ON AN IMPOSSIBLE AFFIX

İSA KEREM BAYIRLI
Massachusetts Institute of Technology

1 Introduction[1]

An assumption that is shared by the syntactic (Baker, 1988, Ouhalla, 1991 a.o.) and the lexicalist (Lieber, 1980 a.o.) approaches to morphology is that the morphological identity of a grammatical object is to be found in its lexical entry as idiosyncratic information. Whether a grammatical object is an affix, or a clitic, or a prefix is something that is idiosyncratically indicated for each morpheme in its lexical entry. However, certain generalizations about the morphology of some grammatical objects suggest that an alternative way of thinking about the identity of morphological objects is needed. It seems to be the case that (at least) some grammatical objects have the morphological identity they do because of the syntactic configuration they must appear in. With this background, in this paper, we claim that a topic marker or a focus sensitive particle cannot be an affix. This follows from two assumptions: (1) the projections of the topic or focus(sensitive) heads cannot form head-chains with their complement and (2) affixhood is the interpretation (i.e. the spell-out) of head adjunction. We conclude that *affixhood* should not be taken to be a primitive concept of the linguistic analysis.

[1] Thanks to Ömer Demirok (Pazar Laz), Anders Holmberg (Finnish), Yusuke Imanishi (Japanese), Snejana Iovtcheva (Bulgarian), Hrayr Khanjian (Western Armenian) for judgments and everything else. I am also thankful to a reviewer for the many questions raised in the review, to some of which I still do not have a good response. Finally, I am grateful to Snejana Iovtcheva and Benjamin Storme for their editorial help.
Here are the glosses that are used in this text: 1/2/3S= first/second/third person singular, ACC= accusative, ADD = additive, DEF = definite, FSP =focus sensitive particle, FUT=future tense, FOC=focus, GEN=genitive, IMPF =imperfective, PAST= past tense, PERF=perfective, PLU =plural, TM=topic marker, TOP=topic, Q=question particle.

2 On the Syntax of Topic-Focus

In a sentence, a topic head introduces the constituent that the sentence is about. Rizzi (1997) notes that this (usually preposed) constituent expresses old information with "comma intonation" while the rest of the clause expresses new information. A morpheme that has this function is usually called a topic marker (TM). The Japanese topic marker *–wa* (Kuno, 1973 i.a.) is a *tentative* example of such a morpheme as in (1)

(1)
John-wa kita
John-TM came
"John came"

A focus head, in those cases where it triggers movement, introduces new information with focal intonation, where the rest of the clause is usually treated as given information. The English null focus head below triggers movement of the DP *the vase* to its spec.

(2)
THE VASE, John broke (not the table)[2]

In Alternative Semantics of Rooth (1985), focus has been argued to introduce alternatives that are relevant for the interpretation of a sentence (see Krifka, 2007 and Zimmermann and Onea, 2011 for a review). The focus value of a sentence is computed at a distinct semantic level by reference to focus semantic value of words and phrases within that utterance.

There does not seem to be many examples of morphemes whose sole function is to focalize constituents. Rather, certain particles show *sensitivity to focus* (see Krifka, 2007 for a review). Such focus sensitive particles (FSPs) include additives (like *too, also* in English and *dA* in Turkish), which presuppose that one of the alternatives of the focalized constituent is true, exclusives (like *only* in English and *sadece* in Turkish), which asserts that none of the alternatives of a focalized constituent is true. Into this group, we also add question particles (like *mI* in Turkish and *li* in Bulgarian).

We call a projection headed by the additive, exclusive or question particle *a focus sensitive projection*. We take them to be functional projections. Some morphemes have been identified to show some behavior between topic and focus. Turkish additive marker *dA*, for instance, has been analyzed as a "topic-focus associated clitic" (Göksel and Özsoy, 2003). Perhaps, there is a continuum along which morphemes show topic-like or focus-like behavior. This paper is responsible for all such morphemes. That is, this paper is responsible for any morpheme that can be defined within this continuum.

[2] The morpheme is sometimes overt as in Akan, a Kwa language (Ofori, 2011: 251)
1.
[Anigye so]$_i$ na ɔbaa ha t_i
With joy FOC came.he here
With joy he came here

It is not important whether the English case above is genuine focus or contrastive topic since the paper is responsible for both types of morphemes.

