A Compositional Semantics for the Exceptive Modifier *Else*

Matthew Barros
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1.0 Introduction

The purpose of this paper is to provide a compositional semantics for the exceptive modifier *else* in sentences like those in (1) through (5) below:

1) Jack went someplace **else**. (Also *somewhere*)
2) Everyone **else** left.
3) Nobody **else** likes Caviar.
4) Who **else** left?
5) Did anything **else** happen?

else shows up in a restricted set of syntactic environments; Wh-phrases that lack NP complements ('*bare* Wh-phrases' for short), Wh-ever free relative pronouns, and compound quantifiers (CQ's for short).[2] Compound quantifiers are morphologically complex (Abney 1983, Kishimoto 2000, Leu 2005), and can be characterized as the class of DP's derived by concatenating elements of set A, with elements of set B, below:

6) A: { any, Every, No, Some } + B: { where, one, body, thing, place } + (else) = e.g. *everywhere* (*else*)

CQ's differ from non-compound quantifiers in that CQ's are restricted to quantifiers with NP complements found in set B.[3] *Else* is not compatible with other nouns:

7) *Jack likes every else person/… every location else.
8) *Some object else/some else object bubbled up from the morass.
9) *Jack doesn't like any dogs else.

In addition to CQ's, *else* is also compatible with (bare) Wh-phrases, and Wh-ever free relative pronouns:

[1] I would like to thank Veneeta Dayal, my advisor on this project, for helpful and insightful comments at every stage. This project would not have been possible without their guidance. I would also like to thank Roger Schwarzschild and Ken Safir for many helpful and insightful comments. All mistakes herein are, of course, my own.

[2] Adopting the terminology in von Fintel (1993).

[3] The relevant distinction between CQ's and non-CQ's has worked its way into standard English orthography (for the most part); CQ's are generally written as a single word (e.g. *someone*, *somebody*, *everything* etc., but not *no one*). I postpone a more linguistically relevant definition until section 3.

10) { who, what, where, when, why, how, how much } + (ever) + (else) = where(-ever) else, what(-ever) else, etc.

11) *What kind of ice cream else do you like?
12) *Which one else do you want?
13) *Whatever money else you spend here goes to a good cause.

As I will show, these contrasts stem from *else*'s syntactic position. I take *else* to be an X^0-level D adunct. In line with Abney (1983), Kishimoto (2000), I assume CQ's and bare Wh-phrases involve N-to-D movement; *else*'s morphological requirements restrict its distribution to just those D's with incorporated N's.

I focus primarily on CQ's in this paper, which I take to most transparently show *else*'s co-occurrence restrictions (i.e. DP's instantiating N-to-D raising) and provide a preliminary treatment for bare Wh-phrases in section 5. I leave a treatment for Wh-ever free relative pronouns for future work.

A comparison is made with prenominal *other*, which seems to have the same overall semantic contribution as *else* but different syntactic properties. Examples (14) through (16), for example, appear to be synonymous paraphrases for (1) through (3) respectively, and (17) through (19) show that prenominal *other* cannot co-occur with CQ's or bare Wh-phrases:

14) Jack went to some other location.
15) Every other person left.
16) No other person likes caviar.
17) *Jack went someplace other.
18) *Everyone other left.
19) *Nobody other likes caviar.

I account for the complementary distribution of *other* and *else* in terms of their syntactic contexts. Their common status as exceptives is shown to derive their overall synonymy.

In section 2, I discuss the semantic contribution of *else*, then I discuss the syntax of *else* in section 3 (here I delve into the syntax of CQ's). I use the syntax of CQ's as a reference in determining where *else* attaches. In section 4, I propose a compositional semantics for *else* and prenominal *other*. In section 5, I discuss the behavior of *else* modification in Wh-else questions and highlight a puzzle. In section 6 I conclude.

2.0 Semantic contribution of *else*

I begin by taking the *else*-modified CQ *someone else* as a baseline case and then extend the analysis to other CQ's. First, In line with von Fintel (1993), Sato (2001), I take *else* to be an exceptive modifier. Exceptive modifiers act like domain restrictors for quantifiers, which restrict the domain of quantification by excluding an element or set of elements from the domain. As an example of how *else* counts as such a modifier, consider (20):

20) Jack didn't stay, but everyone else stayed.

Intuitively, (20) can be true. Without *else*, the universally quantified statement in the right conjunct would be inconsistent with the preceding assertion; *else* serves to exclude Jack from the domain of quantification for the universal quantifier so that only non-Jack individuals are considered in the calculation of truth (i.e. (20) is true iff all non-Jack individuals in the domain stayed). In line with von Fintel (1993), I take this to be a defining characteristic of exceptive constructions.

As has been noted in the literature (Halliday and Hasan 1976, Culicover and Jackendoff 1995) *else* is anaphoric, and requires a salient antecedent in the discourse for felicitous usage.[4] In (20), the antecedent for *else* is *Jack*. The antecedent for *else* constitutes the element(s) excluded from the domain of quantification.

To illustrate that *else* is anaphoric, consider the context of utterance for (21a) in (21):

21) Context: You are looking out the window and you're on the phone with a friend talking about a party you both went to the previous week. You say (20a):

a. #There's someone else walking up to the front door.
b. There's someone walking up to the front door.

Example (21a) is bad because there is no salient individual that can serve as *else*'s antecedent in this discourse. Note how if you introduce an antecedent, as in (22a), (21a) becomes good (repeated as (22b)):[5]

22) a. There's someone$_i$ getting out of a police car outside.
b. Now, there's someone else$_i$ walking up to the front door.

As was illustrated briefly in example (20), *Else* also contributes an assertion of distinctness (the defining characteristic of an exceptive modifier); *someone else* in (22b) introduces a novel entity into the discourse, which must be distinct from the entity that serves as *else*'s antecedent. Example (22b) can be paraphrased as (23):

23) Someone distinct from the person that got out of the police car is walking up to the front door.

In short, *else* is an anaphoric exceptive. In addition to being anaphoric and implying distinctness, *else* also contributes the following requirement: the antecedent for *else* must be in the extension of the property that restricts the domain of quantification for the DP *else*

[4] *Else* is a 'deep anaphor' in the sense of Hankamer and Sag (1976) and does not require a linguistic antecedent. For instance, in the context in (i), the speaker is the salient antecedent for *else* and no linguistic expression with the speaker as a value is required:

i) Context: Speaker A tries to pick up a heavy box:
'Can someone else please lift this? It's too heavy'.

[5] I mark the antecedent for *else* by co-indexing *else* with the XP that introduces its antecedent.

modifies. For example, in (24a), Jack must be a thing, and in (24b), the apple that fell out of the tree must be a person:[6]

24) a. Jack_i fell out of the tree. #Then something else_i fell out of the tree.
b. An apple fell out of the tree. #Then somebody else fell out of the tree.

I characterize this requirement (descriptively) as a ban on vacuous exception; by virtue of being human, Jack is already excluded from the domain of quantification in (24a), if *else* picks him up as an antecedent, exception is vacuous. The same goes for (24b).

To summarize, the interpretive contributions of *else* follow from its being an anaphoric exceptive modifier, with the added constraint illustrated in (24a,b). In the next section, I examine the nature of distinctness contributed by *else* as well as the nature of the ban on vacuous exception. I also provide a preliminary semantics for *else* modification.

2.1 The nature of the semantic contribution of *else*

In this section, I show that distinctness contributed by *else* has the status of an entailment. Additionally, I show that the ban on vacuous exception behaves like a presupposition. As has been noted in the literature on (in)definiteness (e.g. Hawkins 1991, Heim 1982 inter alia), indefinites implicate non-uniqueness, a consequence of which is distinctness. Consider (25) and (26), in the same context as before, where you are on the phone with a friend looking out the window.

25) a. There's someone getting out of a police car outside.
b. Now, there's someone walking up to the front door.

26) a. There's someone getting out of a police car outside.
b. Now, there's someone else walking up to the front door.

Either (25b) or (26b) are naturally understood as being about someone distinct from the entity introduced by *someone* in the (a) sentences. They can both be paraphrased as (23) (repeated below as (27)):

27) Someone distinct from the person that got out of the police car is walking up to the front door.

Following Hawkins (1991), I take the non-uniqueness implicature associated with indefinites to stem from a quantity implicature; Hawkins assumes that indefinite and

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[6] Example (24a) is better than example (24b). Example (24b) is unquestionably bad, I believe this is because while *Jack* can be counted as a thing (satisfying the ban on vacuous exception), an apple cannot be counted as a human. Furthermore, this is different than the oddity that obtains in (i), below (thanks goes to Roger Schwarzschild for this example):

i) #Someone who is not an apple fell out of the tree.

Example (i) is odd, presumably because it is useless to predicate of someone that they are not an apple, which, by definition, they are not, if they are a person (there are many things that people are not, including apples). This is different from the oddity that obtains in examples (24) in that in (24), there is a restriction on the antecedent for *else*. There is no anaphoric element in (i), whereas there is in (24) (namely, *else*).

definite articles form a Horn scale, with definites being informationally stronger than indefinites. If a speaker chooses the indefinite over the definite, this conversationally implicates the negation of a stronger statement with a definite; definites conventionally implicate uniqueness, so indefinites conversationally implicate non-uniqueness. Non-uniqueness with respect to the NP property entails at least two entities with that property (hence, a non-uniqueness implicature is a distinctness implicature).

Nonetheless, unlike with regular indefinites, distinctness as contributed by *else* is not an implicature. This can be shown by asserting non-distinctness after the discourses in (25) and (26); if distinctness is an implicature in both cases, it should be cancelable by a follow-up asserting non-distinctness. However, things are no so simple; both discourses in (28) and (29) are acceptable:

28) a. There's someone getting out of a police car…
b. Now there's someone walking up to the front door.
c. It's the same person who got out of the police car.

29) a. There's someone getting out of a police car…
b. Now there's someone else walking up to the front door.
c. It's the same person who got out of the police car.

Both (28c) and (29c) assert that the individual mentioned in (28b, 29b) is non-distinct from the individual mentioned in (28a, 29a). We might take this as an indication that distinctness in (29b) is no different than the implicature contributed by the indefinite.

Despite this, it can be shown that (28c) and (29c) are doing very different things in their respective discourses; (28c) merely cancels the non-uniqueness implicature of *someone* in (28b), whereas (29c) is construed as a correction of (29b). Choosing a follow-up that both entails non-distinctness and is incapable of correcting a preceding assertion can illustrate this; if (29c) is truly a correction of (29b), then a follow-up incapable of correction should result in an inconsistent discourse.

An appositive follow-up does the trick; appositives both entail non-distinctness and are incapable of correcting a preceding assertion:[7]

30) a. Jack drives a car_i, specifically, a red car_i.
b. #Jack drives a red car, specifically, a bike/no car at all.
c. Jack drives a car. Actually, I'm wrong, he doesn't drive a car at all, he rides a bike.

[7] The appositive follow-up in (31/32) is most natural when introduced by an adverb. A bare appositive in this context would sound strange; this is irrelevant to this diagnostic, as I'm interested only in the impossibility of correction. Worth noting, is that the particular adverb introducing the appositive, *specifically*, is not behind the impossibility of correction. Consider (i):

i) Jack drives a red car, more correctly, a maroon car.
(thanks goes to Roger Schwarzschild for this example, p.c.)

more correctly is incompatible with correction in the relevant sense:

ii) Jack drives a red car, #more correctly, a black car.

In (i), the appositive serves to specify what the precise nature of the redness of Jack's car is in the preceding assertion, and does not revise the preceding assertion, which is the relevant sense of *correction* I'm aiming for.

