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WHAT ALL HAPPENS WHEN A UNIVERSAL QUANTIFIER COMBINES WITH AN INTERROGATIVE DP*

Robert Cirillo

Abstract

Universal quantifiers such as *all* select a DP as their complement and can be “floated” or “stranded” by that DP, and in certain Germanic languages they can also co-occur with an interrogative DP. The purpose of this article is to investigate whether interrogative and non-interrogative DPs that co-occur with a universal quantifier in the Germanic languages have the same relationship to that quantifier and have gone through the same selection process. I begin with evidence from German that universal quantifiers can in fact select and be stranded by interrogative as well as non-interrogative DPs, but I ultimately argue, going back to an analysis in Giusti (1990b), that a universal quantifier co-occurring with an interrogative is base-generated to the right of that interrogative, not to its left. I also propose that the formation of interrogative expressions involving universal quantifiers may take place in the syntax or in the lexicon, depending on the language.

1. Introduction

It is well known that universal quantifiers in the Germanic and Romance languages select a DP as their complement and that they can also appear in a position left-adjoined to vP:

- (1) a. *Alle die Studenten haben das Buch gelesen.* (German)
all the students have the book read
b. *Die Studenten haben alle das Buch gelesen.*
the students have all the book read
- (2) a. *Tutti gli studenti hanno letto il libro.* (Italian)
all the students have read the book
b. *Gli studenti hanno tutti letto il libro.*
the students have all read the book

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The first one to propose that floating quantifiers such as those in (1b) and (2b) are base-generated as left adjuncts to DP rather than to vP and are then stranded by the DP when it moves to a higher position was Sportiche (1988). This so-called *Stranding Analysis* of floating quantifiers was refined by Giusti (1990a), who treated the stranded quantifier not simply as a left adjunct to DP but as the head of a quantifier phrase that dominates DP. Shlonsky (1991) put the finishing touches on the Stranding Analysis, and Cirillo (2009) updated it for more recent developments in linguistic theory. It is widely but not universally accepted. Its validity is assumed in this article.

In deriving (1b) and (2b) under the Stranding Analysis, one begins with the following structure:

Under this approach, the entire QP in (3) can move to a higher position, producing (1a) and (2a), or the DP selected by the universal quantifier can move up by itself, via [SPEC, QP], stranding the quantifier and producing (1b) and (2b). Note that when the DP moves out of QP via [SPEC, QP] it must continue on its own. It cannot pied-pipe the quantifier. Put in another way, once the DP has moved to [SPEC, QP], the QP as a whole can no longer move the way it did in (1a) and (2a). The following sentences, based on those in (1) and (2), are ungrammatical:

- (4) a. **Die Studenten alle haben das Buch gelesen.* (German)
 the students all have the book read
- b. **Gli studenti tutti hanno letto il libro.* (Italian)
 the students all have read the book

The significance of the data in (4) will be discussed in Section 2.2.¹

Given the data in (1) and (2), it appears that universal quantifiers have the same selectional properties, semantics and syntax across the Germanic and Romance language families. They select a DP, they have universal semantics, and they have the syntactic property of being able to be stranded, due to their position as head of QP. This article deals with the question of what happens when a universal quantifier combines with an *interrogative* DP. The remainder of the article is divided into three sections. In Section 2, I show how universal quantifiers and wh-phrases interact in German and offer a tentative hypothesis. I then point out the weaknesses in that hypothesis and propose an alternative approach. Section 3 supplements the findings from German with data from other languages. In Section 4 I present the conclusions that can be drawn from the data and discussion in Sections 2 and 3.

2. What all happens when universal quantifiers combine with wh-words in German

This section is organized as follows: Section 2.1 presents examples from German of universal quantifiers in combination with interrogative phrases and offers a tentative analysis and model based on the assumption that interrogative DPs can be selected by a universal quantifier. Section 2.2 contains some sample derivations within the framework of this proposed model. Section 2.3 points out the weaknesses in the model and proposes an alternative.