Having made these remarks, we can make a claim about the nature of syntactic representations that include topic and focus heads. Rizzi (1997) assumes that "a constituent endowed with topic or focus features must end up in a Spec/Head configuration with Top or Foc respectively" (p. 287). Kayne (1998) develops an analysis of English focus particles like *even*, *only*, *too*, in which these objects trigger *phrasal* movement to their specifiers (usually masked by further remnant movements). Another option could be *association in situ* (Rooth, 1985) through alternative computation. The operation that does not seem to be employed in the context of the topic-focus sensitive projections is head movement. We assume that this is not a coincidence.

(3)
A Restriction on the Syntactic Behavior of Topic Focus
A topic or focus-sensitive head does not form a head chain with its complement.

The proposal above is silent as to how a topic or focus-sensitive head interacts with topicalized or focalized constituents (phrasal movement, association in situ etc…). The only claim being made is that the topic markers or focus-sensitive particles cannot trigger head movement.

3 On Affixhood

In this paper, we contrast affixhood with other morphological objects (clitics and free morphemes). In the lexicalist theories of affixhood, affixation is taken to be a process that happens in the lexicon. Hence, affixes are opaque objects for the syntactic operations. One operation which cannot apply to affixes is ellipsis. This is expressed as Rule Immunity (Zwicky, 1977), which states that "proper parts of words do not undergo rules of deletion under identity" (p.3).With the assumption that the English and the Turkish past tense markers are affixes, this is taken to explain the ungrammaticality of the expressions in (4)

(4)
a. *walk and talk-ed
b. * gel ve git-ti-m. (Turkish)
come and go-PAST-1S
Int. " I came and went (back)"

In syntactic approaches to morphology, affixes are argued to trigger head-movement (Baker, 1988, Ouhalla, 1991 i.a.) and head movement feeds word formation. Harley (2004) expresses this approach when she says "one commonly-expressed intuition behind head-movement seems to be that it's triggered by "affixal" properties of one or the other of the heads involved" (p. 2). It is further argued that such objects form a unit (Baker, 1988) and they behave together for the rest of the computation. This, then, explains the observation that their internal structure is opaque to operations like ellipsis. Note that (4a) and (4b) can also be taken to contain VP-conjuncts to which T is merged. In this case, the unacceptability is explained by saying that affixes must attach to heads and the conjunction structures (at least, those that have free conjuncts in them) are not heads – they are phrasal objects.

The syntactic story above has a lexicalist part to it. Affixhood is a lexical primitive – a type of unpredictable information. However, we argue that it may be that affixhood is not idiosyncratic morphological information after all. Therefore, we restate the relation between affixhood and head movement by taking the latter be the cause of the former. This is given below:

(5)
The Nature of Affixhood
Only head-adjunction is interpreted (spelled out) as affixhood.[3]

Namely, whenever there is a head-adjunction structure triggered by independently motivated syntactic reasons (whatever they are), we get affixhood. The direction of causation is now reversed. "Affix" is a descriptive concept but it is not a theoretical concept. Under this picture, it plays no role in the computation of syntactic representations.

4 The Proposal and Some Evidence

In this section of the paper, we develop our proposal. We bring a syntactic claim and a morphological claim together. The prediction of this conjecture is that a topic marker or a focus sensitive particle is never an affix. We review data from a number of languages from different families to argue that the prediction holds.

4.1 The Proposal

Up to this point in this paper, we have clarified the two claims given in (6)

(6)
a. A Restriction on the Syntactic Behavior of Topic Focus
A topic or focus-sensitive head does not form a head chain with its complement.
b. The Nature of Affixhood
Only head-adjunction is interpreted (spelled out) as affixhood.

Our proposal comes about as a combination of these two claims

(7)
An Impossible Affix
A topic marker or a focus-sensitive particle is never an affix

The main prediction of this proposal is that topic markers or focus sensitive particles show some behavior that the affixes cannot show. For instance, we might expect it to be possible to insert a topic marker (TM) or focus sensitive particle (FSP) to a coordination or disjunction structure. Namely, they should be able to appear in the following templates.

(8)
[A and/or B]-TM
[A and/or B]-FSP

[3] Zwicky and Pullum (1983: 504) list several properties of affixes. Some of which are repeated below (with letters in the original text):
"B. Arbitrary gaps in the set of combinations are more characteristic of affixed words than of clitic groups.
C. Morphophonological idiosyncrasies are more characteristic of affixed words than of clitic groups.
D. Semantic idiosyncrasies are more characteristic of affixed words than of clitic groups."
These properties of affixes could perhaps be made to follow from a theory of vocabulary insertion where the vocabulary insertion targets complex heads as in Distributed Morphology (Halle and Morris, 1993).