The appositive in (30a) serves to strengthen the preceding assertion, and is understood as predicating further information of its antecedent, the car that Jack drives. In (30b), the appositive contributes conflicting information, as can be felicitously done in a correction as in (30c); since appositives cannot serve to correct a preceding utterance, (30b) is deviant.

The fact that (32c) is similarly deviant shows that distinctness as contributed by *else* is stronger than the non-uniqueness implicature canceled by (31c):

31) a. There's someone getting out of a police car.
b. Now there's someone walking up to the front door.
c. Specifically, the person who got out of the police car.

32) a. There's someone getting out of a police car.
b. Now there's someone else walking up to the front door.
c. #Specifically, the person who got out of the police car.

It can also be shown that distinctness as contributed by *else* is not a presupposition by subjecting *else* modified statements to the standard S-tests for presupposition (Chierchia and McConnel-Ginet 1990).

Distinctness does not persist under negation. The candidate presupposition for (33b) is given in (33c), (33a) supplies the antecedent for (33b); The negation of (33b) in (34) no longer implies (33c):

33) a. Bill arrived.
b. Then someone else arrived.
c. Someone distinct from Bill arrived.

34) Someone else didn't arrive.

Distinctness also behaves like part of the main assertion in questioning; a presupposition in a polar question cannot be addressed by a yes/no answer as the presupposition is not a part of what is questioned. Distinctness is part of what is questioned. The candidate presupposition for (35a) is given in (35b). (35a) is questioned in speaker A's utterance in (35c):

35) a. Bill arrived. Then someone else arrived.
b. Someone distinct from Bill arrived.
c. A: Bill arrived, Did someone else arrive? B: No (= only Bill arrived)

The question in (35c) does not intuitively imply (35b), and the answer can directly address distinctness (i.e. it can be paraphrased as *someone distinct from Bill did not arrive*). This shows that distinctness is part of the asserted content of an *else* modified sentence.

Distinctness is also not implied in the antecedent of a conditional; that someone distinct from Bill left is not implied in the conditional in (36):

36) a. Bill left. If someone else left, we're one person short.

The above shows that distinctness as contributed by *else* is not a presupposition or an implicature; it is an entailment.

The ban on vacuous exception behaves like a presupposition with respect to the S-tests. The ban persists under questioning, negation and in the antecedent of a conditional:

Negation:

37) a. An apple fell from the tree.
b. #Somebody else didn't fall from the tree.

38) a. Bill fell out of the tree.
b. #Something else didn't fall out of the tree.

Questioning:

39) a. An apple fell from the tree.
b. #Did somebody else fall out of the tree?

40) a. Bill fell out of the tree.
b. #Did something else fall out of the tree?

Antecedent of a conditional:

41) Jack fell out of the tree. #If something else falls out of the tree, it might hit him on the head.

To summarize, *else* modification contributes the following:

- *Else* is anaphoric and requires an antecedent.
- *Else* is an exceptive modifier (asserts distinctness)
- Exceptive modification with *else* cannot be vacuous

Below, I provide a preliminary semantics for *else* modification. I capture the anaphoric nature of *else* as follows: *else* has an implicit pronominal argument that supplies a free variable. I adopt the mechanism in Chierchia and McConnel-Ginet (1990) for assigning values to free variables; the variable receives its value via an assignment function (e.g. $[\![y]\!]^{M,g} = g(y)$).[8] *Else* introduces the condition $x \neq y$, which simultaneously encodes distinctness and introduces the free variable supplied by *else*'s implicit argument pronoun. As a notational convention, the anaphoric relation between the free variable and its antecedent is represented through co-indexing. The contribution of *else* is underlined in (42-44).

42) $\exists x[\text{human}(x) \,\&\, \underline{x \neq y_i} \,\&\, \text{stayed}(x)]$ (someone else stayed)
43) $\forall x[[\text{human}(x) \,\&\, \underline{x \neq y_i}] \rightarrow \text{stayed}(x)]$ (everyone else stayed)
44) $\forall x[[\text{human}(x) \,\&\, \underline{x \neq y_i}] \rightarrow \neg\, \text{stayed}(x)]$ (nobody else stayed)

This gets us the right results, consider (45); both can be true in situations represented by the Venn-Diagram models in Figures 1, 2.

45) a. Jack$_i$ left and everyone else$_i$ stayed.

[8] I am aware that this does not capture certain properties of anaphora resolution, for instance, the requirement that the entity constituting the value for the variable be salient and familiar. I assume ignoring this issue here is forgivable since this paper is not about anaphora resolution; the mechanism in Chierchia and McConnel-Ginet 1990 is sufficient for our purposes and achieves the correct interpretation given the availability of a suitable antecedent. More will be said about restrictions on antecedents for *else* in sections 3 and 4.

b. Jack$_i$ stayed and everyone else$_i$ stayed too.

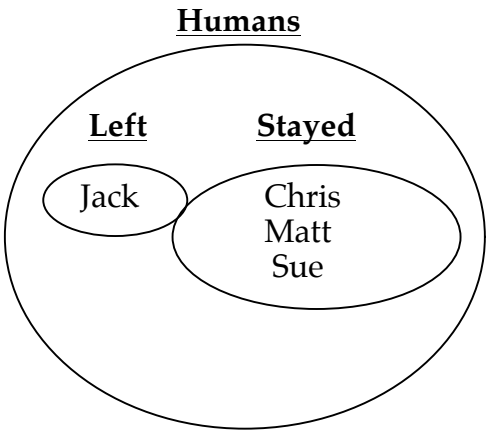

Figure 1: (45a) = True

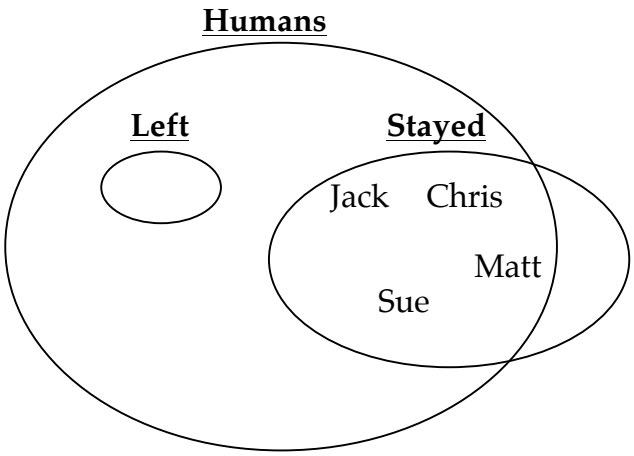

Figure 2: (45b) = True

I leave the ban on vacuous exception out of the preliminary semantics for the moment; in section 4.0 I show that the ban stems from morphosyntactic properties of *else*.

3.0 The syntax of *else*

Having established a preliminary semantics for *else* I now turn to the syntax of *else* modification. As mentioned in the introduction, *else* modification is possible productively with CQ's. It is therefore useful to examine the syntax of CQ's; once a structure for CQ's is in place, it can be used as a map that can be referenced in establishing where *else* attaches in DP.

I propose a syntax for CQ's, building on previous work in Abney (1983), Kishimoto (2000), and Larson and Marušic (2004) (henceforth L&M 2004); in line with Kishimoto and Abney, and contra L&M (2004), I claim that CQ's involve N-to-D movement as in Figure 3 below:

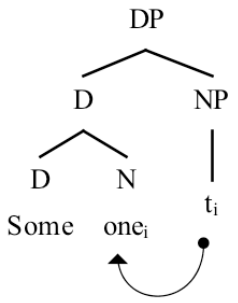

Fig. 3

I show that this is not only conceptually and empirically desirable on independent grounds, but also allows us to place *else* as a D modifier. Further assumptions which follow naturally from this hypothesis additionally yield an account for *else*'s co-occurrence restrictions and straightforwardly banish prenominal *other* from CQ's.

3.1 Syntax of Compound Quantifiers

Abney (1983) and Kishimoto (2000) cite Noun-Adjective ordering in CQ's as evidence for N movement. In (46), we see that certain adjectives in DP can only occur prenominally in non-CQ's. In (47), we see that these same adjectives can occur post-nominally in CQ's:

46) a. A tall man walked by.
b. A red balloon floated by.
c. *A man tall walked by.
d. *A balloon red floated by.

47) a. Someone tall walked by.
b. Something red floated by.

A derivation such as that illustrated in Figure 3 would straightforwardly account for the relative ordering between Adjectives and Nouns, as illustrated in figure 4:

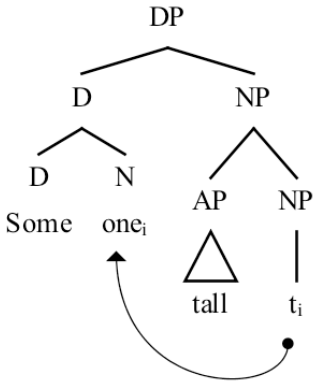

Fig. 4 *Someone tall*

However, Larson & Marušic (2004) highlight evidence which convincingly shows that AP in CQ's does not occupy a canonical pre-nominal position as illustrated in Figure 4, rendering Adjective-Noun ordering in (46) and (47) a non-argument for N-to-D movement. Nonetheless, I show that there are still good conceptual and empirical reasons to adopt an N-to-D movement analysis that is also compatible with Larson and Marušic's data. First, I discuss the treatment of N-to-D movement proposed in Kishimoto (2000), which is the analysis for N-to-D movement I adopt.[9] In the following section I discuss Larson and Marušic's data.

Kishimoto (2000) draws a structural analogy between DP and TP and posits that the N's that raise to form CQ's are *light N's* just as auxiliary *have* and *be* are *light verbs* and undergo V to T raising. Kishimoto highlights a correlation between N in CQ's and raising auxiliaries. Auxiliary *have* does not have the same meaning as main verb *have* (additionally, auxiliaries have no argument structure). N's found in CQ's have usages outside of CQ's, but there are dramatic interpretive differences:

[9] I do not adopt all of Kishimoto's assumptions, specifically – in his system, N movement targets the head of Num(ber)P in a substitution operation, not D. I depart from Kishimoto in this respect, but adopt the machinery and motivations for his analysis.

48) a. Somebody tall walked by.
b. *A tall body walked by.
c. Someone short walked by.
d. A short one walked by.

When *body* forms a CQ, the CQ quantifies over humans; when *body* does not form a CQ, as in (48b), it only has its sense arguably associated with its use as a full lexical N (e.g. a corpse). Similarly, *one* in CQ's is synonymous with *body* in CQ's; CQ's formed with *one* or *body* quantify over humans; when *one* is not in a CQ, it is pronominal, and picks up some salient entity in the discourse which may or may not be human (e.g. 48d might be uttered at the zoo by a giraffe enclosure).[10]

As for the motivation for N raising in CQ's, Kishimoto extends the analysis in Roberts (1998) for light auxiliary movement in TP to light N movement in DP. Roberts' (1998) proposal is couched in the Minimalist framework of Chomsky (1995). Roberts' proposal provides a way in which a Weak feature checking relation can drive overt movement with auxiliary V's, but not main V's. T in English is posited to have a Weak uninterpretable V feature ($V^{weak, -interpretable}$). T checks this feature on a verb's interpretable V feature, which moves to D. Crucially, all the formal features of the verb, FF(verb), are pied piped along with interpretable V and erased from their base position. When T checks $V^{weak, -interpretable}$ on a main verb, feature movement does not leave the main verb bereft of featural content; main verbs are posited to have additional inherent features beyond formal features (such as Theta-role features). A consequence of this is that the main verb is pronounced low.

