

Interpreting English Conjoined *Wh*-questions*

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Cho, Sungeun. 2002. **Interpreting English Conjoined *Wh*-questions.** *Korean Journal of English Language and Linguistics* 2-2, 279-285. English allows conjoined *wh*-questions to have two different readings. The English sentence *Which person does John like and Mary admire?* involves ATB movement and is understood either as single questions requiring one set of individuals that are liked by John and admired by Mary (which person *x*, likes (*j,x*) & admires (*m,x*)) or as coordinated *wh*-questions, allowing distinct individuals that John likes and Mary admires (which person *x*, likes (*j,x*) & which person *y*, admires (*m,y*)). I argue this ambiguity is explained by the two key assumptions about *wh*-movement in Chomsky (1995): (1) Movement is copying. (2) *wh*-phrases consist of a *wh*-element and a nominal restrictor. This yields two possible LFs for English depending on whether [*Wh*+nominal] or *wh* alone is interpreted as a variable. It is therefore natural for me to propose that number of questions understood corresponds to the number of nominal segments at LF.

1. Introduction

English conjoined *wh*-questions like (1), involving overt ATB (across-the-board) movement are ambiguous.¹⁾

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¹I note some variation in speaker's ability to get the multiple question reading in English. When the verbs in the two conjuncts of an ATB question contrast, as in (1), the single question reading is very strongly favored. When the same verbs occur, the conjoined question reading seems to be more accessible (ia). Similarly, the use of plural *wh*-phrases seems to increase the availability of the multiple question reading.

- (i) a. Which person did John recommend and Mary recommend?
(Possible answer: John recommended Christine, but Mary

(1) which person does John like and Mary admire?

(1) has a preferred reading, on which it asks a single question about a single individual; this “single question reading” is represented in (2a). Alternatively (1) has a less-preferred reading, on which it asks a conjunction of questions; the “multiple question reading” is represented in (2b):

- (2) a. which person *x*, John likes *x* and Mary admires *x*
 (possible answer: “Christine”)
 b. which person *x*, John like *x* and which person *y*, Mary admires *y*
 (possible answer: “John likes Christine and Mary admires Andrew.”)

In this paper I will explore how the two different readings in English conjoined *wh*-questions are obtained.

2. ATB Movement with the Copy Theory of Movement

According to Williams (1978), English sentences like (1) are derived by applying ATB movement to the structure (3a). In this derivation, a single application of *wh*-movement places *which person* in [Spec, CP] and simultaneously deletes both initial tokens of *wh*, thus deriving (1), as shown in (3b).

- (3) a. [_{CP} [_{IP} John likes **which person**] and [_{IP} Mary admires **which person**]]?

recommended Andrew.)

- b. Which person did John invite and Mary invite?
 (Possible answer: John invited his friends, but Mary invited her classmates.)

See fn. 3 for further discussion.

- b. [_{CP} **which person** does [_{IP} John like *t_i*] and [_{IP} Mary admire *t_i*]]?

Following Chomsky (1995), movement is copying so that whenever an element moves, it leaves a copy in its original position of the trace (*t*). Under this view, the derivation in (3b) is recast as (4), where unpronounced copies of *which person* remain in their source positions.

- (4) [_{CP} **which person** does [_{IP} John like *which person*] and [_{IP} Mary admires *which person*]]?

In order to interpret (4), the LF component must convert (4) to legitimate LF object containing operator variable chains. *Wh*-phrases like *which person* are typically analyzed as consisting of *wh*-operator of category D (*which*) and a nominal restrictor phrase of category NP (*person*) (Chomsky 1964, 1995; Katz and Postal 1964; Klima 1964; Kuroda 1965; Tsai 1994 and among others).²

- (5) [_{DP} [_D *which*] [_{NP} *person*]]

Given that the operator portion(*wh*-) must head an operator-variable chain, there will be two ways in which the LF component may map a structure like (4) to a legitimate operator-variable chain: Both the *wh* and the nominal restrictor is in the operator position and the *wh* alone stands in operator position. The former results in a single copy of the nominal at LF (6a). The latter results in multiple copies of the nominal at LF (6b).

²I may extend this analysis to apparently simple *wh*-words like *who*, proposing that they are composed of a *wh*-operator segment and a pronominal segment -*o* (i):

- (i) [_{DP} [_D *wh*] [_{NP} -*o*]]

- (6) a. [**which person**] does John like [_{DP} t] and
 Mary admire [_{DP} t]?
 b. [**which**] does John like [_{DP} t **person**] and
 Mary admire [_{DP} t **person**]?