2.1 Data and a possible analysis

We begin with the following sentences:

¹ Cardinaletti and Giusti (2006) point out that the word order in (4b) is possible in languages like Portuguese, Romanian and Spanish and conclude that in these languages it is possible for an entire QP to move even after a DP has moved to [SPEC, QP]. Due to space limitations it is not possible to debate this issue here, but a counter-suggestion is simply that in these languages the universal quantifier has adjectival qualities that allow it to appear in normal post-nominal adjectival position. An English sentence such as *The Students all passed the test* might also seem to be evidence that an entire QP can move after a DP has moved to [SPEC, QP], however in English it is widely assumed that verbs do not move to AgrS/T/I. This would mean that in this sentence the subject DP *The students* is in the SPEC position of AgrSP/TP/IP and the quantifier has been stranded in [SPEC, vP], as argued in Cirillo (2009).

(5) a. *Welche Studenten alle sind gekommen?*
 which students all are come

 b. *Welche Studenten sind alle gekommen?*
 which students are all come

(6) a. *Was alles liegt auf dem Tisch?*
 what all lies on the table

 b. *Was liegt alles auf dem Tisch?*
 what lies all on the table

In these sentences the universal quantifier has the function of turning the question into a request for an enumeration. In (5), one is asking, “Tell me the names of all the students who came.” In (6) one is asking, “Tell me all the things that are lying on the table.” I will refer to the semantic feature that allows a universal quantifier to combine with an interrogative word in this way as the *list reading feature*. As we will see, this feature is not borne by the universal quantifier in all languages, and even if it is present in a particular language, it might be applied arbitrarily and inconsistently in regional variants of the same language. This will be discussed in Section 3. For now, we will concentrate on German.²

The first question is how one would analyze (5) and (6). Since *welche Studenten* in (5) and *was* in (6) are DPs, and since we know that universal quantifiers select DPs and can be stranded by them, it seems logical to assume that the structure in (3) applies to (5) and (6) as well as to (1) and (2). Therefore, I will tentatively propose the diagrams in (7) and (8) as the base-structures for the subjects of the sentences in (5) and (6), respectively. In (7) we see a QP in which the universal quantifier *alle* has selected a full DP headed by the wh-determiner *welche*. In (8) we see a QP in which the universal quantifier, which bears the [s] ending corresponding to neuter singular morphology, has selected the bare interrogative DP *was*.

² This *list reading feature* is not to be confused with list readings such as those discussed in Chierchia (1992 and 1993) and elsewhere. For example, a sentence such as *Whom do all the boys love?* can have a *pair-list* interpretation (*John loves Mary, Hans loves Gudrun, and Yoshi loves Yoshiko*) or a *single pair/individual* interpretation (*All the boys love Lisa*). These interpretations are dependent upon whether the wh-word *whom* has wide or narrow scope with respect to the DP *all the boys*. The list reading feature that I am referring to is not related to scope in the same way. It is an extension of the semantics of the universal quantifier and implies that the speaker is asking for an enumeration.

Before moving on to the actual derivations of the sentences in (5) and (6), I will demonstrate why one must assume that *welche* in (7) is in the D position, I will point out an interesting feature of *welche* as a determiner, and I will explain why I place the pronoun *was* in D in (8).

It is characteristic of determiners occupying D in German that they do not bear the weak ending [n] but rather the strong null ending. The sentences in (9) illustrate this. In (9a) and (9b) the demonstrative *diese* and the possessive pronoun *meine* do not bear the weak [n] ending.³ In (9c),

³ For analyses in which possessive pronouns in the Germanic languages and some Romance languages move to D, see Schoorlemmer (1998) and den Besten (2006).

however, the adjective must bear the weak ending, since it does not occupy D. Given that in (5) the interrogative word *welche* cannot bear the weak [n] ending, one can conclude that it is located in D.

- (9) a. *All(e) diese/*diesen Studenten sind intelligent.*
 all these students are intelligent
- b. *All(e) meine/*meinen Studenten sind intelligent.*
 all my students are intelligent
- c. **Alle guten/*gute Studenten sind intelligent.*
 all good students are intelligent

It is important to point out that the determiner *welche* triggers weak [n] inflection on the adjectives that follow it and thus seems to behave more like a definite than an indefinite determiner/quantifier/numeral. This is seen in (10). The significance of these examples will be discussed shortly.