Auxiliary verbs are posited to possess only formal features; when T checks $V^{weak, -interpretable}$ on an auxiliary, pied-piping of those formal features along with erasure of those formal features in the base position, leave the base position empty of featural content and the auxiliary is pronounced high. Figure 5 illustrates Roberts' (1998) proposal for V-to-T movement. Kishimoto (2000) extends this analysis to N raising in DP, as represented in Fig 6.[11][12]

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[10] Leu (2005) additionally contributes a difference between *where* and *place* in CQ's, where *where* can refer to *location* in a more abstract sense than *place*, which must refer to an actual geographical location:

i) He was somewhere between 30 and 35 pages into the book when I spoke to him.
ii) *He was someplace between 30 and 35 pages into the book when I spoke to him.

I add that the geographical location must also be fixed:

iii) We were somewhere/*someplace over the pacific half way through the flight.

[11] Kishimoto actually posits N to Num(ber)P movement; I depart from his analysis here and assume, in line with Abney (1983) that N movement in CQ's is to D, not to the head of NumP. I return to this issue in section 4.0.

[12] Kishimoto does not address the question of what features of fully lexical N's correspond to a main verb's theta-role features. This is a question I do not explore here, as it would be too much of a tangent from the primary topic of this paper – *else*. For the moment I simply assume that fully lexical N's, like main verbs, have additional featural content beyond FF(N), including at least theta-role features.

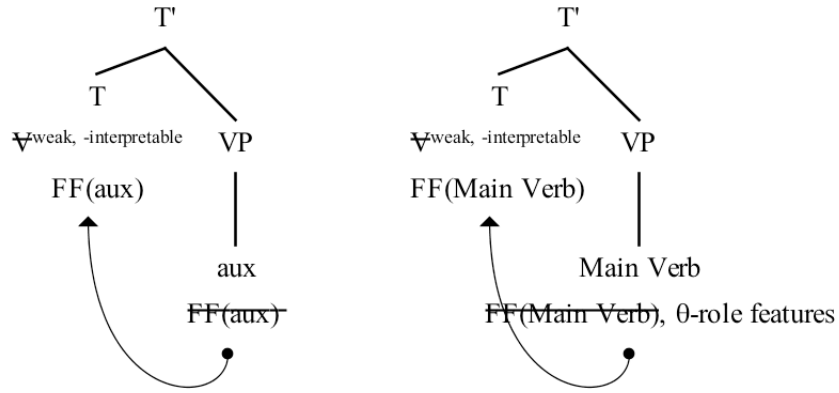

Figure 5

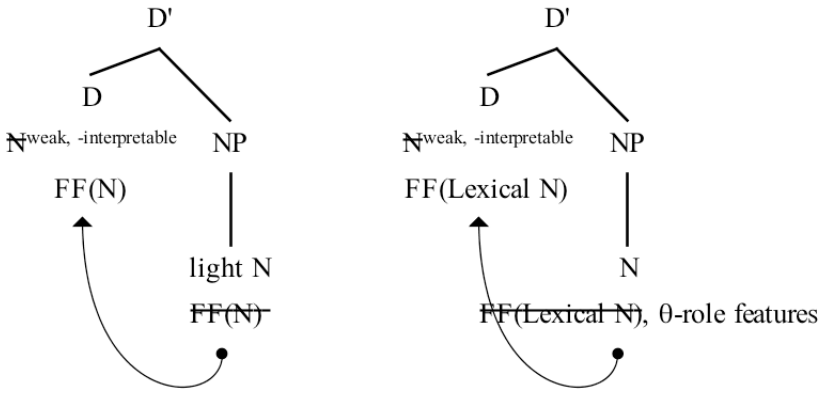

Figure 6

In the following section, I discuss problems for Kishimoto's (2000) analysis for N raising in CQ's highlighted in Larson and Marušic (2004) (henceforth L&M). Specifically, L&M take issue with Kishimoto (2000) and Abney's (1983) evidence for N-to-D movement in CQ's; the relative position of prenominal adjectives and N. What L&M show, is that "prenominal" adjectives that appear in CQ's do not behave like pre-nominal adjectives in non-CQ's, and instead behave like post-nominal adjectives. Adjective-Noun ordering in CQ's is thus rendered a non-argument for N-to-D raising given Larson and Marusic's data – nonetheless, this is not an argument against N-to-D raising.

3.1.2 Larson and Marušic (2004): the status of "Prenominal Adjectives" in Compound Quantifiers

The fact that pre-nominal adjectives can follow N in CQ's in sentences like those in (47) was used to argue for N-raising over the adjective as in Figure 4. L&M, however, convincingly show that prenominal adjectives in CQ's are not prenominal.

The first argument L&M bring to bear on the position of adjectives in CQ's involves recursion; prenominal adjectives permit recursion, which is impossible in CQ's; at most one

prenominal adjective may follow N in a CQ (all examples and judgements in this section are from L&M unless otherwise indicated)

49) a. All the tiny shiny visible stolen jewels were lying on the table.
b. *Something tiny shiny visible stolen was lying on the table. (my example)
c. Something shiny was lying on the table.

Additionally, post-nominal adjectives do not permit recursion, unless the right-hand element is "heavy". This is also true of post-nominal adjectives in CQ's

50) a. *Every man present capable was hired.
b. Every man [present] [capable of handling a horse] was hired.
c. *Everyone present capable was hired.
d. Everyone present capable of handling a horse was hired.

The data in (49) and (50) show that prenominal adjectives pattern with post-nominal adjectives with respect to recursion.

The second argument L&M bring to bear on the status of adjectives in CQ's concerns inflection. Citing Sadler and Arnold (1994), L&M point out that measure adjective modifiers show a different inflectional pattern in pre- and post- nominal positions:

51) a. a 23-inch-long rope. Prenominal pattern: singular *inch*
b. a rope 23 inches long. Postnominal pattern: plural *inches*
c. *a 23-inches-long rope. (my example)
d. *a rope 23 inch long. (my example)

With respect to measure adjectives in CQ's, only the post-nominal pattern is grammatical:

52) a. anything 23 inches long.
b. *anything 23 inch long.

This would be unexpected if AP in CQ's could be prenominal; the evidence in (52) suggests that the structural analysis in Figure 4, repeated in a bracketed structure in (53c) is incorrect:

53) a. [a [$_{AP}$ 23-inch-long] [$_{NP}$ rope]]
b. *[any+thing$_i$ [$_{AP}$ 23-inch-long] [$_{NP}$ t_i]]
c. *[some+one$_i$ [$_{AP}$ tall] [$_{NP}$ t_i]] (my example)

The third argument L&M make against structures such as that in Figure 4 stems from the behavior of *attributive-only* adjectives in CQ's. Certain adjectives, like *live*, can only appear prenominally, and cannot appear as the predicate in a copular clause:

54) a. Some live thing.
b. *This thing is live.
c. *A thing live.

Conversely, *alive* can only appear post-nominally and may appear as the predicate of a copular clause:

55) a. *Some alive thing.
b. This thing is alive.
c. A thing alive

CQ's are not compatible with attributive only adjectives, further suggesting that adjectives in CQ's are not pre-nominal.

56) a. *Something live
b. Something alive

A fourth argument comes from stage-level vs. individual level readings associated with prenominal and post-nominal adjectives. Citing Bolinger (1967), L&M discuss adjectives like *responsible* and *visible* in (57), which, when prenominal, are ambiguous between a reading where they attribute their property "temporarily/episodically" (what L&M refer to as "the stage-level" reading), or "intrinsically/inherently" (the "individual-level" reading).

57) a. The visible stars.
b. The stars visible.
c. The responsible individuals.
d. The individuals responsible.

The DP in (57a), for instance, can be referring to stars that are inherently visible to the naked eye, or it can be referring to the stars that are currently visible (i.e. some stars which are, in principle, visible to the naked eye from Earth are out of view). Example (57b) only has the stage-level reading, referring only to the stars that are currently visible.

Likewise, (57c) is ambiguous between a reading where the DP denotes a set of very responsible people (e.g. who always finish their work on time), or a set of individuals who are at fault for something (e.g. a crime, they may be irresponsible people); (57d) only has the "at fault" reading. L&M claim that with CQ's, only the stage-level reading is possible, citing evidence like that in (58):

58) a. ??List everything visible, whether you can see it or not.
b. List all the visible stars, whether you can see them or not.
c. ??List all the stars visible, whether you can see them or not.

d. ??List everyone responsible, whether they were involved or not.
e. List all the responsible individuals, whether they were involved or not.
f. ??List all the individuals responsible, whether they were involved or not.

The stage level reading associated with post-nominal *responsible* and *visible* is inconsistent with the commands in (58) when modified by the *whether* clauses.

With respect to this particular diagnostic, however, I believe L&M are incorrect; the individual level reading is the most salient reading with the CQ in (59) (from here on the examples are all mine unless otherwise indicated):

59) That security guard is a goof-off. I wish they'd hire someone responsible for a change.

Additionally, post-nominal *responsible* is not gradable, and resists modification by degree modifiers such as *more* and *very*, as (60) illustrates:

60) a. The (more) responsible employee reported the crime immediately.
c. The man responsible was arrested.
d. The man (*more) responsible got away.

Responsible in CQ's does allow for degree modification:

61) I wish they'd hire someone more responsible for a change.

Unfortunately, the same diagnostic doesn't work so well for *visible*, presumably because neither the stage-level reading nor the individual level reading for *visible* is gradable. Nonetheless, (62a, c) are much better than (62b):

62) a. ?Celestial objects can be more or less visible to the naked eye. The **more visible celestial objects** will show up more clearly through the binoculars.
b. *The **celestial objects more visible** will show up more clearly through the binoculars.
c. ?Things in the night sky can be more or less visible to the naked eye. **Something more visible** will show up more clearly through the binoculars.

To summarize, L&M's evidence for the most part (barring the data in (60-62)) convincingly shows that prenominal adjectives in CQ's are not prenominal. The data in (60-62), however shows that adjectives in CQ's do share *some* properties with prenominal adjectives. Additionally, the claim that prenominal adjectives are not found in CQ's seems paradoxical in the face of evidence such as that in (46) and (47), which straightforwardly argues for the opposite claim.

One observation is that the class of adjectives allowed in CQ's is precisely the class of adjectives allowed as predicates in copular sentences. Just like adjectives in CQ's, only one AP is possible as the predicate in a copular sentence:

63) a. That ball is red.
b. *That ball is big red.

Additionally, while *red* cannot appear post-nominally in a DP (*a balloon red), it can appear as an AP predicate in a copular clause as in (63a). Other behaviors of adjectives in CQ's also pattern with AP predicates in copular clauses. The stage-level and individual-level ambiguity of certain pre-nominal adjectives, which is absent in post-nominal adjectives, and present in CQ's, is also found in copular clauses:

64) a. That woman is responsible.
b. These stars are visible.

Example (64a) is ambiguous between an assertion that the woman is at fault or deserving of credit (e.g. for some crime or accomplishment), and a reading where she is just generally a responsible person. Example (64b) is likewise ambiguous. For one reading of (64b), you could be pointing to a group of stars in a star catalogue during the day, and asserting that they are visible to the naked eye. Change the context slightly so that it is nighttime, and you could be pointing to the star catalogue and indicating that certain stars therein are immediately visible in the context of utterance.

Additionally, as L&M point out, attributive only adjectives are not possible as copular clause predicates:

65) a. *This fish is live.
b. This fish is alive.

And finally, the inflectional patterns for measure adjectives is also the same in CQ's and in copular clauses:

66) a. This stick is three inches long.
b. *This stick is three inch long.

