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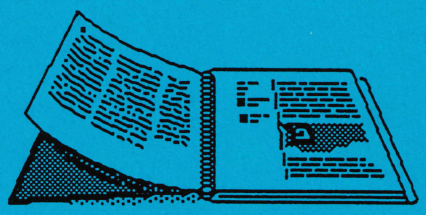

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PREFACE

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The papers collected in this volume were all presented at the Workshop on the Phonology, Morphology and Syntax of Clitics, held at ZAS-Berlin, in May 1996. The presentations by Sharon Peperkamp and by Anna Cardinaletti & Michal Starke could not be included here.

The idea to hold a workshop on clitics was proposed by Ilse Zimmermann and myself in the fall of 1995 and was encouraged by Ewald Lang, who committed funds from the general budget of ZAS. The list of participants had to be limited to local and geographically nearby scholars interested in clitics, given the heavy budgetary limitations we had to face organizing the workshop. Selecting potential participants as well as contacting them and keeping communication alive until the beginning of the workshop and beyond that time was a communal effort, as was the running of the workshop, e.g. chairing sessions, providing for and serving refreshments during breaks, and finding restaurants for lunch and dinner,during which times discussions were continued. It was this open, informal and communal atmosphere, as well as the contents of the presentations themselves that motivated participants to pronounce the workshop a success.

Coverage of topics was quite wide at the workshop, and the same is obviously true of this special volume of the ZAS (Working) Papers in Linguistics, which constitutes the proceedings of the workshop. This has been another feature of the workshop that has been noted with pleasure and approval. The reader can see that a large number of languages are discussed in detail, and different aspects of clitics in those languages with respect to phonology, morphology, syntax (and, in a few, semantics) are touched upon, wherever appropriate to the particular topic of each paper.

Baumann offers a study of speech production concerning phonological properties of clitics, while Kleinhenz uses such properties in evaluating Optimality Theory. The OT appraoch is also used by Billings, in whose paper different syntactic and prosodic constraints are shown to clash, and the resolution of such clashes is illustrated. How to locate certain principles governing the attachment of clitics to phonological or syntactic hosts, i.e. whether such principles are to be found in syntax or phonology, is the topic of a number of papers in this collection; e.g. for Wilder and for Cavar this is a primary topic, while for Kornfilt it is a tangential one. Banski's paper is concerned with the related question of where best to treat the Polish auxiliary clitics, i.e. in the syntax or morphology; this is a question that Junghanns and Schoorlemmer raise for the Russian "sja". The two authors draw rather opposing conclusions: Junghanns analyzes these constructions as genuine clitic constructions in the syntax, while for Schoorlemmer, "sja" is not a clitic, and "sja"-attachment is morphological, rather than syntactic. Another morphological study is Maassen's, where a study of clitic clusters is presented, using the model of post-syntactic morphology. Pronominal clitics and their morphosyntactic/semantic properties are also studied in Zimmermann's paper.

One type of finding that emerges is that in many instances, the best analysis is a complex one, i.e. one that involves derivations which are in part syntactic and in part prosodic. For example, Wilder proposes a 3-stage account of English contracted auxiliaries that involves syntactic head-movement and prosodic proclisis, followed by prosodic enclisis, and Kornfilt views genuine inflection in Turkish as syntactic head-movement, but cliticization of the inflected copula as prosodic enclicis. Two syntactic papers, i.e. the joint paper by Alexiadou and Anagnostopoulou and the contribution by Schmitt, also address complex interactions of parameters by studying properties of clitic doubling. The former study contrasts scrambling and clitic doubling, whereas the latter one shows that accusative clitic doubling in Spanish affects the aspectual interpretation of the VP.

The breadth of the data and of the analyses covered by the studies in this volume make us hope for future workshops, where the studies begun here can be pursued further, questions left open here can be answered, and opposing views can be brought to a resolution. For the time being, I hope to represent the feelings of all of the participants in expressing happiness and contentment about the workshop as well as about this volume, which is one of its outcomes.

On the common formal properties of scrambling and clitic doubling*

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1. Aims and Background

A commonly held view in the literature on Scrambling and Clitic Doubling is that both constructions are sensitive to Specificity.[1] For this reason Sportiche (1992) proposes to unify the two, an approach which has become quite standard in the relevant literature ever since.[2] However, the claim that clitic doubling is the counterpart of Germanic scrambling has never been substantiated. In this paper wepresent extensive evidence from Greek that Clitic Doubling has common formal properties with Germanic Scrambling/Object Shift. Our evidence consists mainly of binding facts observed when doubling takes place, which seem, at first sight, to be completely unexpected. On closer inspection, however, it turns out that these facts are strongly reminiscent of the effects showing up in Germanic scrambling. We propose that these properties can be derived under a theory of clitic constructions along the lines of Sportiche (1992) implemented into the framework of Chomsky (1995). Finally, we suggest that the crosslinguistic distribution of Scrambling as opposed to Clitic Doubling should be linked to a parameter relating to properties of Agr: Move/Merge XP vs. Move/Merge X° to Agr. We show that this parameter unifies the behavior of subjects and objects within a language and across languages.