We follow Kayne's (1994) claim that only phrasal objects can be coordinated. Suppose we have a VP-conjunction structure with which we merge a T head to obtain **[walk and talk]ed.* This will be ruled out since the T head cannot trigger the head movement of a coordination of VPs, which is a phrase. Only a V head can be adjoined to the T head. Note also that it will not help to do TP coordination and then elide the tense on the first conjunct as in **[walk~~ed~~ and talked]*. That is because, the proper parts of heads are inaccessible for syntactic operations like ellipsis (Baker, 1988). To sum up, for our purposes, any morpheme that attaches to a coordinated complex is attaching to a phrasal object. Such phrasal attachment is the mark of non-affixhood.

The rest of the paper is an attempt to see whether the predictions of this paper hold or not.

4.2 Some Evidence

In this section, we make observations about the behavior of the TMs and FSPs in several languages. We especially focus on such morphemes that seem to be bound. We show that, in each case where such a morpheme is bound, there is evidence suggesting that it is not an affix but a phrasal object (that is, a phrasal bound object, like an enclitic).

4.2.1 Turkish

Turkish has an overt morpheme that can be used to ask polar questions. This question particle may appear on many different types of constituents with some restrictions irrelevant for this paper (see Besler, 2000 and Kamali 2011 for details).

(9)
a. Ali kitab-ı oku-du-Ø
Ali book-ACC read-PAST-3S
"Ali read the book"
b. Ali kitab-ı oku-du-Ø mu
Ali book-ACC read-PAST-3S Q
"Did Ali read the book?"
c. Ali mi kitab-ı oku-du-Ø
Ali Q book-ACC read-PAST-3S
"Did ALI read the book?'

We take the question particle to be focus sensitive. The expectation of the theory developed in this paper is that it is a morpheme of the kind that can attach to a phrases and not to heads. Namely, it is not an affix. This expectation is met

(10)
[Gid-ecek ve gör-ecek] mi-sin?
Go-FUT and see-FUT Q-2S
"Will you go and see?"

The scope of the question particle is the whole coordinated complex. The question asks whether the whole event in which the hearer will go and see something will happen or not. This implies that the question particle is clearly not an affix. In addition to matrix verbal complexes, coordinated DPs can also be targeted by this particle as in (11)

(11)
[Ali ve Ahmet] mi gel-di
Ali and Ahmet Q come-PAST
"Is it Ali and Ahmet who came?"

Turkish additive marker *–dA* has been argued to be a "topic-focus associated clitic" (Göksel and Özsoy, 2003), which makes it relevant for the claims of this paper. There is clear evidence indicating that this morpheme can attach to phrasal constituents

(12)
a. Ali ve Ahmet de gel-ecek
Ali and Ahmet ADD come-FUT
"Ali and Ahmet, also, will come"
b. Ali git-miş ve dön-müş de
Ali come-PERF and stay-PERF ADD
"Ali went and came (back), too"

Lastly, Turkish has another focus-related morpheme *bile*, which means roughly "even". This morpheme is a free morpheme - not an affix.

4.2.2 Bulgarian

Bulgarian is another language that has an overt question particle. The theory developed in this paper predicts that this particle is not an affix. To see this, let us start with some basic facts about Bulgarian sentences. In Bulgarian, the subject precedes the verb in a neutral sentence

(13)
Ivan pie i puši
Ivan drink.3SG and smoke.3SG
"Ivan drinks and smokes"

In polar question, the matrix verb is moved to the initial order which gives a subj-aux inversion effect

(14)
Pie-li Ivan?
drink.3SG-Q Ivan?
"Does Ivan drink?"

The interesting question is what happens when the intended question is the whole coordinate verbal complex in (15). If the fronted constituent is head, it should be impossible for the question marker to attach to the whole constituent. However, if the prediction of this paper is on the right track, the expectation is that this morpheme can attach to the whole coordinated complex. The facts seem to comply with the proposal developed here

(15)
pie i puši=li Ivan?
drink.3SG and smoke.3SG=Q Ivan
"Does Ivan drink and smoke?"

Another focus particle in Bulgarian is the focus maker *dori* or *daje*, which is a free morpheme. Hence, it does not constitute counter-evidence to the claims this paper. The question of the nature of "T-to-C" will be briefly mentioned in the last section.