It is seen earlier that an ATB *wh*-question has two interpretations: single question & multiple question. We have now seen that there are two structures available for an ATB question: single nominal & multiple nominal. The two are correlated. Specifically I propose that an ATB *wh*-question with the single nominal structure receives the single question reading (7). And I propose that an *wh*-question with the multiple nominal structure receives the multiple question reading (8).³

³The assignment of structures and readings in (7) and (8) may appear at first to clash with a proposal made by Chomsky (1995) that natural language conforms to the preference principle below (Chomsky 1995:209):

- (i) Try to minimize the restriction on an operator.

The principle would appear to favor the structure in (8), since the latter minimizes the restriction on the *wh*-operator. Accordingly, we would expect the multiple question reading to be the preferred one for an ATB question. As we have observed, however, the single question reading is the (often strongly) preferred one (see fn.1). Hence there appears to be a conflict.

We believe there is no conflict in fact. Consider the preference principle more specifically: Try to minimize the restriction on an operator, all other things being equal. In a simple *wh*-question, minimizing the restriction or not does not change the number of NP segment in the structure (iia,b):

- (ii) a. [**which person**] [John like [_{DP} t]]
 b. [**which**] [John likes [_{DP} t **person**]]

By contrast, in an ATB *wh*-question, minimizing the restriction ends up maximizing the number of NP segments in the structure (iia,b):

- (iii) a. [**which person**] [John like [_{DP} t]] and [Mary admire [_{DP} t]]
 b. [**which**] [John like [_{DP} t **person**]] and [Mary admire [_{DP} t **person**]]

- (7) a. which person does John like and Mary admire?
 b. [**which person**] does John like [_{DP} t] and
 Mary admire [_{DP} t]?
 c. which person *x*, John like *x* and Mary admire *x*.
- (8) a. which person does John like and Mary admire?
 b. [**which**] does John like [_{DP} t **person**] and
 Mary admire [_{DP} t **person**]?
 c. which person *x*, John likes *x* and which person *y*, Mary
 admires *y*?

In essence, the number of the nominal copies in the structure determines the number of question understood.

3. English Conjoined Multiple *Wh*-Questions

English conjoined multiple *wh*-questions involves both overtly moved *wh*-phrases and in-situ *wh*-phrases. Consider (9).

- (9) I wonder **which person** likes **who** and admires **who**.

In (9), the subject of embedded clause *which person* has presumably raised ATB to CP Spec, leaving behind a copy in each conjunct, while the objects of embedded clauses, *who* remain in their base positions. Chomsky (1995) assumes that *wh*-phrases which do not move before spell-out are also immobile at subsequent-level. According to Heim (1982) and Pesetsky (1987), the immobile *wh*-phrases are interpreted through a process like unselective binding: Q binds the *wh*-phrases, forming an operator-variable structure. Hence, (10a-b) are the two possible LF

In effect, then minimizing the restriction yields a less minimal representation overall. I suggest that this is the source of the preference for the single question reading of an ATB *wh*-question: the preference principle is violated because the violation yields a more minimal representation.

structures of the subordinate clause of (9).

- (10) a. [which person [Q [t likes who] and [t admires who]]]
 which person x, (which person y, x likes y) &
 (which person z, x admires z)
- b. [which person [Q [t person likes who] and
 [t person admires who]]]
 (which person x, which person y, x likes y)
 (which person w, which person z, w admires z)
- c. *which person y (which person x, x likes y) &
 (which person z, z admires y)
- d. *which person x, which person y, (x likes y) &
 (x admires y)

With respect to the moved *wh*-subject phrase (*which person*) there will be two interpretive options under my analysis. If the nominal restrictor is construed with the operator, we have an interpretation of (9) where I wonder for single individuals x, who are the people x likes and who are the people x admires (10a). If the nominal restrictor is construed in the source positions, then we expect an interpretation of (9) where I wonder about the answers to conjoined multiple *wh*-questions (10b). Although the judgement task is not an easy one, the relevant interpretations do in fact seem to be available. By contrast, consider the in-situ *wh*-object phrases (*who*). Under my principles these will have only one interpretive option. They should be interpreted in their base-generated positions and denote two different individuals. Interpretations like (10c-d) should not be available with (9). Again although the judgement are complex, the facts do indeed seem to be correct.

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