- (10) a. *Alle/Die/Diese/Meine/Welche guten Studenten*
 all the these my which good students
- b. *Einige/Viele/Wenige/Mehrere/Fünf gute Studenten*
 some many few several five good students

Regarding the base-position of *was* in (8), I follow the arguments in Abney (1987), Longobardi (1994) and Sleeman (1996) and assume that pronouns are base-generated in D. I also offer additional evidence that pronouns in German are base-generated in D, namely, the fact that they have the syntactic effect of the definite article. The sentences in (11) show that the weak ending, indicated by the [n] on *Deutschen*, is obligatory for adjectives and substantivized adjectives that follow the definite article. The sentences in (12) show a very interesting phenomenon. Example (12a), with the strong null ending on the adjectival noun *Deutsche*, represents what is considered to be “Standard German” and what is taught in the schools. However, a very large percentage of German speakers, perhaps even a majority of them, prefer the weak ending shown in (12b). This shows that the pronoun *wir* has the effect of the definite article, implying that pronouns occupy D.

- (11) a. **Die Deutsche essen keinen Gorgonzola.*
 the Germans eat no Gorgonzola
- b. *Die Deutschen essen keinen Gorgonzola.*
 the Germans eat no Gorgonzola

(12) a. *Wir Deutsche essen keinen Gorgonzola.*
 we Germans eat no Gorgonzola

 b. *Wir Deutschen essen keinen Gorgonzola.*
 we Germans eat no Gorgonzola

2.2 Derivations

In deriving (5) and (6) from (7) and (8), I assume that in the Germanic languages a wh-DP moves to [SPEC, CP], following den Besten (1983) and others, and that wh-movement is local/cyclical.⁴ This means that before moving to [SPEC, CP] the wh-DP must move to [SPEC, QP].

After the wh-DP has moved to [SPEC, QP], if we follow the Stranding Analysis of floating quantifiers, one of two things can happen. The entire QP can move to [SPEC, CP], producing (5a) and (6a), or the wh-DP can move to [SPEC, CP] by itself, stranding the quantifier and producing (5b) and (6b). Note that there is an important difference between the movement of wh-DPs and non-wh-DPs. As shown in (4), once a non-wh DP has reached [SPEC, QP], it must continue on its own. The QP as a whole can no longer move. However, as shown in (5a) and (6a), in the case of a wh-DP the entire QP can move even after the DP has reached [SPEC, QP], with the effect that the wh-DP pied-pipes the quantifier. Giusti (1991) pointed out a similar pattern with pronouns. Like a wh-DP in QP, a pronoun in QP must also move to [SPEC, QP] in German and English, and once it does it can strand the quantifier, as expected, or the entire QP can move upward:

(13) a. *Sie alle haben gegessen.*
 they all have eaten

 b. *Sie haben alle gegessen.*
 they have all eaten

 c. **Alle sie haben gegessen.*
 all they have eaten

To explain why a QP containing a wh-word or a pronoun may move in its entirety, with the effect that the quantifier is pied-piped as suggested in (5a), (6a) and (13a), one could propose that the features that trigger the obligatory movement of pronouns and wh-phrases are projected through the entire QP. As pointed out by an anonymous reviewer, however, this would not explain the *optionality* of the movement of the entire QP. If a feature

⁴ Arguments that A-bar movement is subject to locality can be found in Chomsky (1977, 1995, 2001), McCloskey (1990), Torrego (1983), Rizzi (1990, 2006) and elsewhere.

must be checked and it permeates an entire phrase, then the entire phrase should have to move. One would thus have to postulate that it is the upward projection of the features that is optional, which would be an ad hoc stipulation. Nonetheless, optionality does seem to be relevant. I therefore tentatively propose that the features that force a wh-phrase or a pronoun to move leftward create a kind of momentum that allows but does not force the entire QP to move, as seen in (5), (6) and (13). It is relevant that speakers generally prefer the (b) sentences in (5), (6) and (13). In other words, they prefer not to move the entire QP, which implies that economic principles are at work. In (4), in which there is no feature forcing the DP to move out of QP, principles of economy need not compete with the momentum created by obligatory movement, and pied-piping of the QP does not take place.