4.2.3 Japanese

In Japanese, the morheme *–wa* attaches to the topic of a sentence. This morpheme is treated as a topic marker (Kuno, 1973 i.a.)

(16)
John-wa kita
John-TM came
"John came"

As the theory developed in this paper predicts, this morpheme is not an affix. It may also attach to coordinated constituents

(17)
[Mary sosite John]-wa kita
[Mary and John] -TM came
"Mary and John came"

Japanese also has a morpheme that can be used to ask polar questions. This morpheme attaches to finite verbs and predicate adjectives as in (18)

(18)
Anata=wa shiawase ka
You=TM happy Q
"Are you happy?"

The current theory expects this morpheme to be a non-affix. This seems to be true given that it is possible to attach this morpheme to a coordinated complex as in (19)

(19)
Anata=wa [shiawase soshite kanemochi] ka
You=TM happy and rich Q
"Are you happy and rich?"

What is true of question particle is also true of other focus related objects as in (20)

(20)
John soshite Mary-sae/-mo kita
John and Mary-EVEN/ALSO came
"Even/also John and Mary came"

All in all, as expected under the current theory, the morphological identity of Japanese topic marker and focus sensitive particles do not seem to be affixal.

4.2.4 Finnish

In Finnish, in a declarative sentence, the auxiliary and the verb follows the subject (the first two examples are from Syntactic Structures of World's Languages[4])

(21)
Anna on tullut kotiin
Anna is come home
"Anna has come home"

There is an overt polar question marker which triggers the fronting of the auxiliary in a way reminiscent of the subj-aux inversion

(22)
On-ko Anna tullut kotiin
Is-Q Anna come home
"Has Anna come home?"

This particle can also attach to coordinated constituents as expected under the current theory (Anders Holmberg, pc)

(23)
?Jussi ya Pekka-ko sinne tuli
Jussi and Pekka-Q there came
"Was it Jussi and Pekka who came there?'

In the context of this paper, this behavior is predicted. The problem arises, however, when we coordinate two verbs with this particle. We seem to get unacceptability.

(24)
*Tanssii ja laulaa-ko se?
Dance and sings-Q he
"Does he dance and sing?

[4] http://sswl.railsplayground.net/browse/properties/547 accessed on 12/15/2018

As it turns out, it is possible to get acceptable sentences with coordination of main verbs when one adds the adverbial *yhtä aikaa* 'at the same time' as in (25)

(25)
?Tanssii ja laulaa-ko se yhtä aikaa.
dances and sings-Q he same time
'Does he dance and sing at the same time?

Therefore, we assume, the expectation of the theory developed in this paper is met. We have no proposal as to why (24) is unacceptable and as to why the sentence becomes acceptable with the adverb *at the same time*.

4.2.5 Pazar Laz

Pazar Laz, an endangered Kartvelian language spoken in northern Turkey, provide further evidence for the claim that question markers attach to phrasal objects. In a simple declarative sentence the question particle attaches to the end of a sentence (Ömer Demirok, pc)

(26)
dişk'a t'axu i?
wood chopped Q
"Did he chop wood?'

In this language, there is a coordinator *do* which can be used to coordinate nouns

(27)
Isa do Ömeri moxt'u
Isa and Ömer went

It is possible for question particle to attach to a coordinated complex (Ömer Demirok, pc)

(28)
[dişk'a t'axu do moxt'u] i?
wood chopped and went Q
"Did he chop wood and go?'

This is all in conformity with the expectations of this paper.

4.2.6 Western Armenian

Western Armenian (Hrayr Khanjian, pc) has a focus-sensitive morpheme *–(y)al*, which roughly means "also". This morpheme can attach to coordinate constituents

(29)
Aram-n u Hagop-n-al yegan
Aram-DEF and Hagop-DEF-ADD come.PAST.3PL
"Aram and Hagop also came"

It is not only coordinated nouns that this morpheme attaches to. This morpheme may also appear on coordinated verbal complexes as in (30)

(30)
Aram-ə shad kesh sovorutyun-ner uni, gə-xəme u gə-dzəxe-yal
Aram-DEF many bad habit-PLU has.3S, IMPF-drink.3S and IMPF-smoke-also
``Aram has many bad habits, he even smokes and drinks.'

The behavior of this morpheme accords with the expectation of this paper.