The parallelism between adjectives in CQ's and adjectives serving as copular clause predicates suggests a solution to the puzzle of where AP attaches in CQ's; I claim the "prenominal"[13] AP in a CQ is actually the predicate of a small clause complement to NP. Moro (1991) analyzes copular sentences as containing a small clause (SC) complement to the copula; the external argument of the SC undergoes A movement to Spec, T:

67) $[_{TP}\ [_{DP}$ the dog$]_i\ [_{VP}$ *is* $[_{SC}\ t_i\ [_{AP}$ tall$]]]]$

In CQ's, then, the structural position of AP would be as in (68) (ignoring for the moment, what serves as the external argument of the small clause, I've marked this position with an underscore):

68) $[_{DP}$ D+N$_i\ [_{NP}\ t_i\ [_{SC}$ __ AP$]]]$

This hypothesis immediately accounts for the parallelism between AP in copular clause predicates and "prenominal" adjectives in CQ's. Furthermore, the structural parallelism between DP and TP that led Abney (1983) and Kishimoto (2000) to posit N-to-D raising as a DP analog of V to T raising is extended by this hypothesis; light verb *be* in TP selects for a small clause just as light N's can in DP.

69) a. $[_{DP}$ D+N$_i\ [_{NP}\ t_i\ [_{SC}$ __ $[_{AP}$ tall$]]]]$
b. $[_{TP}\ [_{DP}$ the dog$]_k$ T+*is*$_i\ [_{VP}\ t_i\ [_{SC}\ t_k\ [_{AP}$ tall$]]]]$

Nonetheless, the parallelism is not complete. As illustrated in (69), nothing in CQ's seems like a candidate for the external argument of the small clause. Full DP's can serve as predicates in copular clauses (70), something impossible with CQ's (71):

70) a. [Sally$_i$] is $[_{SC}\ t_i$ [a doctor]] .
b. [The most expensive thing$_i$] is $[_{SC}\ t_i$ [pretty]].
c. [Every doctor$_i$] is $[_{SC}\ t_i$ [experienced]].

71) a. *Someone $[_{SC}$ [Sally] [a teaching assistant]] is angry.
b. *I cannot afford something $[_{SC}$ [the most expensive thing][pretty]].
c. *Everybody $[_{SC}$ [every doctor][experienced]] is well paid.

[13] Henceforth, scare-quotes around "prenominal" is intended to refer to adjectives in CQ's (mis-)analyzed by Abney (1983) and Kishimoto (2000) as prenominal (e.g. "red" in *something red*). These adjectives have the special property of being impossible post-nominally outside of CQ's, while sharing with post-nominal adjectives the properties highlighted in L&M (2004).

The generalization seems to be, given the absence of an external argument for the small clause and the unavailability of DP predicates, that DP is not a possible argument of SC's contained in CQ's. I claim that DP is not a possible argument of a SC in this position because it is contained in another DP and cannot have its Case feature checked.

Consider the structures in Figures 7 and 8, each containing a small clause, which, in turn has a DP argument; Figure 7 is for a small clause contained in a TP, a complement to *light be*, whereas in Figure 8, the small clause is contained in a CQ complement to a light N.

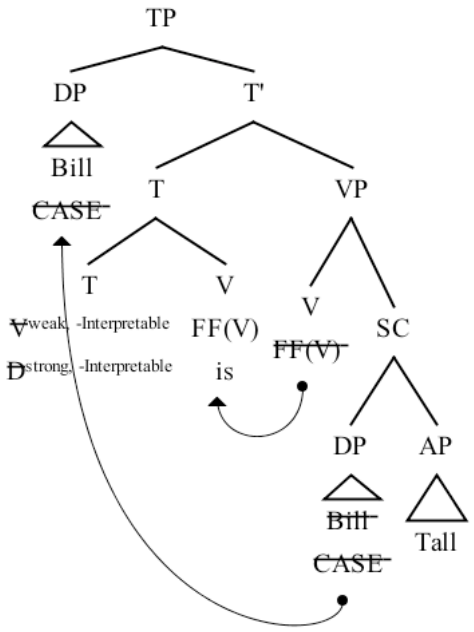

Figure 7: Bill is Tall.

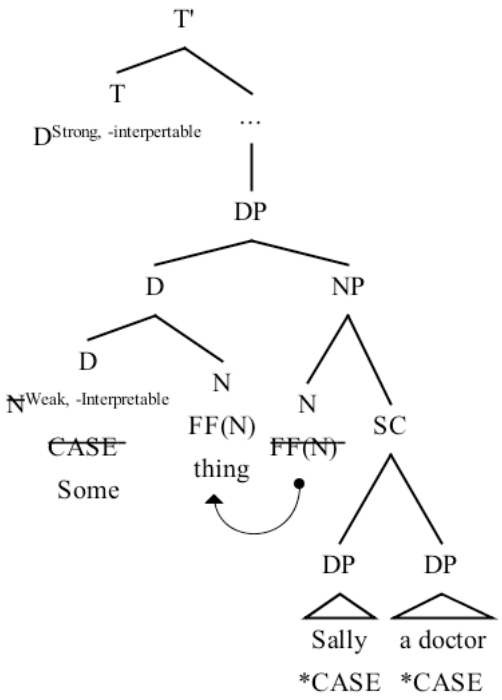

Figure 8: *Something Sally a doctor.

In Figure 8, T agrees with the most prominent D in its C-command domain; this is the D head of the CQ, which then has its Case feature checked; thus D acts as an intervener between the D's contained in the small clause in Figure 8 and any Case licensor outside of DP. In Figure 7, on the other hand, there is only one DP in the structure (the small clause subject) and T can assign Case to it.

The same structural problem as in Figure 8 persists regardless of whether the CQ is an object or the subject of a clause; the head of DP is always more prominent than the subject of a small clause contained in DP, and will always intervene for Case checking on that DP. This reasoning accounts for why SC's contained in DP do not have DP arguments. However, it leaves open the question of what the subject of the small clause is. For the moment, I will leave this an open question and assume that small clauses contained in DP have PRO as a subject. Another question I leave unanswered is why non-light N's, unlike light N's, cannot take a SC complement.

I leave these and other questions unexplored here, as the primary aim of this section is to provide a sufficiently well motivated account of the syntax of CQ's in order to establish certain structural *landmarks* that we can use to ascertain the attachment point for *else*. To summarize, in this section I examined the data presented in L&M (2004) showing that Abney (1983) and Kishimoto (2002)'s "prenominal" AP in CQ's is not prenominal. In

addition, I showed that the data in L&M (2004) is compatible with an analysis that takes AP in CQ's to be the predicate of a small clause, optionally selected for by a light N.

I now return to the question of whether or not N-to-D raising in CQ's is compatible with L&M's data. As previously mentioned, L&M's data remove an argument in support of the N-to-D raising hypothesis proposed in Abney (1983) and Kishimoto (2000), but it does not constitute counterevidence to movement. As shown in the structure in Figure 8, above, N-to-D raising is simply string-vacuous. Though string-vacuous, N raising in CQ's does have a morphological consequence, specifically, the derivation of a compound quantifier. Additionally, N raising provides us with an explanation for why (actual) pre-nominal adjectives are not possible in CQ's. Cinque (1994) claims that prenominal AP's occupy specifier positions of various functional heads between D and N in DP as in (72):

72) [$_{DP}$ *Some*$^{0\ N,\ weak,\ -interpretable}$ [$_{FP}$ [$_{AP}$ *big*] [F^{0} [$_{FP}$ [$_{AP}$ *tall*] [F^{0} [$_{NP}$ *-body*$^{0\ FF(-body)}$]]]]]]

Were D to check Weak N features on *–body* in (72), as in Roberts' (1998) proposal, N movement to D would violate Travis' (1984) Head Movement Constraint (HMC).

To conclude this section, I illustrate a structure for a CQ In Figure 9, below. In the following section, I propose an analysis for the structural position of *else* in *else* modified CQ's.

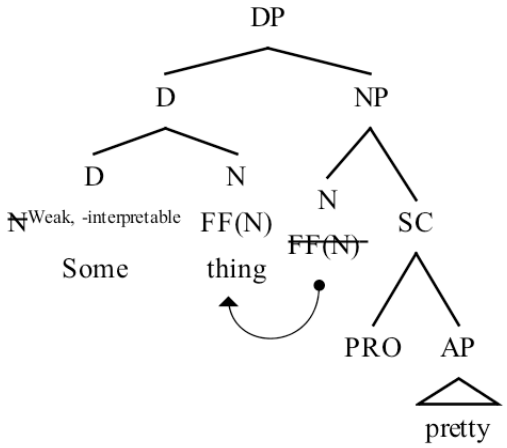

Figure 9: Something Pretty

3.2 The syntax of *else*

else is always pronounced to the left of any adjectives in CQ's, ruling out the possibility that it is right adjoined to either DP, NP, or SC in a CQ:

73) *Something pretty else.
74) Something else pretty.

This leaves attachment at D or NP as possibilities. Attachment at NP also instantiates two possibilities; *else* could be a head that selects for NP, as in Figure 10, or *else* could be an adjunct or a specifier to NP as in figure 11. Figure 12 instantiates the possibility that *else* is a D adjunct:

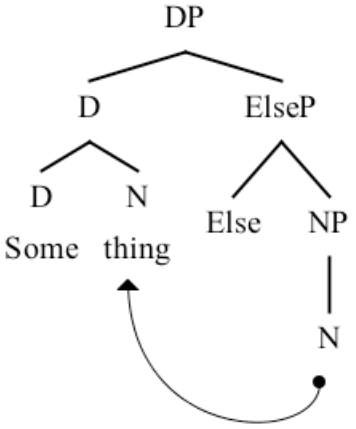

Figure 10: ***else*** as a head selecting NP.

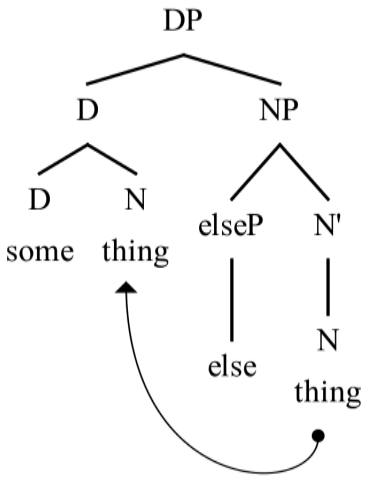

Figure 11: ***else*** as an NP adjunct or Specifier.

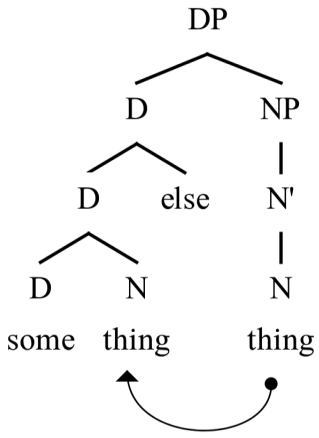

Figure 12: ***else*** as an X^0 level D adjunct.

The option in Figure 10 can be ruled out by appealing to the ban on pre-nominal modifiers in general in CQ's; N crossing over *else* to adjoin to D would violate Travis' (1984) Head Movement Constraint.[14]

75) [$_{DP}$ Some [$_{elseP}$ *else*^{0} [$_{NP}$ thing]]]

The possibility in Figure 11 circumvents this problem by placing *else* in the specifier position of NP so that no heads intervene between N and D. One argument against this possibility is that *else* does not appear to be a phrasal head, as it cannot take any complements or specifiers of its own. This is exceptional behavior with respect to other exceptives, which can take complements. In (76), I underline the exceptive head and represent its complement in bold:

[14] Another possibility involves *else* adjoining to light-N^0; the complex N+*else* head would then raise and adjoin to D. I find this possibility stipulative; light-N possesses a subset of the features of a full lexical N, whatever selectional features *else* can check on light-N^0 it can also check on a full lexical N, raising the question of why *else* is only compatible with light-N's.

76) a. Everyone <u>other</u> **than Jack** left.
b. Nobody <u>but</u> **Bill** left.
c. <u>Except</u> **for John** everyone thought the movie was good.
d. The <u>other</u> **dog** left.
e. *Everyone <u>else</u> **than Jack** already left.