The paper is organised as follows. In section 2 we present evidence from binding, interpretational and prosodic effects that doubling and scrambling display very similar properties. In section 3 we present Sportiche's account and point out some problems for it. In section 4 we present our proposal.

2. Scrambling and Doubling

2.1. Binding Evidence

It is well known that Scrambling is a phenomenon which shows A and A'-movement properties (cf. the various contributions to Corver & Riemsdijk 1994). For the purposes of this paper we assume a movement approach towards Scrambling along the lines of Mahajan (1990) and Deprez (1994) among others according to which this construction should be decomposed into two types of movement, movement to an A-position potentially followed by further movement which has A'-properties. Some of the tests that have been used as diagnostics for determining the A-nature of these chains include (i) the repair or creation of Weak Crossover (WCO) effects, (ii) the obviation of Principle C effects and (iii) compatibility with floating quantifiers (cf. Deprez 1994, Fanselow 1990, Mahajan 1990, Webelhuth 1989, Saito 1992 a.o.)). As will be shown in detail, clitic chains are similar to scrambling chains in that they also manifest these properties.[3]

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* Parts of the material discussed in this paper have been presented at the 11th Comparative Germanic Syntax Workshop in Rutgers, the Specifiers Conference at the University of York, the 19th GLOW Colloquium in Athens and the Workshop on Clitics held at ZAS-Berlin in May 1996. We would like to thank the audiences for helpful comments. Many thanks to Werner Abraham, Elly van Gelderen, Marcel den Dikken, Eric Haberli, Uli Sauerland and Jean-Yves Pollock for comments on an earlier written version of this paper.

[1] See Abraham 1994, 1995, Adger 1993, Diesing 1992, de Hoop 1992, Meinunger 1996, Runner 1993, Delfitto & Corver 1995 among others.

[2] See Mahajan 1991 and Anagnostopoulou 1994 among others.

[3] To our knowledge, these facts have not been discussed in the literature. For this reason, we have to limit ourselves to the Greek data and we will just assume that similar facts also hold for Spanish and Romanian. In order to make sure that the doubled NP is not right disclocated, we construct examples where the NP precedes adverblial elements or small clause predicates.

2.1.1 Bound Variable Tests

The example (1b) as opposed to (1a) illustrates the fact that scrambling yields anti-WCO effects. The pronoun in the indirect object can be bound by the scrambled direct object:

(1) a. *Peter hat seinem$_i$ Nachbarn [jeden Gast]$_i$ vorgestellt[4] *German*
Peter has his neighbour every guest introduced
b. Peter hat [jeden Gast]$_i$ gestern seinem$_i$ Nachbarn t_i vorgestellt
Peter has every Guest yesterday his neighbour introduced

Exactly the same effect shows up with clitic doubling in Greek. (2a) is a WCO violation: the pronoun in indirect object position cannot be bound by the quantified direct object.[5] In (2b) doubling of the direct object leads to an obviation of the WCO effect; the bound variable construal of the pronoun is possible:

(2) a. *o Petros epestrepse [tu idioktiti tu_i]$_j$
the-Peter-NOM returned-3S the-owner-GEN his
[to kathe aftokinito]$_j$ xtes to vradi
the every car-ACC yesterday the night
'Peter returned his owner the every car last night'
b. o Petros to$_i$ epestrepse [tu idioktiti tu_i]$_j$
the-Peter-NOM cl-ACC returned the-owner-GEN his
[to kathe aftokinito]$_j$ xtes to vradi
the every car yesterday the night
lit. 'Peter returned it his owner the every car last night'

A similar point can be made on the basis of Japanese scrambling data and Greek Doubling facts: in both (3a&4a) the pronoun in subject position cannot be bound by the quantified object. In (3b&4b) scrambling and doubling of the quantified object leads to an obviation of the WCO effect.[6]

(3) a. ?*[[Soitu$_i$ -no hahaoya]-ga [dare$_i$-o aisiteru]] no
the guy$_i$-gen mother]-nom [who$_i$-acc love Q
'His mother loves who'
b. ? Dare$_i$-o [[soitu$_i$ -no hahaoya]-ga [t_i aisiteru]] no
who-acc [[the guy$_i$-gen mother]-nom love]] Q
'Who his mother loves t'