4.2.7 T-to-C ?

Clearly, the standard analysis of T-to-C in question formation in English and German goes against the expectations of this paper given that C is a head with a Q feature, which is focus sensitive. We take V2 to be a movement somewhat related to information structure of the sentence, implying that T-to-C in V2 contexts is also problematic from this paper's perspective. In these cases, topic or focus related heads seem to be triggering a head movement. This is against one of the basic assumptions of this paper.

Given what we have shown so far, we now have the license to say that the head movement analysis of T-to-C in Germanic languages does not get independent support from morphology. Since the C morpheme is always *a null morpheme*, it is difficult to decide its morphological identity. However, in languages where question particle is overt, we have seen that it is always a phrasal object. That is, in those cases where it is overt, we observe that the Q head triggers phrasal movement and not head movement. This is perhaps surprising.

Taking the identity of the C morpheme in English to be an affix leads to several complications. First of all, if there really is T-to-C movement, this is the first time in English grammar when two affixes appear on a single verb. Secondly, in the analyses of the T-to-C movement, it seems that C is null. However, there is nothing that causally relates this head-movement analysis with the fact that C is null. This point is made succinctly in Fanselow (2002)

(31)
A standard argument for the claim that V moves to Comp lies in the complementarity of overt complementizers and verb movement. In German (and Dutch), V2 movement takes place in clauses without an overt complementizer only…. This argument is invalid in all grammatical approaches that do not assume substitution operations in the strict sense, that is, in *all* current models

In fact Fanselow notes several cases which seem to be problematic for a T-to-C analysis of V2. Consider the sentences from German below

(32)
a. dass Hans seinen Profit letztes Jahr mehr als *verdreifachte*
that Hans his profit last year more than tripled
b. *Hans *verdreifachte* seinen Profit letztes Jahr mehr als *t*
c. ?Seinen Profit mehr als *verdreifachte* Hans letztes Jahr
"Hans more than tripled his profit last year"

In sentence (32a), the verb remains in situ when there is an overt complementizer. The verb here is modified by *mehr als*. In those cases where the verb is modified by such an adverb, it does not seem to be possible for the verb to move to C on its own (32b). The interesting issue is what happens in the context of V2 as in (32c). It seems that it is possible for the whole constituent *mehr als verdreifachte* to move to C. However, this object is clearly not a head. Therefore, this cannot be an instance of head movement. Fanselow argues that there is actually head movement to C. The modifier of the verb "attaches to C', squeezing itself between Comp and [Spec C]"(p. 20). In the context of this paper since there is already evidence from morphology indicating that the aux fronting is probably not head adjunction, this squeezing operation is a suspect. To the extent that such examples can be multiplied, the theory developed in this paper will find further support. It suffices for now to say that this paper is more in line with an analysis of V2 and the subj-aux inversion in a way that does not resort to head movement (for one implementation, see Poletto and Pollock, 2004).

5 Conclusion

It should be noted that coordination test is *just* one test that differentiates affixes from non-affixes. The claim is not that this test will work in each language in the way presented in this paper nor is it the claim that this is the only test that differentiates affixes from non-affixes. It may be that some languages disallow coordination in this context for independent reasons. It must be possible, in principle, to show what these reasons are or else it must be possible to show that there are other tests that work for the language in question that show that topic markers and focus sensitive particles are not affixes (attachment to phrases would be one such test).[5]

The paper should be seen as a call for attention on the morphological asymmetries between different syntactic objects. In all the languages mentioned above, the past tense marker is an affix. The topic markers and focus sensitive particles, although bound, are not affixes. They would be classified perhaps as enclitics. It is this asymmetry that this paper attempts to underline. It is a research project to understand the exact nature of this distinction. One interesting possibility in this regard is the following tentative claim:

> *The morphological identity of a grammatical object reflects its position in a syntactic representation.*

The generalization above implies that the lexicon is not the part of the grammar to rely on if one wants to understand why we get the morphologies we do. This is a question of syntax/semantics.

In this paper, we have provided evidence indicating that there is an impossible morphology arising from an impossible syntactic representation. More precisely, we have argued that since a projection headed by a TM or FSP cannot form head-chain with its complement, such a morpheme is never an affix. We have reviewed some typological evidence suggesting that the claim is on the right track.

[5] A reviewer notes that this paper assumes that "if a focus morpheme affixes to the head of a conjunct, it cannot take scope over all the conjuncts" This is true if the attachment is indeed head adjunction to the coordination head. Suppose we have a language with the following construction where Q is head-adjoined to a coordinator.