An additional argument against the structure in Figure 11 is that it is unclear how we could prevent *else*P from being a specifier to non-light N. If *else*P could only merge in Spec, N of a light N, it could not be for purposes of feature checking; light N's have impoverished feature content as compared to non-light N's; whichever features *else* could check on a light N, it could presumably do so on a non-light N as well.

I claim that *else* is a D modifier, and that the structure in Figure 12 is correct. *Else*, as an exceptive modifier serves the function of modifying D's domain of quantification. Therefore, it is natural to assume that it has a close syntactic relationship to D as well. As I show in the following section, the structure in figure 12 also provides us with a way of accounting for the co-occurrence restrictions of *else* to CQ's.

4.0 Compositional Semantics for *else*

In this section, I show that the semantics given for *else* in section 2.0 can be derived compositionally from the syntax given in section 3.0. We need to simultaneously ensure that *else* targets D's first argument, contributing distinctness (i.e. $x \neq y_i$), and adjoins to D in the syntax. In order to achieve this compositionally, it is necessary to posit a mismatch between the structure that is interpreted and the structure that is pronounced; specifically, N must be interpreted as reconstructed into its base position. Before showing why this must be so, I provide a semantics for *else* and illustrate how it gets us the desired results.

The semantics for *else* I propose is given in (77):

77) $[\![\text{Else}]\!] = \lambda D_{<<e,t>,<<e,t>,t>>}.\lambda P_{<e,t>}.D(\lambda x.P(x) \,\&\, x \neq y_i)$

else, as a D modifier, takes a determiner meaning and yields a determiner meaning with a modified restriction. I assume a standard semantics for the quantifier *every*, given in (78), $[\![\text{Else}]\!]$ ($[\![\text{Every}]\!]$) gives us (79d):[15]

78) $[\![\text{Every}]\!] = \lambda P_{<e,t>}.\lambda Q_{<e,t>}.\forall x[P(x) \rightarrow Q(x)]$

79) a. $\lambda D.[\lambda P.D(\lambda x.P(x) \,\&\, x \neq y_i)]\ (\lambda P.\lambda Q.\forall x[P(x) \rightarrow Q(x)])$
b. $\lambda P.\lambda P.[\lambda Q.\forall x[P(x) \rightarrow Q(x)]](\lambda x.P(x) \,\&\, x \neq y_i)$
c. $\lambda P.\lambda Q.\forall x[\lambda x.[P(x) \,\&\, x \neq y_i](x) \rightarrow Q(x)]$
d. $\lambda P.\lambda Q.\forall x[[P(x) \,\&\, x \neq y_i] \rightarrow Q(x)]$

Line (79d) gives us the meaning of an exceptively modified determiner; distinctness is correctly placed as a condition on D's restrictor argument. To arrive at the preliminary

[15] The bracketing conventions I adopt are as follows: the period after 'λx.' indicates that everything following the period is in the scope of the lambda operator. If, instead, the period is followed immediately by a left bracket, e.g. '$\lambda x.[$', the scope of the lambda operator extends to the right bracket that closes the left bracket immediately after the period.

semantics for '*everyone else stayed*' given in section (2.1), repeated below in (80), composition proceeds as in Figure 13. I assume *one* bears a Gender feature [+human], which supplies the property for D's first argument.

80) $\forall x[[human(x) \ \& \ x \neq y_i] \rightarrow stayed(x)]$ (everyone else stayed)

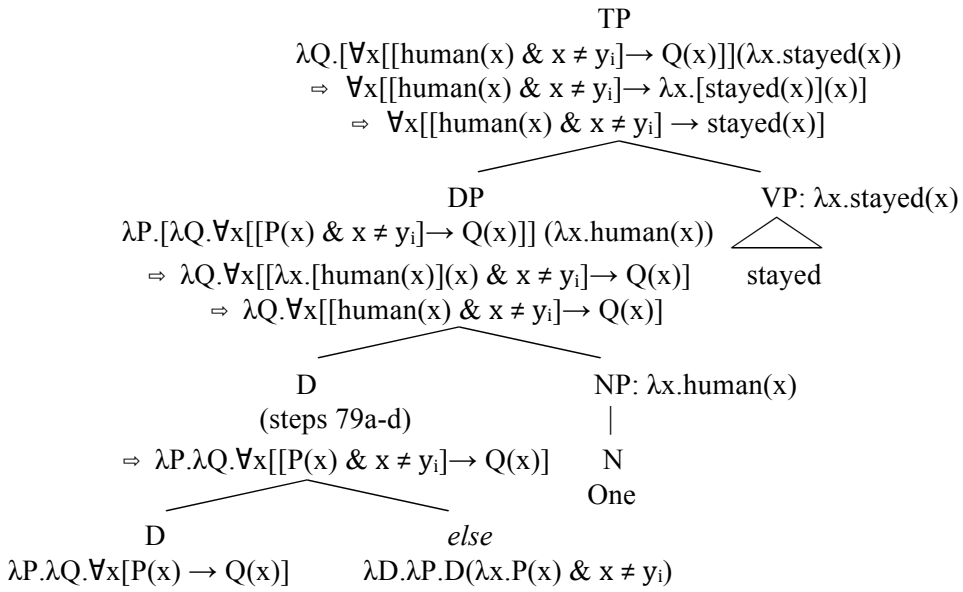

Figure 13: Everyone else stayed.

Now I turn to the motivation for interpreting N in its base position. If N were interpreted in its derived position as a D adjunct, it would pose the following problems for composition. First, D's restrictor argument would be saturated by N prior to composition with *else*. The complex head D+N would be of the wrong type to serve as an argument for *else* (i.e. it would be of type <<e,t>,t>):

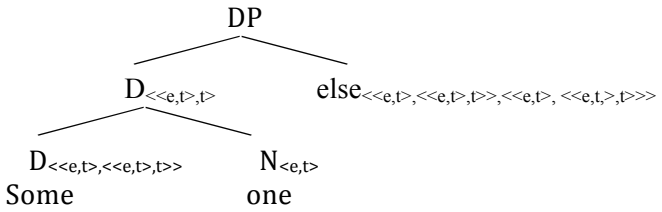

Figure 14: Type mismatch

Secondly, even if we were to change *else* to type <<<e,t>,t>,<<e,t>,t>>, D's first argument has been filled and can no longer be targeted by *else*, as is illustrated in (81):

81) i. $[\![Every]\!]([\![one]\!]) = \lambda Q.\forall x[human(x) \rightarrow Q(x)]]$

ii. $[\![else]\!]([\![Everyone]\!]) =$
$\lambda D_{<<e,t>,t>}.[\lambda P_{<e,t>}.D(\lambda x.P(x) \ \& \ x \neq y_i)] \ (\lambda Q.\forall x[human(x) \rightarrow Q(x)])$
⇨ $\lambda P.\forall x[human(x) \rightarrow P(x) \ \& \ x \neq y_i]$

When *else* composes with *everyone* in (81), it ends up targeting D's second argument, contributing distinctness to the nuclear scope. Example (83) continues the derivation in (81) for the sentence *everyone else left* in (82):

82) Jack$_i$ left, then everyone *else*$_i$ left.

83) a. $\lambda P.[\forall x[human(x) \rightarrow P(x) \& x \neq y_i]](\lambda x.left(x))$
b. $\forall x[human(x) \rightarrow left(x) \& x \neq y_i]$

This sentence is predicted to be true iff everyone is such that if they are human, they left, and they are not Jack, which is incorrect. Additionally, the ban on vacuous exception ensures that Jack is a human, which is inconsistent with this meaning.

The problem with interpreting *one* in its derived position goes beyond its interaction with *else*; when descriptive material remains inside NP as in Figure 15, N saturates D's first argument and NP saturates D's nuclear scope argument (further composition with the rest of the structure cannot proceed).

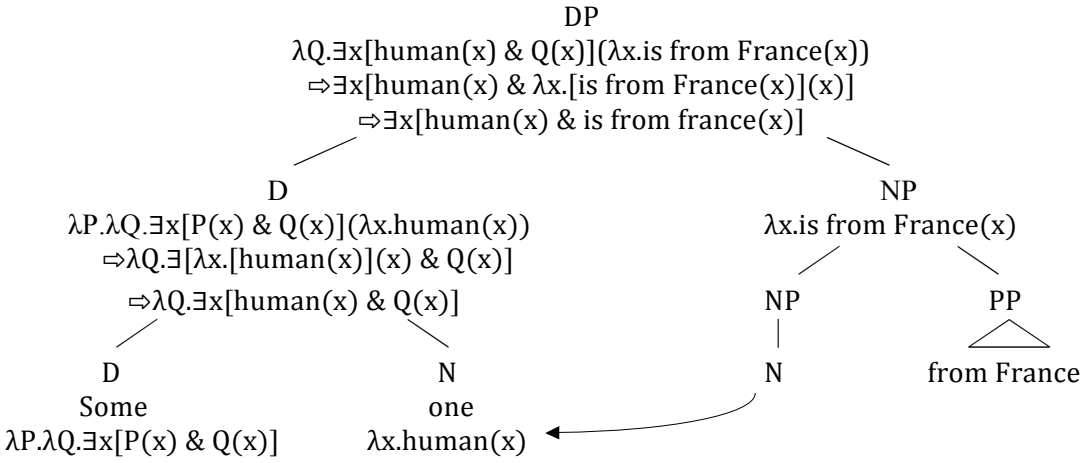

Figure 15

A solution does present itself in Bach and Cooper (1978), which introduces a free variable of type <e,t> into the denotation for N; this variable can be abstracted over and replaced with the NP meaning, for instance, as in Figure 16. In Figure 16, *R* constitutes this additional free variable.

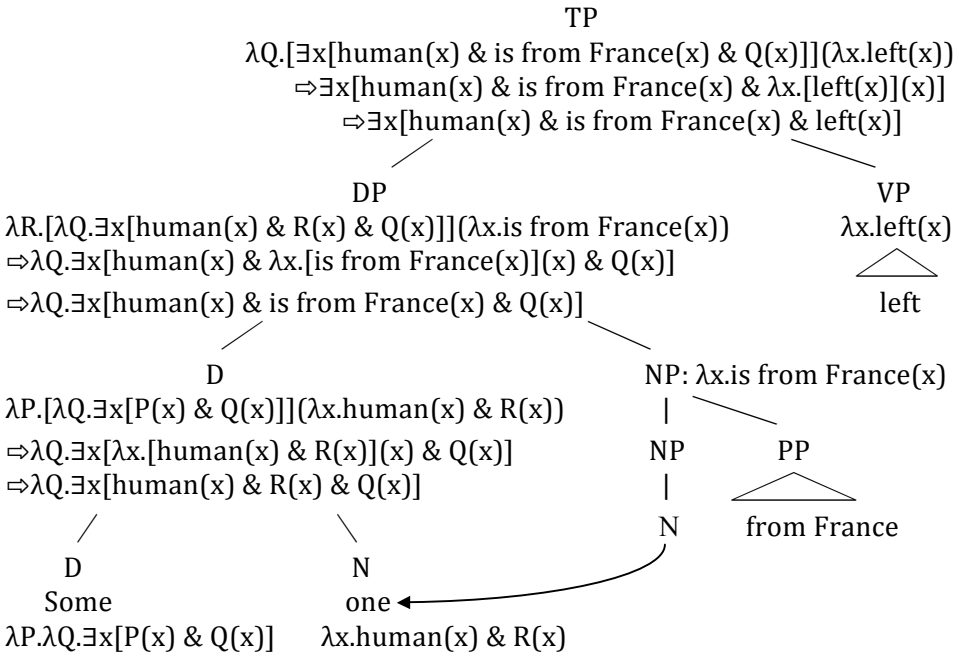

Figure 16: Bach and Cooper (1978)

λ-abstraction over the free variable *R* after composition with N allows D+N to compose with NP without saturating D's second argument. Nonetheless, *else* modification after D+N composition would reintroduce the original problem illustrated in Figure 14, as *else* would only be able to target D's second argument.