(4) a. ?*o skilos tis$_i$ akoluthise [tin kathe gineka]$_i$ pandu *Greek*
[the dog her]-NOM followed [the every woman]-ACC everywhere
'Her dog followed the every woman everywhere'
b. o skilos tis$_i$ **tin** akoluthise [tin kathe gineka]$_i$ pandu
[the dog her]-NOM cl-ACC followed [the every woman]-ACC everywhere
'Her dog her followed the every woman everywhere'

The reverse effect is illustrated in (5). (5b) vs. (5a) shows that a pronoun cannot be a bound variable once scrambling takes place (cf. Bayer & Kornfilt 1994):

(5) a. Wir wollten [jedem Professor]$_i$ seine$_i$ Sekretärin vorstellen *German*
we wanted every Professor-DAT his secretary introduce
b. *..seine$_i$ Sekretärin [jedem Professor]$_i$ vorstellen
his secretary every Professor-DAT introduce

---

[4] H-M. Gaertner pointed out to us that (1a) becomes more acceptable under a specific intonation pattern. We abstract away from this fact.

[5] Note however that the contrast in (2) is not very sharp due to the marginal status of the dative construction in Greek.

[6] Note that the contrast between (4a) and (4b) is very clear.

Doubling patterns with scrambling also in this respect; the pronoun contained in the indirect object cannot be bound by the quantified direct object once doubling takes place.

(6) a. sistisa [kathe gineka]$_i$ [ston melondiko andra tis$_i$]$_j$ *Greek*
introduced-1S [every woman]-ACC to-the future husband her
'I introduced every woman to her husband'

b. *tu$_j$ sistisa [kathe gineka]$_i$ [tu melondiku andra tis$_i$]$_j$
cl-DAT introduced-1S [every woman]-ACC the-future- husband-DAT hers
'I introduced him her husband every woman'

Hence, examples (2b & 6b) show that doubling creates new binding possibilities by forcing the NP to be interpreted higher. Note that doubled NPs can receive a distributive interpretation even when the distributor is in a higher clause:[7]

(7) a. [Kathe gineka]$_i$ ipe oti to$_j$ theori [to pedi tis$_i$]$_j$ omorfo
every woman said that cl-ACC considers the child cl-GEN beautiful
'Every woman said that she considers her child beautiful'
= for every woman a potentially different child

b. [Kathe gineka]$_i$ pistevi oti tha ton$_j$ vri [ton andra tis$_i$]$_j$ noris
every woman believes that FUT cl-ACC find-3S the husband cl-GEN early
'Every woman believes that she will find her husband early'
= for every woman a potentially different husband

2.1.2 Principle C effects[8]

The same point can be made on the basis of Principle C effects which can be overriden once scrambling takes place. as the following examples from German and Hindi show (Hindi data from Mahajan 1994):[9]

(8) a. *Hans hat **ihr**$_i$ [**Marias**$_i$ Buch] zurückgegeben *German*
Hans has to her Mary's book given back

b. ?Hans hat [**Marias**$_i$ Buch] **ihr**$_i$ zurückgegeben
Hans has Mary's book to her given back

---

[7] Note that the following is also acceptable:

i. [Kathe gineka] ton$_j$ akoluthise [ton skilo tis]$_j$ pandu
every woman cl-ACC followed the dog cl-GEN everywhere
'Every woman followed her dog everywher'

In (i) doubling does not block variable binding. Thus, we have the following paradox. On the one hand, doubling of a QP object permits obviation of the WCO effect when the pronoun is contained in the subject (4b). On the other hand a QP subject may bind into a doubled direct object as in (i). It is as if subject and object c-command each other when DO-doubling takes place. The issue requires further research.

[8] Thanks to Uli Sauerland for many suggestions concerning the presentation of some of the arguments and for bringing Fox's article to our attention.

[9] Note, however, that some researchers have argued that Scrambling qualifies as A' -movement on the basis of evidence showing that scrambling exhibits the Condition C reconstruction effects which occur with A'-movement and not with A-movement (cf. the discussion in Saito 1992: 90-91).