Some readers might object to analyzing (6b) as a case of stranding, based on the following examples:

- (14) a. *Wer alles ist gekommen?*
 who all is come
- b. *Wer ist alles gekommen?*
 who is all come

In these sentences the universal quantifier has to be an adverbial adjunct because its neuter inflection does not agree with the non-neuter gender of the interrogative pronoun *wer*. One could therefore argue that what we see in (6a) and (6b) is the same as what we observe in (14a) and (14b). Whereas I will not deny that one could analyze (6) as being analogous to (14), I must point out that one cannot rule out the possibility that (6b) is derived from (8) and is an instance of stranding. Observe the following examples, in which a bare demonstrative pronoun that presumably occupies D and is thus very comparable to the interrogative word *was* can be selected by and strand the universal quantifier:

- (15) a. *Alles das ist nur meine persönliche Meinung.*
 all that is only my personal opinion
- b. *Das ist alles nur meine persönliche Meinung.*
 that is all only my personal opinion

The following examples from Giusti (1990b) are also relevant:

- (16) a. *Mit wem allem hast du gesprochen?*
 with whom all have you spoken
- b. *Mit wem hast du allem gesprochen?*
 with whom have you all spoken

In the sentences in (16) the quantifier, whether floating or not, exhibits the singular, masculine dative morphology of the interrogative pronoun *wem*, just as the quantifier in both examples in (6) agrees in number, case and gender with the singular, nominative, neuter pronoun *was*. One can therefore not exclude the possibility that (6b) is derived from (8) and is an example of stranding.

2.3 Weaknesses in the model and a possible alternative

In Section 2.1 I proceeded from the similarity between (1) and (5) and proposed a unified analysis in which both sentences are instances of a universal quantifier that selects a DP and can be stranded. Let's call this proposal the *Selector Approach*. A unified analysis is of course always desirable, but this one has some serious weaknesses. One of these is the need for the ad hoc stipulation regarding the optionality of quantifier pied-piping by wh-DPs but not by non-interrogative DPs. This contrast is shown in (4a) and (5a) above. This weakness is perhaps mitigated by independent motivation provided by the fact that a similar phenomenon occurs with pronouns, but, as I will argue shortly, there are reasons not to pursue a unified approach for pronouns and wh-words.

A second weakness in the Selector Approach is that it has been well argued in Giusti (1991) and Cardinaletti and Giusti (2006) that universal quantifiers can select only definite or generic DPs. I had mentioned that the data in (10) suggest that at least in German there might be some definiteness or specificity associated with a word like *welche* because it triggers weak morphology. However, the evidence in (10) is unconvincing for two reasons. First of all, there are two German quantifiers, *solche* and *manche*, that would seem to have indefinite semantics but which trigger weak [n] morphology on adjectives, meaning that the data in (10) are inconclusive:

- (17) a. *Manche/solche guten Studenten*
 many such good students

Secondly, there is morphological evidence that wh-words are not definite. In Hungarian, for example, interrogative words, including *milyen* (*which*), fail to trigger the verbal morphology required by definite direct objects:

- (18) a. *Ez a könyvet kéred.*
 this the book (you) want
- b. *Kit / Mit / Milyen könyvet kérsz?*
 whom what which book (you) want

A third weakness in the Selector Approach, which I present Section 3, is that there are languages in which universal quantifiers and interrogatives do not co-occur at all, or, if they do co-occur, do so arbitrarily and sometimes without quantifier stranding. The fact that universal quantifiers select and can be stranded by definite and generic DPs in all the Romance and Germanic languages but do not universally show the same behavior with interrogative DPs casts doubt on the Selector Approach for interrogatives.