Alternatively, one might change the type of *else* to that of a predicate modifier, e.g. $\lambda x.x \neq y_i$, and posit that it, too, has the Bach and Cooper variable in its denotation: $\lambda x.x \neq y_i$ & R(x). The derivation would be as in figure 17 on the following page. After D+N compose, λ-abstraction over R contributed by N takes *else* as an argument, so that distinctness finds its way into D's restriction; *else* has supplied another R variable for composition of the complex D+N+else head with NP.

While this technically works, I find it conceptually unattractive for the following reasons. First, it seems as if this mechanism of Bach and Cooper's is too useful; anytime we run into a problem for compositionality, we can posit lambda abstraction over R (whether it is to fix the problems caused by N raising or to fix the problems caused by *else* adjunction). Secondly, *else* is a D modifier and there are good syntactic reasons to believe so; the semantics for *else* proposed in (77) is consistent with a closer connection between the syntax and semantics than if we were to take *else* to be a predicate modifier adjoined to D.

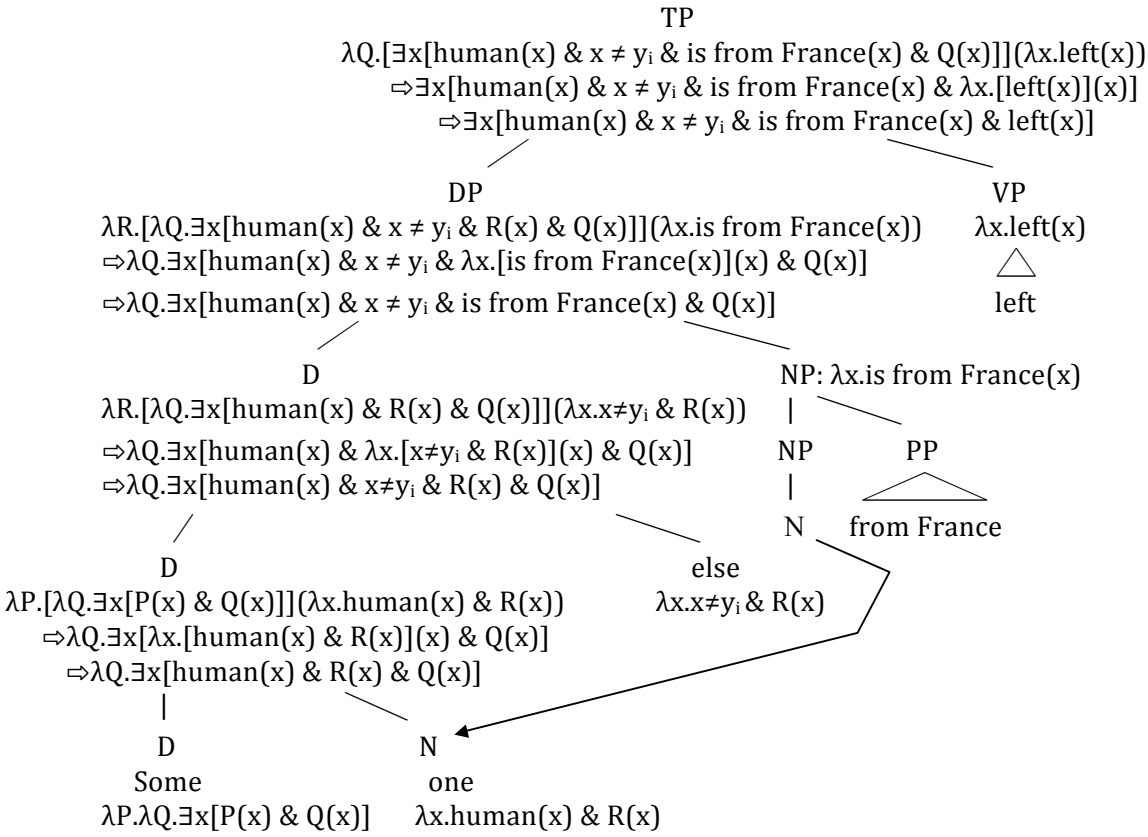

Figure 17: Bach & Cooper (1978)

To conclude this section, I have provided a compositional semantics for *else* modification based on the semantics established in section 2.1, and the syntax established in section 3.0; we were forced to deviate from the surface syntax in achieving a compositional semantics for CQ's and *else* modification, a move which is independently motivated by the problems interpreting N in its derived position pose for compositionality, as well as evidence from adverbial modification of CQ's.

4.1 On the co-occurrence restrictions of *else*

Nothing established so far rules out (85):

85) Fido started barking, then *some else dog started barking.

The predicted meaning for the *else* modified statement in (85), is given in (86d):

86) a. λD.[λP.D(λx.P(x) & x ≠ y_i)] (λP.λQ.∃x[P(x) & Q(x)]) (*else* + D composition)
b. λP.[λQ.∃x[P(x) & x ≠ y_i & Q(x)]] (λx.dog(x)) (*some,else* + *NP*)
c. λQ.[∃x[dog(x) & x ≠ y_i & Q(x)]] (λx.started barking(x)) (subject+VP)
d. ∃x[dog(x) & x ≠ y_i & started barking(x)]

In short (85) should be true iff there is some dog that is not Fido that has started barking. Nonetheless, (85) is out. In short, what is it about *else* that makes it incompatible with non-

light N's? In the previous section, the idea that *else* and D have a close syntactic and semantic relationship was defended, yet the co-occurrence restrictions for *else* suggest an additional relationship with N is active. In short, there must be some way in which *else* is restricted to just those DP's that involve N-to-D movement.

4.1.1 A solution to the co-occurrence puzzle and an account for the ban on vacuous exception.

One way to capture the relationship between *else* modification and N-to-D movement is to posit a Strong uninterpretable feature on *else* itself, which can be checked by N, but there are good conceptual reasons to believe *else* does not trigger movement. Given *else*'s position in syntax (namely, adjoined to D), it is ill suited to serve as a target for movement, as movement targeting *else* would result in a violation of the extension condition in Chomsky (1995), where merge can only target root nodes. In Figure 18, if *else* attracts *dog*, the resulting structure would violate the extension condition:[16]

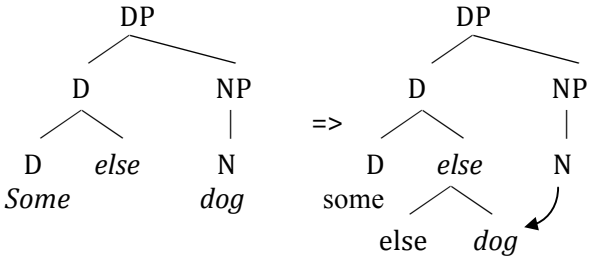

Figure 18

An additional conceptual argument against *else* as a movement trigger pertains to preventing **some dog else* from being generated; if *else* had a Strong uninterpretable feature that could be checked by light-N-to-D raising, such a feature could also be checked by the raising of a full lexical N, since, under Roberts' (1998) assumptions, light-N has a proper subset of the features of a full lexical N. I conclude that *else* is not a movement trigger.

How, then, can we capture the relationship between N-to-D movement and the licensing of *else* modification? One idea proposed to me by Veneeta Dayal (p.c.), is that *else*, in having a pronominal character evidenced by its anaphoric nature, requires checking of some feature (e.g. Gender) on N, and that since *else* is adjoined to D, it can only agree with N which has undergone N-to-D movement.

I adopt this suggestion here, and implement it as follows. Consider the left-most structure in figure (18); *dog* is not in *else*'s C-command domain. If *else* cannot drive movement and has to check an uninterpretable feature, F, on N, unless N moves into *else*'s C-command domain, F cannot be checked since *else* can only probe its C-command domain for an agreement goal. One possibility is that D, agreeing with N, can agree, in turn, with *else*, checking *else*'s uninterpretable N features. However, in the Minimalist framework of

[16] Head movement more generally violates the extension condition; V-to-T raising (and N-to-D raising), for instance, do not extend the tree at the root. Several emendations to the extension condition have been proposed to account for this (e.g. Safir's (2010) *revised extension*, and the multidominance treatment proposed in Svenonius (2005)). I adopt *revised extension* in Safir (2010) as the correct notion of extension; the output of movement in figure 18 violates revised extension.

Chomsky (1995), uninterpretable features cannot check uninterpretable features, so this sort of indirect "vicarious" feature checking is ruled out.

Nonetheless, the proposals in Roberts (1998) and Kishimoto (2000) allow for a way in which this problem can be circumvented. Specifically, Weak feature checking relations can result in overt movement of morphologically impoverished *light* elements like light N's and V's; one consequence of this is that once N undergoes head adjunction to D, it will be in the C-command domain of *else*, as in figure 19:

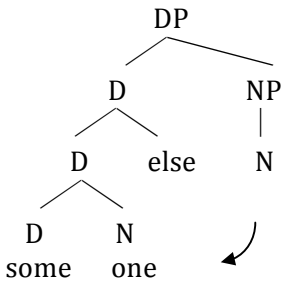

Figure 19

This is not to say that extension is violated; the derivational history of the right-most structure in figure 19 is what is at issue. Assuming N-to-D movement occurs prior to Merge between *else* and D+N, revised extension in the sense of Safir (2010) will be satisfied at every stage. In the configuration shown in Figure 19, *else* upon merging with D+N may probe its C-command domain and successfully agree with N as a goal, checking its uninterpretable features. Just what feature(s) should this be? I assume, in keeping with Carstens (2000) (among others) that this is Gender, which is interpretable on N, and uninterpretable on D, and, I argue, *else*.

Unlike pronouns more generally, *else* does not inflect for ***Φ***-features but, nonetheless, appears to be sensitive to ***Φ*** feature distinctions, specifically with regard to the ban on vacuous exception (where both the antecedent for *else* and restriction for the quantifier must match in (non-)human-ness).

Consider example (24), repeated below:

24) #An apple fell out of the tree, then someone else fell out of the tree.

In example (24), *someone* quantifies over human entities and the antecedent for *else* is a non-human entity (namely, an apple), hence the deviance of (24). Recall in section 2, where it was proposed that *else* has an implicit argument pronoun, which contributes a free variable to the semantics for *else* and gets assigned a value via an assignment function.[17] Let's call this implicit argument pro_i.[18]

Else enters the derivation with an uninterpretable Gender specification as an abstract reflex of agreement with pro_i. In (24), for instance, this would be an uninterpretable [-human] feature. As for ensuring that pro_i and its antecedent agree in this feature, I assume this is achieved in the same manner as for a deictic pronoun that receives its value from the

[17] I assume implicit arguments are not syntactically realized.

[18] I assume this implicit pronoun is not syntactically realized, and abstract away from questions of compositionality with respect to *else* and this implicit pronoun and stick to the semantics for *else* proposed in section 4. Cf. Culicover and Jackendoff 1995 for discussion of the syntactic nature of the anaphoric properties of *else*.

context. I adopt the mechanism proposed in Chierchia and McConnel-Ginet (1990), where deictic pronouns supply free variables, which are assigned values via an assignment function (let's call it *g*).

The value for a free variable *y* in a model, M under g would be g(y), where g(y) = a salient, familiar entity in the universe of M. In order to prevent discourses like that in (87), g must be sensitive to the features of pronouns, so that only entities with properties consistent with, for instance, gender agreement on the pronoun may serve as contextually supplied values:

87) Speaker A(Pointing at a tall bearded man holding an axe): #She looks menacing.