(9) a. *mE-ne use$_i$ raam$_i$ ki kitaab dii
I-SUB him-IO Rami GEN book-F give-PERF-F
"I gave to him Ram's book"

b. mE-ne [raam$_i$ ki kitaab]$_j$ usei t$_j$ dii
I-SUB RAM GEN book-F him-IO give-PERF-F
lit. 'I gave Ram's book to him'

Interestingly, exactly the same effect shows up with clitic doubling in Greek. (10a) shows that the usual condition C effects arise when the IO-clitic `tis' c-commands the R-expression `tis Marias' contained inside the DO. The condition C effect disappears once the DO is doubled, as (10b) shows:

(10) a. *O Janis tis$_i$ epestrepse [to vivlio tis Marias]$_j$ simiomeno *Greek*
The-John cl-DAT gave back [the book ofMary]-ACC with notes
'John gave her back Mary's book full of notes'

b. ?O Janis tis$_i$ **to$_j$** epestrepse [to vivlio tis Marias$_i$]$_j$ simiomeno
the-John cl-DAT- cl-ACC gave back [the book of Mary]-ACC with notes
'John gave her it back Mary's book full of notes'

Note that when a clitic cluster c-commands a non-doubled PP the usual condition C effects do arise (cf. 11). This indicates that the reason for the well formedness of (10b) cannot be that the dative clitic does not c-command any more `Mary' because it is too deeply embedded whenever an accusative clitic is present:

(11) a. *O Janis tu$_i$ edose to vivlio mazi me tin fotografia tu Petru.
the-John-NOM cl-DAT gave-3S the book-ACC with the picture the-Peter-DAT
'John gave him the book together with Peter's picture'

b. *O Janis tu$_i$ to edose mazi me tin fotografia tu Petru
the-John-NOM cl-DAT cl-ACC gave-3S with the picture the-Peter-DAT
'John gave it to him together with Peter's picture'

c. *O Janis tu$_i$ to edose to vivlio
the-John-NOM cl-DAT cl-ACC gave-3S the book
mazi me tin fotografia tu Petru
with the picture the-Peter-DAT
lit. 'John gave him it the book together with Peter's picture'

Note, furthermore, that when the dative clitic appears in a higher clause, doubling in the lower clause does not obviate Condition C:

(12) *O Janis tis$_i$ ipe oti tha to diavasi [to vivlio tis Marias]
the-John cl-DAT told that FUT cl-ACC read-3S the-book-ACC the-Mary-DAT
me prosohi
with care
'John told her that he will read carefully Mary's book'

Moreover, it seems that while doubling of an accusative obviates Principle C effects doubling of a dative does not:

(13) a. *O Janis tin$_j$ sistise [tis filis tis Marias]$_i$ persi
the-John-NOM cl-ACC introduced-3S the-friend the Mary-GEN last year
tetja epoxi
such time
'John introduced her to Mary's friend around this time last year'

b. *O Janis tis_i tin_j sistise [tis filis tis Marias]$_j$
the-John-NOM cl-DAT cl-ACC introduced the-friend the Mary-GEN
last year such time
persi tetja epoxi
'John introduced her to Mary's friend around this time last year'

This suggests that a direct object NP is interpreted higher than a dative under clitic doubling, but the reverse does not hold.[10]

In turn, this leads to the prediction that (6b) should improve once the DO-QP is doubled, an intuition that we do share although the facts are somewhat murky:

(6b) *tu sistisa kathe gineka tu antra tis
(14) ?tu tin sistisa kathe gineka tu antra tis
cl-DAT cl-ACC introduced-1S every woman-ACC the-husband-DAT hers
'I introduced every woman to her husband'

Finally, note that in (10b) the doubled NP is not right dislocated: it precedes the secondary predicate *simiomeno* which receives the main stress of the sentence.[11] [12]

2.1.3 Floating quantifiers

As known, scrambling/object shift licenses floating quantifiers as the examples (15a&b) indicate: (cf. Deprez 1994)

(15) a. Hann las **baekunar** ekki **allar** *Icelandic*
'He read books not all
b. Hans hat **die Bücher** seinem Brüder **alle** zurückgegeben *German*
Hans has the books his brother all given back

As is well known, cliticization also licenses floating quantifiers as (16a) vs. (16b) shows:

(16) a. I Maria **ta** epestrepse **ola** ston idioktiti tus *Greek*
the-Mary cl-ACC gave back all to-the owner theirs
'Mary returned them all to their owner'

---

[10] This is compatible with the view in the literature on doubling that IO-doubling is a pure object agreement phenomenon while DO-doubling scopes out the NP to a relatively high position (Uriagereka 1995 a.o).

[11] According to Abraham (1994), Cinque (1993) and Zubizarreta (1994) the element that receives the main stress of a sentence is the element which is most deeply embedded in this sentence. Thus, the doubled NP which precedes the secondary predicate *simiomeno* cannot be right dislocated. Note, that in (i) coreference is marginally possible between the clitic and the NP. In (i), however, the NP is clearly right dislocated, as it follows the element *persi* which receives the main stres. Thus, clitic doubling and right dislocation have different binding properties.