1.John Bill and-Q came

If such a construction were licit, this paper would predict that the question is about whether *John and Bill came* or *John or Bill came*. That is, we calculate the alternatives of the conjunction. Clearly, we predict that such constructions will not available in natural language since the focus sensitive particles cannot adjoin to heads in the first place.

The reviewer further notes that the paper implicitly assumes that "for a focus marker to take scope over X or something contained within X, the focus marker must attach to X or something that contains X. This is also accurate provided that we are aware that not every type of boundedness is affixation. That is, we must make sure that we are dealing with head adjunction and not some other construction.

The reviewer proposes that the English *only* can be shown to scope over a phrase by observing the acceptability of the following sentence

2.
a. I only saw those boys, not these girls.
b. I saw only those boys, not these girls

We agree that this is yet another test to show the scope of the focus sensitive operators. This test could be used in languages where the morphological identity of the focus particles is difficult to settle.

To the extent that the claims of this paper are on the right track, the lexicalist treatment of morphological objects is not satisfactory. That is because, if it were only a matter of lexical idiosyncrasy that a morpheme is an affix, then any morpheme could be a suffix and a non-suffix as long as the lexicon says so. However, the evidence seems to indicate that there are some generalizations that are missed when the morphological identities of the objects are left entirely to the lexicon.

References

Baker, M. (1988). *Incorporation: A theory of grammatical function changing*. Chicago: University of Chicago Press

Besler, D. (2000). *The question particle and movement in Turkish*. MA Thesis, Bogazici University.

Fanselow, G. (2003). Münchhausen-Style Head Movement and the Analysis of Verb Second. *UCLA Working Papers in Linguistics*

Göksel, A., A. S. Özsoy. (2003). dA as a focus/topic associated clitic in Turkish. *Lingua,* Special edition on Focus in Turkish, pp. 1143-1167

Halle, M. and A. Marantz. 1993. Distributed Morphology and the Pieces of Inflection. In *The View from Building 20; Essays in Honor of Sylvain Bromberger*, ed. K. Hale and S.J. Keyser, 111–176. Cambridge, Mass: MIT Press.

Harley, H. (2004). Merge, conflation, and head movement: the first sister principle revisited. In *Proceedings of NELS 34*, (p. 239-254). ed K. Moulton and M. Wolf, Amherst, MA: UMass, GLSA

Kamali, B. (2011). The question particle in Turkish: Consequences for the interfaces. In *Online complement to Proceedings of WCCFL 28*. University of Southern California

Kayne, R. (1994). *The Antisymmetry of Syntax*. Cambridge, Mass.: MIT Press.

Kayne, R. (1998). Overt vs. covert movement. *Syntax*, 1, 128–191

Kuno, S. (1973). *The Structure of the Japanese Language*. Cambridge, Mass: MIT.

Lieber, R. (1980). *On the organization of the lexicon*. PhD Diss, MIT.

Krifka, M. (2007). Basic notions of information structure. In *Working Papers of the SFB632: Interdisciplinary Studies on Information Structure 6: The notions of information structure*, ed. C. Fery, G.Fanselow, and M. Krifka, 13–55. Potsdam: Universitaetsverlag Potsdam.

Ofori, S. A. (2001). On the Basic Focus Marker, and the Basic Focus Sentence in Akan (Twi). Nordic Journal of African Studies. 20/3. 241 – 262.

Ouhalla, J. (1991).*Functional categories and parametric variation*. London: Routledge.

Poletto, C. and J. Y. Pollock (2004) On the Left Periphery of Some Romance Wh-questions. In *The Structure of CP and IP – The Cartography of Syntactic Structures, vol.2,* ed L. Rizzi. Oxford University Press, New York, 251-296

Rizzi, L. (1997): The Fine Structure of the Left Periphery. In: *Elements of Grammar. A Handbook in Generative Syntax*. ed L. Haegeman, Kluwer, Dordrecht, etc., pp. 281–337.

Rooth, M. (1985). *Association with Focus*, University of Massachusetts: Ph.D. Dissertation

Ross, J. R. (1967). *Constraints on variables in syntax*. PhD Diss. MIT.

Zimmermann, M. and E. Onea. (2011). Focus marking and focus interpretation. *Lingua* 121(11), 1651–1670.

Zwicky A.M. (1977). *On Clitics.* Bloomington: Indiana University Linguistics Club

Zwicky A. M and G. K. Pullum (1983). Cliticization vs inflection: English *n't*. *Languag*e. 59/3: 502 – 513.