željko. 2000b. "On multiple wh-fronting". Ms., University of Connecticut, Storrs.

Cheng, Lisa. 1997. *On the typology of wh-questions*. New York: Garland.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.

Comorovski, Ileana. 1996. *Interrogative phrases and the syntax-semantics interface.* Dordrecht: Kluwer Academic Publications.

Hagstrom, Paul. 1998. *Decomposing questions*. Doctoral dissertation, MIT, Cambridge, Mass.

Hornstein, Norbert. 1995. *Logical form: From GB to minimalism*. Oxford: Blackwell.

Pesetsky, David. 1987. “Wh-in-situ: Movement and unselective binding”. *The representation of (in)definiteness* ed. by Eric J. Reuland and Alice G.B. ter Meulen, 98-129. Cambridge, Mass.: MIT Press.

Rudin, Catherine. 1988. “On multiple questions and multiple wh-fronting”. *Natural Language and Linguistic Theory* 6.455-501.

Rudin, Catherine. 1993. "On focus position and focus marking in Bulgarian questions". *Papers from the 4th Annual Meeting of the Formal Linguistics Society of Midamerica*, 252-265. University of Iowa, Iowa City.

Rullmann, Hotze, and Sigrid Beck. 1997. “Reconstruction and the interpretation of *which*-phrases”. Ms., University of Alberta and University of Connecticut, Storrs.

Stepanov, Arthur. 1998. "Interpretive aspects of *wh*-fronting in Russian". *Proceedings of the North Eastern Linguistic Society* 28, 453-467. GLSA, University of Massachusetts, Amherst.

Wachowicz, Krystyna. 1974. *On the syntax and semantics of multiple questions*. Doctoral dissertation, University of Texas, Austin.

Watanabe, Akira. 1992. Wh-in-situ, subjacency, and chain formation. *MIT Occasional Papers in Linguistics* 2. Department of Linguistics and Philosophy, MIT, Cambridge, Mass.