(i) ?O Janis tis_i tin_j sistise PERSI [tis filis tis Marias]$_j$
the-John-NOM cl-DAT cl-ACC introduced last year the-friend the Mary-GEN
'John introduced her to Mary's friend round this time last year'

[12] The principle C effects discussed here if correctly interpreted show that the doubled-NP undergoes covert XP movement and not just feature movement. On the contrary, Fox (1996) argues on the basis of principle C effects that pied piping at LF is possible only when needed for convergence as in the case of QR needed for ACD resolution. More research on the topic is needed.

b. *I Maria epestrepse **ola** ston idioktiti tus
the-Mary gave back all to-the owner theirs

2.2. Interpretational Evidence

A second piece of evidence in favor of the formal similarity of doubling and scrambling/object shift comes from the observation that in both constructions, a connection between the syntax and the interpretation of NPs is established. Both are 'optional' operations which are sensitive to semantic and discourse properties of NPs.

First of all, Scrambling/Object-shift is sensitive to the referential nature of NPs (cf. Johnson 1991, Diesing & Jelinek 1993, Abraham 1995, Vikner 1995), and it is subject to several restrictions pertaining to their definiteness. In some languages, the class of elements that may undergo scrambling/object shift is limited. In Icelandic, for instance, object shift of definite NPs is grammatical (17a) while object shift of bare plurals is ungrammatical (cf. 17b):

(17) a. Eg las bokina ekki *Icelandic*
I read book-the not
b. *Hann las bækur ekki
he read books not

Similar restrictions hold for doubling. In Greek, doubling of definite NPs is well formed (18a) while doubling of indefinites is ungrammatical (18b):

(18) a. to diavasa to vivlio me prosohi *Greek*
cl-ACC read-1S the-book-ACC carefully
I read it the book carefully'
b. *to diavasa kapjo vivlio me prosohi
cl-ACC read-1S some book-ACC carefully
'I read it soma book carefully'

Furthermore, Scrambling/Object-shift is associated with strong/specific interpretation of NPs (cf. Adger 1993, Abraham 1995, Delfitto & Corver 1995, Diesing 1992, de Hoop 1992, Meinunger 1996, Runner 1993 among others). This is shown in the paradigm in (19) from Dutch where scrambling triggers referential, partitive and generic readings on weak NPs (cf. de Hoop 1992):

(19) a. dat de politie een kraker gisteren opgepakt heeft *referential*
that the police a squatter yesterday arrested has
b. dat de politie twee krakers gisteren opgepakt heeft *partitive*
that the police two of the squatters yesterday arrested has
c. dat de politie krakers altijd oppakt *generic*
that the police squatters always arrests

Once again doubling shows similar effects, as is well known. It is associated with specificity in Romanian (cf. Dobrovie-Sorin 1990) and with partitiviness in Porteño Spanish (cf. Suñer 1988), as (20a) & (20b) show:

(20) a. O caut pe o sekretera *Romanian*
her I-look for 'pe' a secretary
'I look for a certain secretary
b. El medico los examino a muchos/varios de los pacientes *Spanish*
the doctor them examined 'a' many/several of the patients

Finally, doubling of definite NPs makes them strictly anaphoric to previously established discourse referents (i.e. the NPs cannot undergo "accommodation", cf. Anagnostopoulou 1994 following Heim 1982). In (21a) the undoubled NP *ton sigrafea* may refer either to the implicit author of the book about Arthur Miller (accommodation reading) that John read, or to Arthur Miller himself (anaphoric reading). The former option is not possible once the NP *ton sigrafea* is doubled as in (21b).

(21) a. O Janis diavase [ena vivlio jia ton Arthur Miller$_i$], enthusiastike ke
John read a book about Arthur Miller, he got very enthusiastic and
thelise na gnorisi ton sigrafea$_j$ apo konda
he wanted to get to know the author
where j = i or j= the author of the book about A. Miller

b. O Janis diavase [ena vivlio jia ton Arthur Miller$_i$], enthusiastike ke
John read a book about Arthur Miller he got very enthusiastic and
thelise na ton$_i$ gnorisi ton sigrafea$_j$ apo konda
wanted to get to know the author
where j=i

Once again, the same is true of Scrambling as (22) shows (cf. Delfitto & Corver 1995):[13]