Given the above three weaknesses in the Selector Approach (and a fourth one in English, that will be presented in Section 3) an alternative analysis must be considered. If the universal quantifier in (5) and (6) is not the selector of the interrogative DP, then it can only be its complement. This idea of base-generating universal quantifiers to the right rather than to the left of an interrogative DP is very similar to a proposal in Giusti (1990b), who treats a universal quantifier that occurs with an interrogative as a “right-adjoined partitive constituent”. Giusti was concerned mainly with occurrences of the German neuter *alles* exemplified in (14), but her idea can be extended to all occurrences of the universal quantifier with interrogatives, not only in German but in other languages, and it is consistent with her claim that a universal quantifier only selects definite and generic DPs. (In this article I will use the term *complement* rather than *right adjunct*.) This *Complement Approach* eliminates the need for the stipulation on optionality for QPs containing wh-DPs. As I will argue in Section 3, it also simplifies the syntax because it implies that inter- and intra-linguistic variation result from a lexical difference, namely, the presence or absence of the list reading feature. This approach will be laid out in detail in the next section.

Before moving to Section 3, although this article is not about pronouns as such, I would like to discuss the possibility of applying the Complement Approach to pronouns as well as to wh-expressions, thereby explaining data such as (5) and (13) in a unified manner. There are two problems with this idea. First of all, unlike interrogatives, pronouns co-occur with universal quantifiers all across the Germanic and Romance language families. This suggests that there is no language-specific “pronoun selection” feature comparable to the list reading feature. Secondly, in Italian and Spanish pronouns may but need not move to the left of their selecting quantifier. The examples in (19) would be difficult to account for by a complement approach and provide strong evidence in favor of an analysis in which pronouns are selected by universal quantifiers and then move leftward:

- (19) a. *Loro tutti/Tutti loro hanno letto questo.* (Italian)
 they all all they have read this

- b. *Ellos todos/Todos ellos han leído esto.* (Spanish)
 they all all they have read this

We can now look at relevant data in other languages.

3. What all happens with universal quantifiers and interrogatives in English, Swedish and the Romance languages

In Section 2 we saw that while the Selector Approach works well in German mechanically, it has theoretical issues. The Complement Approach was thus proposed as an alternative. We will now see that in other other languages there is even more compelling evidence for the Complement Approach. The sentences in (20) and (21) are the English equivalents of the German sentences in (5) and (6). Whereas all four sentences in (5) and (6) are grammatical, American English only allows the equivalent of one of them:

- (20) a. **Which students all have come?*
 b. **Which students have all come?*
- (21) a. *What all is lying on the table?*
 b. **What is all lying on the table?*

The following sentences are also relevant:

- (22) a. *Where all have you been?*
 b. **Where have you all been?*
 c. *Who all has arrived?*
 d. **Who has all arrive?*

Note that speakers of British English find all of the sentences in (20) to (22) ungrammatical, eveng (21a), (22a) and (22c). This fact, combined with the arbitrariness with which the universal quantifier can co-occur with a wh-word in American English and the lack of stranding, strongly suggests that wh-words are not selected by the universal quantifier in English.

There is additional evidence that the Selector Approach is not the correct explanation for sentences like (21a) and (22c). Keep in mind that under the Selector Approach the wh-word in these two sentences is the complement of the quantifier and has pied-piped it to subject position after moving through [SPEC, QP]. A wh-word can also be the complement of a preposition, and the preposition can be stranded or pied-piped. One would expect to see similarity between a PP and a QP if a wh-word is present, but instead we see two major differences. First, when a preposition is pied piped with a wh-word that is its complement, the wh-word has *not* moved to [SPEC, PP]:

- (23) a. **Whom with did he go to the party?*
 b. *With whom did he go to the party?*

Secondly, prepositions, unlike quantifiers, do not have to be pied-piped:

(24) *Whom did he go to the party with?*

The implication is that if the wh-word in (21a) and (22c) were really the complement of the quantifier and if pied-piping were really involved, we would see a pattern more like that in (23b) and (24). Given the contrary, the Selector Approach for interrogatives becomes still more doubtful.