In Chierchia & McConnel-Ginet (1990), indices such as *masculine*, *feminine*, *human, non-human* etc. are introduced on individual variables in the semantics, which assignment functions are sensitive to. The subject pronoun *She* in (87), for instance, could be represented as the free variable $x_{[\text{feminine, 3rd person, nominative, singular}]}$; the output of $g(x_{[\text{feminine, 3rd person, nominative, singular}]})$ would be constrained such that only entities bearing properties consistent with the indices on *x* could be assigned as values for *x* by an assignment function.

Implicit arguments, however, do not have any morphological realization, and *else* is capable of taking both [+human] and [-human] entities as antecedents. Nonetheless, whether or not *else* can successfully do so depends on the [+/-human] specification on the NP restriction of the quantificational DP it modifies (this is the ban on vacuous exception). This relationship can be captured by appealing both to a Minimalist theory of feature-checking in Chomsky (1995) and the mechanism constraining assignment functions in Chierchia & McConnel-Ginet (1990).

Else enters the derivation with an uninterpretable Gender feature, acquired via agreement with pro_i; pro_i lacks inherent morphological content and acquires its Gender specification via agreement with whichever entity constitutes its value; in (24), for instance, this is an apple, which is [-human], so *else* bears an uninterpretable [-human] feature that must be checked and deleted before Spell-Out in order to ensure convergence at LF. The result is that uninterpretable Gender on *else* will only be successfully checked when an established Agree relation between D and N has resulted in overt movement, since only in that case will N be in *else*'s C-command domain (as in figure 19) and be capable of serving as a valid goal.

This additionally derives the ban on vacuous exception; since N and *else* must agree in order to check *else*'s uninterpretable Gender feature, both N and *else*'s Gender specifications must match. Since *else* acquires its Gender specification from pro_i, *else* and pro_I must match as well. If *else*'s Gender specification must match that on N, then Gender on N will transitively restrict the set of entities that may serve as licit antecedents for *else*. Thus, when the light N is *thing*, *place*, or *where*, which are specified as [-human], an assignment function supplying a value for the free variable contributed by pro_i will be restricted to assigning non-human entities as values to the free variable, and human values for *body* and *one*.

In the next section, I discuss the semantics and syntax of the exceptive modifier *other*, in its prenominal context, which has the same overall contribution to the meaning of a sentence as *else*, but has a much freer syntactic distribution. The syntax of CQ's established thus far in tandem with the syntax for *other* proposed in the next section account for the absence of prenominal *other* in CQ's.

4.2 The semantics and syntax of *other*

In section 1.0, it was shown that *else* modified sentences can receive paraphrases with corresponding sentences with *other*:

88) Jack went someplace else.
89) Everyone else left.
90) Nobody else likes caviar.

91) Jack went to some other location.
92) Every other person left.
93) No other person likes caviar.

The *else* examples in (88-90) seem synonymous with their corresponding *other* sentences in (91-93). In this section I illustrate some similarities and differences between *other* and *else*; the differences are shown to be largely syntactic in nature, though just like *else*, *other* is shown to be an anaphoric exceptive modifier. *Other* has a wider syntactic distribution than *else*; as such, I focus my attention primarily on pre-nominal *other* in this section (i.e. *other* when followed immediately by an NP).

I begin by discussing the similarities between *other* and *else*. Just like *else*, *other* is anaphoric. Recall the context used in section 2.0 in showing that *else* is anaphoric:

94) Context: You're looking out the window and you're on the phone with a friend talking about a party you both went to last week.
    a. #There's some other person walking up to the front door.
    b. There's some person walking up to the front door.

In (94a), there is no salient antecedent available in the discourse for *other*. The example improves, for instance, if you introduce such an antecedent prior to (94a) (e.g. *there's someone getting out of a police car outside*…).

Just like *else*, *other* contributes distinctness; in (95), (95c) is bad because it implies that the person who got out of the police car is the same as the person who is walking up to the front door; this conflicts with the distinctness asserted by *other* and, as with *else*, shows that *distinctness* as contributed by *other* is stronger than an implicature:

95) a. There's someone getting out of a police car.
    b. Now there's some other person walking up to the front door.
    c. #Specifically, the person who got out of the police car.

Just like *else*, *other* also has a ban on vacuous exception:

96) a. First John fell off the boat.
    b. #Then, some other life jacket fell off the boat.

Just like *else*, *other*'s antecedent is excluded from the domain of quantification:

97) a. Jack left and every other person stayed.
    b. Jack stayed and every other person stayed too.

98) a. Jack$_i$ left and everyone else$_i$ stayed.
b. Jack$_i$ stayed and everyone else$_i$ stayed too.

Example (97a) is true in the situation represented in Figure 20, and (97b) in the situation represented in Figure 21:

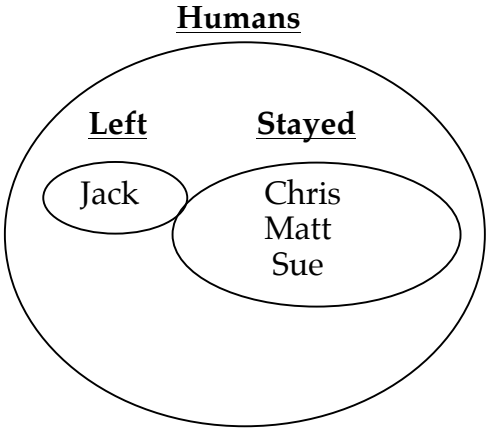

Figure 20: (97a) = True

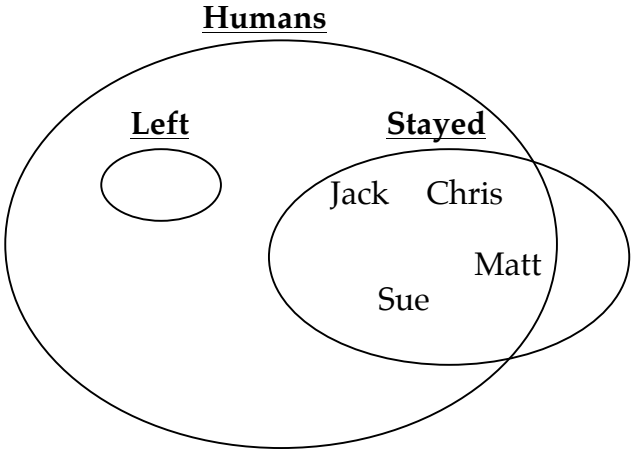

Figure 21: (97b) = True

To summarize, prenominal *other* and *else* appear to be entirely parallel in terms of their semantic contribution. Both are anaphoric exceptives subject to the ban on vacuous exception. Given that *other* has the same interpretive contribution as *else*, sentences like (99a) receive the same semantics as the sentence in (99b), namely the semantics in (99c):

99) a. Everyone *else* left.
b. Every *other* person left.
c. $\forall x[\text{human}(x) \,\&\, x \neq y_i \rightarrow \text{left}(x)]$

Now I turn to differences between prenominal *other* and *else* (which are syntactic). First, unlike *else*, *other* can take a complement:

100) a. Every student [$_{\text{otherP}}$ other [$_{\text{ThanP}}$ than Bill]] left.
b. *Everyone [else [$_{\text{thanP}}$ than Bill]] left.

Furthermore, *other* can co-occur with non-light N's, unlike *else*.

101) a. The other dog was barking.
b. They hired some other applicant.

Interestingly, *other* can co-occur with CQ's, but it must obligatorily take its ThanP complement in these cases:

102) a. Someone other *(than Bill) should lift this box.
b. Everyone other *(than her) left.

In contrast, when *other* precedes a non-light N, it cannot take its ThanP complement:

103) a. The other (*than Fido) dog was barking.
b. They hired some other (*than jack) applicant.

The contrast between (102) and (103) points us to the following structural analyses for *other*. *Other* obligatorily takes a complement; when *other* precedes a nominal in a DP, that complement is NP. This explains why prenominal *other* cannot have its ThanP complement.

The structures in figures 22 and 23 instantiate these structures respectively:

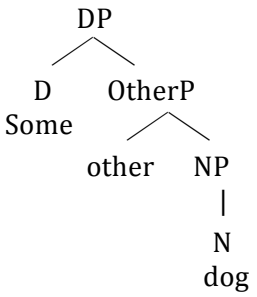

Figure 22

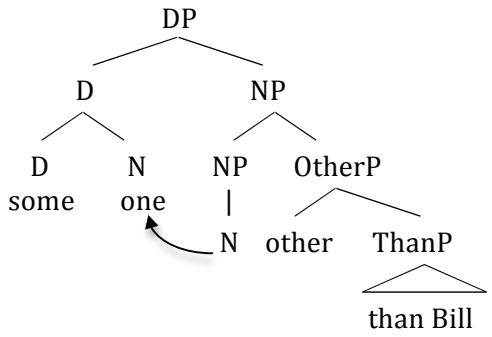

Figure 23

Figure 22 illustrates the structure for pre-nominal *other*; Figure 23 illustrates *Other*P as a right NP adjunct that takes ThanP as a complement. Figure 23 is also a CQ and illustrates the only configuration in which *other*P can co-occur with CQ's. I claim that this is because the alternative in Figure 22 would block head movement from N-to-D.

Unlike *else*, I claim *other* straightforwardly composes with NP via predicate modification. The semantics I propose for *other* is given in (104). The structure in Figure 24 illustrates a derivation for *every other student left*:

104) $[\![\text{Other}]\!] = \lambda x.x \neq y_i$

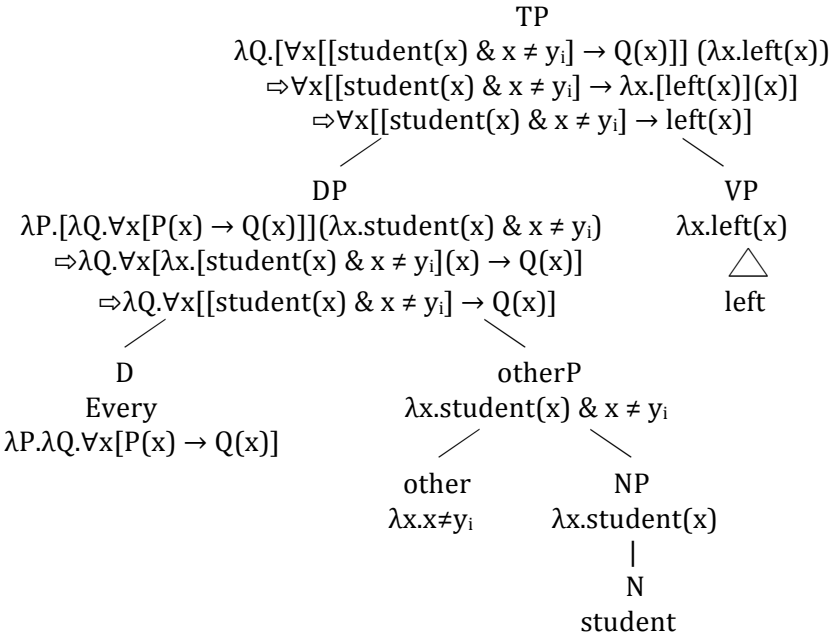

Figure 24: *other*

To conclude this section, *other* is a prenominal head that takes NP as its complement. *Other* and NP compose via predicate modification. As discussed in section 3.0, prenominal heads block N-to-D movement (which is why there can be no prenominal adjectives in CQ's). This accounts for why *other* cannot take a light N as a complement, generating sentences like:

105) *Someone$_i$ other t_i left.