(22) a. Ik heb gisteren een film over Fellini gezien en ik heb een uur later
de regisseur ontmoet (ambiguous)
'Yesterday I saw a movie about Fellini and an hour later I met the director'

b. Ik heb een film over Fellini gezien en ik heb de regisseur$_i$ een uur later t_i
ontmoet (unambiguous)

2.3 Intonational Evidence

A third type of evidence in favor of the similarity between scrambling and doubling comes from the observation that the scrambled and doubled NPs are de-stressed. The examples making this point for scrambling are given in (23), (24) and (25). De Hoop (1992) observes that object scrambling yields the same semantic effect as the contrastive predicates with stressed verbs in English (cf. 23a&b vs. 23c &d):

(23) a. dat de politie een kraker gisteren opgepakt heeft *Dutch*
that the police a squatter yesterday arrested has

b. The police **arrested** a squatter yesterday.

c. #omdat ik een kat altijd heb *Dutch*
because I a cat always have

d. #because I always **have** a cat

Once again, doubling behaves like scrambling as the contrast between (25a) vs. (25b) parallel to (24a) vs. (24b) shows. Backward pronominalization in English is licensed only when the verb carries the main

[13] Marcel den Dikken points out that (22a) can be interpreted with the "director of the movie about Fellini" reading with an intonation contour in which stress falls on "later" and "regisseur", and with the "Fellini" reading with stress on "ontmoet" (or perhaps rather, non-stress on "regisseur"); but for (22b) speakers can get similar ambiguity under similar intonational control -- with stress on "regisseur" and (especially) "later", the "director of the movie about Fellini" reading is perfectly felicitous.

stress (cf. 24b), not when the NP carries the main stress as in (24a) (cf. Williams 1994 for a recent discussion)).

(24) a. *His$_i$ mother loves JOHN$_i$
b. His$_i$ mother **loves** John$_i$

In (25b) doubling of the direct object makes coreference possible.

(25) a. *O skilos tu$_i$ akoluthi to Jani$_i$ pandu *Greek*
the dog his follows the-John-ACC everywhere
'His dog follows John everywhere'
b. o skilos tu$_i$ **ton** akoluthi to Jani$_i$ pandu
the dog his cl-ACC follows the-John everywhere
'His dog him follows John everywhere'

Thus, doubling is a way to achieve destressing of the object, similarly to scrambling in Germanic and anaphoric destressing in English.

2.4. Experiencer Object/Double object constructions

Finally, scrambling and doubling display striking similarities in Experiencer Object contexts and Double Object constructions.

2.4.1 A well known observation in the literature is that there is systematic scrambling of object experiencers to a position higher than subject themes in German and Dutch Inverse Linking psychological predicates (cf. den Besten 1985, Haider 1985). This is illustrated in (26a&b) from German and Dutch respectively, where we have scrambling of a dative experiencer, and in (26c&d), where we have scrambling of an accusative experiencer:[14]

(26) a. ..daß meinem Bruder deine Geschichten gefielen *German*
that my brother your stories appeal to
b. ...dat mijn broer jouw verhalen bevielen *Dutch*
c. ...daß meinen Vater deine Geschichten interessieren *German*
that my father your stories interest
d. ...dat mijn vader jouw verhalen interesseren *Dutch*

Interestingly enough, in Greek experiencer object constructions, there is systematic clitic-doubling of the experiencer object, dative or accusative as (27a) and (27b) show (cf. Anagnostopoulou 1995):

(27) a. to vivlio *(tu) aresi tu Petru
the book cl-DAT appeals the-Peter-DAT
'The book him appeals to Peter'
b. to vivlio ??(ton) endiaferi ton Petro
the book cl-ACC interest the-Peter-ACC
'The book him interests Peter'

The fact that these constructions display WCO effects (cf. 28a & 28c), that is, the pronoun in the experiencer cannot be bound by the subject, shows that the doubled experiencer is interpreted higher than the Nominative:[15]

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[14] See Zaener, Maling & Thrainsson (1985) for arguments that German does not have quirky subjects.

[15] See Anagnostopoulou & Everaert (1996) for arguments that experiencers in inverse-linking psych predicates are not quirky subjects.