Turning now to Swedish, we see that it seems to exhibit a mixed pattern. All four of my native informants gave me the following judgments:

- (25) a. **Vilka studenter alla har läst boken?*
 which students all have read book the
- b. *?Vilka studenter har alla läst boken?*
 which students have all read book the
- c. **Vad allt har hänt efter det?*
 what all has happened after that
- d. **/?Vad har allt hänt efter det?*
 what has all happened after that

Swedish, if it allows the combination of a universal quantifier and an interrogative expression at all, insists that the quantifier be stranded. This makes Swedish somewhat analogous to German, which prefers but does not demand stranding. Given the marginality of (25b) and (25d), however, one could also say that Swedish is approaching British English in its disfavoring of universal quantifiers in combination with interrogatives.

For the sake of completeness, note that in the Romance languages the universal quantifier never appears with an interrogative:

- (26) a. **Quali studenti tutti sono venuti?* (Italian)
 which students all are come
- b. **Quali studenti sono tutti venuti?*
 which students are all come
- c. **Che tutto hai fatto?*
 what all have you done
- d. **Che hai fatto tutto?*
 what have you done all

The data presented in this section show that the list reading feature

on the universal quantifier is not universal. British English and the Romance languages do not have it, Swedish seems to be evolving away from it, and American English applies it arbitrarily and inconsistently, allowing *all* to occur only with singular interrogative DPs. In American English there is also the syntactic question of why stranding is not allowed in the case of wh-DPs but freely allowed with non-wh-DPs selected by *all*. The evidence strongly suggests that universal quantifiers do not select wh-DPs but can occur as their complement/restrictor as long as they bear the semantic (lexical) list reading feature. This is consistent with the arguments in Giusti (1991) and Cardinaletti and Giusti (2006) regarding the selectional properties of universal quantifiers, and it is consistent with the proposal in Giusti (1990b) that in a German phrase such as *was alles* (*what all*) the universal quantifier is base-generated to the right of the interrogative DP. It is also consistent with Chomsky and Lasnik (1993) and Baker (2008), who claim that variation between closely related languages or regional varieties of the same language is due mainly to lexical differences. The presence or absence of the list reading feature would be an example of a lexical difference.

Having presented my data, I can now tie together some loose ends and reformulate an analysis for each language, with the goal of presenting a unified approach in which universal quantifiers do not select interrogatives. In British English and the Romance languages, the universal quantifier does not bear the list reading feature, which means that it cannot combine with interrogative words. American English does possess the list reading feature, but the arbitrariness that it shows in applying it, combined with the lack of stranding/floating of the quantifier, suggests that interrogative expressions involving the universal quantifier in American English are formed as indivisible phrases in the lexicon. The following examples illustrate the arbitrariness in the formation of interrogatives with *all* in English:

- (27) a. *Whom all have you talked to?*
 b. *What all have you done today?*
 c. *Where all have you been this year?*
 d. **Why all do people not like George?*
 e. **How all could we solve this problem?*

The fact that *all* can co-occur with the adverb *where* but not with *why* and *how*, combined with the lack of stranding illustrated in (20) to (22), strongly reinforces the idea that the formation of this type of expression is lexical rather than syntactic in American English and that the combinations in (27) are comparable to lexicalized, “frozen” expressions.

German also possesses the list reading feature, but, unlike English, it is very productive in its combination of the universal quantifier with any sort of interrogative expression and with quantifier stranding, as seen in (5) and (6). In other words, German does not exhibit the restrictions and

arbitrariness seen in (20) and (21). This suggests that German interrogative expressions such as those in (5) and (6) are not “frozen phrases” formed in the lexicon like their English equivalents, but are normal DPs formed in the syntax. The universal quantifier is thus comparable to other kinds of complements that can modify or restrict an interrogative phrase. This explains why the universal quantifier can be stranded in a manner typical of split DPs in German questions:⁵