The ban on vacuous exception for *other* is captured in the same way as for *else* – via agreement. *Other*, just like *else*, is anaphoric, and has an implicit pronominal argument with which it agrees in Gender, which is an uninterpretable feature on *other*; uninterpretable Gender must be checked via agreement with some interpretable Gender feature. The interpretable Gender feature on *other*'s NP complement checks *Other*'s uninterpretable Gender feature. In order for this to succeed, both Gender specifications on *Other* and N must match, thereby constraining the space of possible entities capable of supplying the value for the free variable contributed by *other*'s implicit pronominal argument.

In the next section, I discuss *else* modification in Wh-questions. For the most part, the semantics and syntax thus far proposed for *else* is straightforwardly extended to Wh-else questions. However, Wh-else questions have an additional property that does not follow either from the semantics of questions or the semantics of *else* exception.

5.0 *Else* in Wh-questions

As mentioned in the introduction, *Else* can modify bare Wh-phrases in constituent questions:

106) A: Jack attended the meeting.
B: Who else attended the meeting?
107) A: Jack bought some pizza.
B: What else did he buy?

Only 'bare' Wh-phrases (i.e. with no NP complement) can be modified by *else* (i.e., those in (108). The examples in (109) illustrate cases where *else* modifies a Wh-phrase that takes an overt NP complement.

108) { who, what, where, when, why, how, how much } + (else) = where else, why else, how else, etc.

109) *Which else one have you read?
110) *What else kind of dog do you like?
111) *How much else money do you have?

Wh-phrases modifiable by *else*, unlike compound quantifiers, appear to be morphologically simplex. With compound quantifiers, we could point to some N-like morpheme concatenated with D, something missing in Wh-phrases. The analysis for *else* modification defended here forces us, nonetheless, to assume N-to-D movement in Wh-phrases. I claim that this is the relevant property linking CQ's and Wh-phrases with respect to *else* modification.[19,20]

For the moment, I focus on the interpretation of Wh-phrases. Just like with non-interrogative DP's, Wh-*else* DP's involve the interpretation of N in its base (reconstructed) position. In line with Kartunnen (1977), I assume Wh-phrases receive the same semantics as existentially quantified DP's. Wh-phrases are DP's where D has a [+Wh] feature. If N in a Wh-DP is specified as [+human], DP is pronounced as 'who', if [-human], DP is pronounced as 'what'. Similarly, I assume non-argumental Wh-phrases such as *where* and *when* are specified as [+place], [+time] and such, by analogy with their corresponding non-interrogative CQ's (e.g. *someplace*).

The Wh-DP *who* receives the following compositional treatment: N is interpreted in its base position, and the semantics is entirely parallel to an existentially quantified DP:

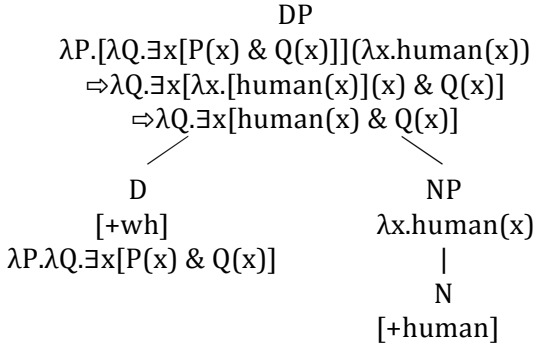

Figure 25: 'Who'

I adopt the semantics for questions in Karttunen (1977) where questions denote a set of propositions that jointly constitute the true answer to the question. For a question like that in (106B), this gets us the semantics in Figure 26:

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[19] Worth noting is that *else* modification of Wh-phrases is much more productive than with non-Wh-QP's; only the quantifiers *some*, *every*, *no*, and *any* productively concatenate with light nouns to form CQ's. There are some scattered exceptions – e.g. *elsewhere*, as well as *much else* and *all else*. With respect to *elsewhere*, Yap and Celce-Murcia (2000) note that *elsewhere* is the sole surviving member of a class of adverbs in Old and Middle English such as *elsewhence*, *elsewhither*, *elseways*, *elsewise*, and *elsewheres*. As for *much else* and *all else*, informal judgements collected from colleagues suggest that these too are not examples of a productive phenomenon in standard English; only *much else* and *all else* are acceptable, whereas generally, D+*else* is unacceptable: **few else*, **most else*, **many else*, **5 else*, **both else*, **each else* etc.

[20] There are several possibilities with respect to what N-to-D raising looks like in Wh-phrases, for example, N could be silent and raise to D hosting the Wh-phrase, or, the Wh-phrase itself is N and undergoes N-to-D movement targeting a silent D. Yet another alternative involves a many-to-one mapping from syntactic terminal nodes to lexical items; $D^{[+WH]}$+{*one*/*body*} is spelled out as *who*, for instance. I fail to see at this time how any one of these alternatives bears on the analysis being defended here or how one of these is conceptually or empirically more attractive than the other. As such, I will leave exploring this question aside in this paper.

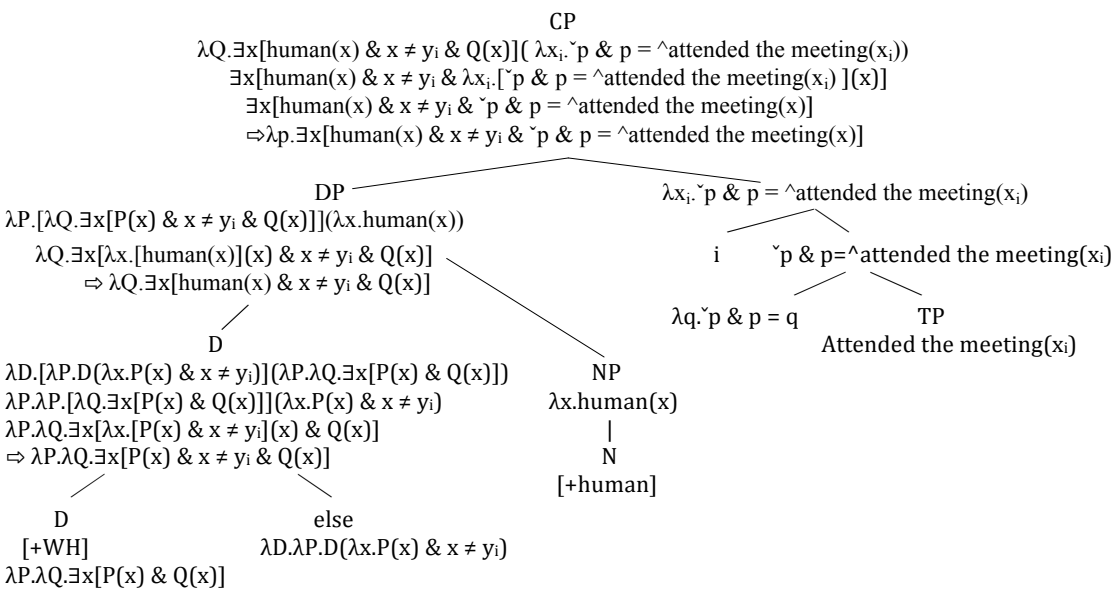

Figure 26: Who else attended the meeting?

112) Who else attended the meeting =

λp.∃x[human(x) & x ≠ y_i & ˇp & p = ^attended the meeting(x)]

The meaning for the question in (112) is intuitively correct, the question denotes the set of true propositions of the form 'x attended the meeting' where x ≠ Jack. So far, things are as expected given Karttunen's semantics for questions and the semantics for *else* modification developed thus far.

However, Wh-else questions have the following unexpected property: the antecedent of *else* is presupposed to be in the extension of the VP property of the question.

113) Jack$_i$ didn't attend the meeting. #Who else$_i$ attended the meeting?

Example (113) differs minimally from that in (106B) in that it is expressly stated in the discourse that the antecedent for *else* is not in the extension of the VP property. Asking the same *else* question is infelicitous in this case.

As previously mentioned, *else* does not require that its antecedent be in the extension of the VP property:

114) Jack$_i$ attended the meeting and someone else$_i$ attended the meeting.
115) Jack$_i$ didn't attend the meeting but someone else$_i$ did.

Additionally, for both (106B) and (113), the semantics of the question given in figure 24 would be the exact same.

For the Wh-else question in (106), the proposition {Jack attended the meeting} would not find its way into the question's denotation because only propositions about non-Jack individuals constitute part of the question's meaning (due to *distinctness* as contributed by *else* exception). For the Wh-else question in (113), the proposition {Jack attended the meeting} is excluded from the question's meaning for two reasons; both *else*-exception and

the falsity of the proposition serve to exclude it. The resulting meaning for the question is the same in both cases.

Else questions therefore obligatorily have an "also" reading, where (106) can be paraphrased as:

116) Who also attended the meeting (in addition to Jack)?

That is, (106B, 113) can only have the reading in (116) and cannot have the reading associated with the question in (117):

117) Jack didn't attend the meeting, but someone else did – who was that person?

This additive reading doesn't stem from something about (what is usually taken to be) the presupposition of the question. Informally, a paraphrase of the presupposition of a Wh-question can be arrived at by replacing the Wh-phrase with a corresponding non-interrogative indefinite (e.g. replacing *who* with *someone*).

In both the discourses in (106) and (113), the presupposition of the question is that *someone who is not Jack attended the meeting*. Insofar as there was a meeting, in both of these discourses, the presupposition of the question is met and there does not appear to be any reason why the question cannot be asking for the identity of one of the (non-Jack) individuals that attended the meeting.

One potentially fruitful lead in the investigation of this puzzle is the fact that in the infelicitous examples, such as in (113), two factors serve to exclude the proposition {Jack attended the meeting} from the meaning of the question; both distinctness as contributed by *else* modification and the requirement that only true propositions constitute part of the question's meaning, whereas in the good cases, where the presupposition that *else* 's antecedent is in the extension of the question's VP property, only one factor (distinctness) serves to exclude the relevant proposition from the question's meaning.

In some sense, the question itself already acts like an exceptive, by excluding the proposition {Jack attended the meeting} from the denotation of the question. Perhaps an independent principle or principles (yet to be determined) militate against an additional mechanism (i.e. *else* exception in this case) that achieves the same result.

6.0 Conclusion

In this paper, I have provided a compositional semantics for the exceptive modifiers *else* and prenominal *other*. *Else* and prenominal *other* are both anaphoric exceptive modifiers which are incompatible with vacuous exception. Despite their distinct syntactic properties, they nonetheless have an identical overall contribution to the interpretation of the sentences they modify.

Else is claimed to be a D adjunct with morphological and semantic properties that restrict it to CQ's. *Other* was shown to head a phrase; prenominal *other* takes NP as its complement and contributes distinctness via predicate modification with the NP it selects for. The incompatibility of *other* with CQ's follows from the fact that CQ's involve head movement and cannot tolerate prenominal modifiers as a result; prenominal modifiers intervene between D and light N, which enter into a Weak feature checking relation (as in Roberts 1998) triggering light N raising, in keeping with the analyses in Abney (1983) and Kishimoto (2000). If this movement skips intervening heads, Travis (1984)'s head movement constraint is violated. This accounts not only for the complementary distribution

of prenominal *other* and *else* but also Larson and Marušic's (2004) observations regarding the nature of adjectives in CQ's.

In investigating the syntactic contexts in which *else* is found, namely CQ's, I proposed a syntax for CQ's that is compatible with the N-to-D raising analyses of Abney (1983) and Kishimoto (2000) that also meets the challenges posed for N raising analyses by the data in Larson & Marušic (2004). In the final section, I examined the role of *else* in Wh-*else* questions and illustrated that for the most part, Wh-*else* questions behave as expected given the semantics for *else* established prior to that section and the semantics for questions proposed in Karttunen (1977). The puzzle discussed in the last section, regarding Wh-else questions having only an "also" reading is left untreated here.

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