(28) a. *?[kathe gineka]$_i$ tu aresi tu andra tis$_i$
[every woman]-NOM cl-DAT appeals the-husband-DAT hers
'Every woman him appeals to her husband'

b. [kathe gineka]$_i$ aresi ston andra tis$_i$
[every woman]-NOM appeals to-the-husband hers
'Every woman appeals to her husband'

c. *?[kathe vivlio]$_i$ ton apogoitevi ton sigrafea tu$_i$
[every book]-NOM cl-ACC disappoints the author-ACC his
'Every book him disappoints his author'

2.4.2 Furthermore, in double accusative *double object conctructions* in German the *Theme* argument cannot undergo scrambling, as (29b) shows (cf. Neeleman 1994):

(29) a. Daß der Lehrer die Schüler diese Sprache lehrt *German*
that the teacher the pupils this language teaches

b. *?Daß der Lehrer diese Sprache die Schüler lehrt

Exactly the same restriction characterizes Greek double accusative *double object* constructions as (30b) shows. The *Theme* argument cannot undergo clitic doubling:

(30) a. didaksa ta pedia ti gramatiki ton arheon elinikon *Greek*
taught-1S the children-ACC the-grammar-ACC the- Ancient Greek-GEN
'I taught the children the grammar of Ancient Greek'

b. *ti didaksa ta pedia ti gramatiki
Cl-ACC-Sg taught-1S the-children-ACC the-grammar-ACC
ton arheon elinikon
the-Ancient Greek-GEN

In conclusion, in this section we saw that there are numerous arguments supporting the view that Doubling has much in common with Scrambling.

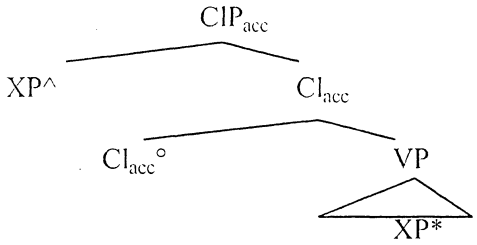
3. The Structure of Clitic Doubling Constructions

3.1. Sportiche's Approach...

Sportiche (1992) proposes that Clitic Constructions are minimally different from Scrambling/Object Shift phenomena. According to this proposal, clitics are functional heads licensing a particular property on a designated argument with which they agree on phi-features. Clitic constructions are assigned a structural analysis which is identical to all types of movement configurations.[16]

[16] It has been convincingly argued for by Roberts (1992) and Sportiche (1992) among others that clitic-movement processes should be decomposed into two further substeps: the first step has the properties of XP movement (in particular NP movement) and the second step is Head Movement. The arguments in favor of this analysis are largely based on the blocking effects of intervening subjects on clitic placement, participle agreement facts and the similarity between long NP movement and clitic climbing in restructuring contexts.

(31)



In figure (31), the XP* related to the clitic moves to the XP^ position at some point (overtly or at LF). In this way, the agreement between Cl and XP* is derived as a spec/head relationship, and the locality between the clitic and the corresponding XP* follows from the necessary movement relationship between the XP* and the XP^.[17] Sportiche attributes the XP*-to-XP^ movement step to the so called *clitic criterion* which is a subcase of the criterion in (32) routed in Rizzi's (1991) Wh-criterion:

(32) Generalised Licensing Criterion
At LF
a. A [+F] head must be in a spec/head relationship with a [+F] XP
b. A [+F] XP must be in a spec/head relationship with a [+F] head

In (32) [+/- F] stands for a set of properties such as Wh, Neg, Focus, etc.. In the case of clitic constructions [F] is taken to be Specificity. The clitic parameters are given in (33):

(33) Clitic Constructions Parameters
a. Movement of XP* to XP^ occurs overtly or covertly
b. Head is overt or covert
c. XP* is overt or covert

(33) makes it possible to unify three superficially different constructions under one general schema:
(i) *Undoubled clitic constructions* as in French, Italian, Dutch arise when a covert XP* moves overtly or covertly to XP^ with H overt.
(ii) *Clitic doubling constructions* as in Greek, Spanish, Romanian arise when an overt XP* moves covertly with H overt.
(iii) *Scrambling constructions* as in Dutch and German arise when an overt XP* moves overtly with H covert.

To account for the crosslinguistic distribution of scrambling and doubling, Sportiche (1992) postulates a filter which is given in (34):

(34) Doubly Filled Voice Filter (Sportiche 1992:28)
*[HP XP [H..]], where H is a functional head licensing some property P and both XP and H overtly encode P, P = Specificity

(34) prohibits a clitic to co-occur with an overt XP in a spec-head relation, thus deriving the parameters given in (33).

3.2 ...and its Shortcomings

Structure (31) has one major advantage: it treats clitic doubling constructions as XP movement constructions, thus providing an immediate explanation for the properties doubling and scrambling have in common.

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[17] The analysis based on (31) takes care only of the XP movement properties of clitic constructions. The X° step, which is highly local, is not assumed by Sportiche to be the result of X° movement, but rather is linked to the feature nature of the clitic. In other words, the verb takes along the clitic in its way to Infl.