(28) a. *Was für ein Buch hast du gekauft?*
 what for a book have you bought

 b. *Was hast du für ein Buch gekauft?*
 what have you for a book bought

(29) a. *Was alles hast du gekauft?*
 what all have you bought

 b. *Was hast du alles gekauft?*
 what have you all bought

Regarding Swedish, given the fact that the universal quantifier can combine, albeit marginally, with both full and bare interrogative DPs, and given that interrogative phrases are split, as seen in (25b) and (25d), it would seem that Swedish follows the German pattern and merges the quantifier and the interrogative word or phrase in the syntax. The marginality of (25b) and (25d) would be due to the fact that Swedish is losing the list reading feature, becoming more like British English and the Romance languages. The mandatory splitting of the interrogative DP could well be due to the economic principle of moving as little “weight” as possible. This can be related to German speakers’ general preference for splitting interrogative DPs, as shown by the fact that the (b) sentences in (5), (6) and (13) are preferred to the (a) sentences.

It is not clear why German and Swedish allow the syntactic merging of a full or bare interrogative DP with a universal quantifier while English handles this in an arbitrary way in the lexicon, but we must accept this difference between the languages if we do not want to claim that in German and Swedish the universal quantifier can select interrogative DPs.

4. *Summary and conclusions*

German shows interesting symmetry between non-interrogative and interrogative DPs that co-occur with a universal quantifier, especially if

⁵ The pattern illustrated in (28) and (29) is also noted and discussed in Giusti (1990b).

analyzed within the framework of the Stranding Analysis of floating quantifiers. This was a compelling reason to attempt a unified analysis of phrases such as *alle die Studenten* (*all the students*) and *welche Studenten alle* (*which students all*). Whereas the mechanics of this unified approach work well in German, there are four problems with it that are both theoretical and empirical in nature. First of all, it is in conflict with the arguments in the literature that the universal quantifier only selects definite and generic DPs. Secondly, it requires an ad hoc stipulation regarding the optional movement to [SPEC, CP] of an entire QP that contains an interrogative. Whereas this stipulation is somewhat independently motivated by the fact that pronouns behave similarly to wh-words when they combine with a universal quantifier, there are also reasons for not applying a uniform analysis to pronouns and interrogatives, as I argued at the end of Section 2.3. Further research is required in order to determine exactly what is happening with pronouns in (13).

The third weakness in the unified approach is that there are many languages in which either universal quantifiers and interrogatives do not co-occur at all, or they occur in an inconsistent, arbitrary manner and sometimes without stranding. The fourth weakness is that in English there are discrepancies between wh-words in PP and wh-words co-occurring with a universal quantifier. These discrepancies, which concern movement to SPEC position, stranding and pied-piping, are evidence that the wh-word in an expression such as *what all* is not the complement of the quantifier. In view of the evidence against the Selector Approach, an alternative analysis is desirable.

The best way to analyze the co-occurrence of universal quantifiers and interrogatives is to apply an idea first presented by Giusti (1990b) whereby the universal quantifier can be base-generated to the right of a wh-DP. I suggested that this depends upon whether in a particular language the universal quantifier bears what I call the list reading feature. Because the combination of interrogatives and the universal quantifier in German is a very unrestricted, productive process, I suggested that it occurs through syntactic merging and that the stranding of the quantifier can be explained as a typical example of the splitting of an interrogative DP in German. In American English, on the other hand, given the arbitrariness seen in (27) and the lack of stranding, I concluded that interrogative expressions involving the universal quantifier are created in the lexicon. Swedish seems to be like German in that it merges the universal quantifier and interrogatives in the syntax, but it is stricter than German in requiring rather than preferring that the interrogative DP be split. It seems to be losing the list reading feature, becoming more like British English. What would be worth investigating further is the question of why English, as opposed to German and Swedish, combines universal quantifiers and interrogatives in the lexicon rather than allowing them to be merged and split in the syntax.

In summary, the Complement Approach that I have proposed enables

one to explain the inter- and intra-linguistic variation that one finds in the co-occurrence of universal quantifiers and interrogative expressions.

References

- Abney, Steven Paul. 1987. *The English Noun Phrase in its Sentential Aspect*. Ph.D. thesis, Massachusetts Institute of Technology. Distributed by MIT Working Papers in Linguistics, Cambridge, Mass.
- Baker, Mark. 2008. "The Macroparameter in a Microparametric World" in Theresa Biberauer (ed.), *The Limits of Syntactic Variation*. Amsterdam: John Benjamins, 351-374.
- den Besten, Hans. 2006. "The origins of the Afrikaans pre-nominal possessive system(s)". Linda L. Thornburg and Janet M. Fuller (eds.), *Studies in Contact Linguistics: Essays in Honor of Glenn G. Gilbert*. New York: Peter Lang Publishing Inc.
- den Besten, Hans. 1983. "On the Interaction of Root Transformations and Lexical Deletive Rules" in Werner Abraham (ed.), *On the Formal Syntax of Westgermania*. Amsterdam: Benjamins, 47-131.
- Cardinaletti, Anna and Giuliana Giusti. 2006. "The Syntax of Quantified Phrases and Quantified Clitics". Martin Everaert and Henk van Riemsdijk (eds.), *The Blackwell Companion to Syntax* 15, 23-73. London: Blackwell.
- Chierchia, Gennaro. 1992. "Functional WH and Weak Crossover". *Proceedings of the Tenth West Coast Conference on Formal Linguistics*. Stanford: Stanford Linguistics Association.
- Chierchia, Gennaro. 1993. "Questions with quantifiers". *Natural Language Semantics* 1, 181-234.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Massachusetts: MIT Press.
- Chomsky, Noam and Howard Lasnik. 1993. "The Theory of Principles and Parameters". Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld and Theo Vennemann (eds.), *Syntax: An International Handbook of Contemporary Research*. Berlin and New York: De Gruyter.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, Massachusetts: MIT Press.
- Chomsky, Noam. 1977. "On *wh*-movement". Peter William Culicover, Thomas Wasow and Adrian Akmajian (eds.), *Formal Syntax*, 78-132. New York: Academic Press.
- Cirillo, Robert. 2009. *The Syntax of Floating Quantifiers: Stranding Revisited*. Utrecht: Landelijke Onderzoekschool Taalwetenschap.
- Giusti, Giuliana. 1991. "The Categorical Status of Quantified Nominals". *Linguistische Berichte* 136, 438-452.
- Giusti, Giuliana. 1990a. "Floating quantifiers, scrambling and configurationality". *Linguistic Inquiry*, 633-641.

- Giusti, Giuliana. 1990b. "The Syntax of Floating 'alles' in German". Werner Abraham, Wim Kosmeijer and Eric Reuland (eds.). *Issues in Germanic Syntax*, 327-350. New York/Berlin: Mouton/De Gruyter.
- Longobardi, Giuseppe. 1994. "Reference and proper names: A theory of N movement in Syntax and Logical Form". *Linguistic Inquiry* 25.4, 609-665.
- McCloskey, James. 1990. "Resumptive pronouns, A'-binding, and levels of representation in Irish". Randall Hendricks (ed.). *Syntax and semantics 23: The Syntax of the modern Celtic languages*, 191-248. New York: Academic Press.
- Rizzi, Luigi. 2006. "On the Form of Chains: Criterial Positions and ECP Effects". Lisa Lai-Shen Chen and Norbert Corver (eds.). *WH-Movement: Moving On*, 97-133. Cambridge, Massachusetts: MIT Press.
- Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge, Massachusetts: MIT Press.
- Schoorlemmer, Maaike. 1998. "Possessives, Articles and Definiteness". Artemis Alexiadou and Chris Wilder (eds.). *Possessors, Predicates and Movement in the Determiner Phrase*. Philadelphia and Berlin: John Benjamins.
- Shlonsky, Uri. 1991. "Quantifiers as functional heads: a study of quantifier float in Hebrew". *Lingua*, 84, 159-180.
- Sleeman, Petra. 1996. *Licensing Empty Nouns in French*. Doctoral dissertation, University of Amsterdam. Holland Institute of Generative Linguistics.
- Sportiche, Dominique. 1988. "A theory of floating quantifiers and its corollaries for constituent structure". *Linguistic Inquiry*, 19, 425-449.
- Torrego, Esther. 1983. "More effects of successive cyclic movement". *Linguistic Inquiry* 14, 561-565.