However, Sportiche's proposal that *Specificity* is the property unifying the two constructions does not cover many instances of Scrambling/Doubling. The most obvious such cases are instances of *dative* doubling and scrambling, which are not related to Specificity as is well known, *experiencer* doubling and scrambling and *accusative* doubling and scrambling related to anaphoric destressing (cf. the above examples). For the dative constructions Sportiche assumes that the $CL_{dat}V$ has the status of an agreement projection which is fundamentally different from its $CL_{acc}V$ counterpart. However, even under this modification, there is no straightforward way in which the experiencer object constructions and the accusative destressing cases can be captured.

Moreover, even though the filter in (34) correctly describes the distribution of scrambling and doubling, there are some problems with it. First of all, the factor determining this particular distribution, namely the presence of doubling in Romance and scrambling in Germanic, seems arbitrary. It would be desirable to link the availability of an overt X° element (clitic) in Romance/Greek and the move XP option in Germanic, to some more fundamental property of the languages in question.

We will outline a parametric account for clitic doubling and scrambling exploiting an important difference between Romance/Greek and Germanic, namely the pro-drop nature of the former and the non pro-drop nature of the latter. We will establish a direct link between the crosslinguistic distribution of clitic doubling, as opposed to scrambling, and the availability of pro-drop. To this purpose, we will build on two independent proposals in the literature concerning the nature of clitic and scrambling: (i) the view of doubling as an object agreement phenomenon and (ii) the view of scrambling as movement to AgrO. In this way, the Specificity-related instances of scrambling/doubling are treated as just a subcase of a more general phenomenon. The conclusions of our overall proposal are very similar to the conclusions in Fanselow (1995, 1996) even though our premises are quite different.

4. The Proposal

4.1. Object Movement

We would like to suggest that Sportiche's filter is reducible to one single parameter regulating the licensing of arguments in the IP domain: move XP vs. move/merge X° to AgrO. Recall that Sportiche's filter makes crucial reference to the presence of an *overt* head as opposed to an *overt* XP to derive the difference between clitic doubling and scrambling. This proposal, provided that we make use of AgrO instead of a clitic Voice, can be reformulated as in the general schema in (35):

(35) a) Move XP to Spec,AgrOP: Scrambling languages
b) Move X° to AgrO: Doubling languages

As mentioned, (35) builds on two independent proposals in the literature, namely that A-scrambling is movement to AgrO (van den Wyngaerd 1989, Mahajan 1990, Adger 1993, Runner 1993, Jonas & Bobaljik 1993, Collins & Thrainsson 1993, Deprez 1994, Meinunger 1996 among others)[18] and that the clitic in doubling constructions is an object agreement marker (cf. Suñer 1988, Mahajan 1990, Adger 1993, Meinunger 1996 among others and unlike Jaeggli 1982, Borer 1984, Hurtado 1984). Crucially, under our proposal the clitic head is analysed as a nominal agreement morpheme on the verb.[19] This is an implementation of Suñer's (1988) proposal into a checking framework.[20] It is also crucial for us that

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[18] Most of these authors have assumed that A-scrambling is movement to AgrO for Case reasons, an analysis to which we do not subscribe (cf. below).

[19] Under our analysis theclitic and the full XP form a non-trivial chain which is necessary for the Case checking of the NP, thus deriving the XP movement properties of these constructions.

[20] Alternatively, one might suggest that clitics merge in AgrO unlike object agreement markers which are generated as part of the verb.

the doubled NPs do not move overtly. Evidence for this comes from the observation that the doubled NP a) follows the postverbal subject argued to be VP-internal (36a vs. b), b) follows both the participle and the subject (37a vs. b) and c) follows the aspectual adverb, the participle and the postverbal subject, as (38) shows:

(36) a. ton sinandise idi i Maria ton Petro sto parko
cl-ACC met-3S already the-Mary-NOM the-Peter-ACC in the park
'Mary met Peter already in the park'
b. *ton sinandise ton Petro idi i Maria sto parko

(37) a. ton ihe sinandisi i Maria ton Petro sto parko
cl-ACC had met the-Mary the-Peter-ACC in the park
'Mary had met Peter in the park'
b. *ton ihe ton Petro sinandisi i Maria sto parko

(38) tu ehi idi milisi i Maria tu Petru ja to provlima
Cl-DAT has already talked the-Mary-NOM the-Peter-DAT about the problem
'Mary had already talked to Peter about the problem'

4. 2. Argument Movement

Chomsky (1993: 7) claimed that the functional category Agr is a collection of features common to the systems of subject and object agreement. If this claim is on the right track, we expect a parallelism within a language and across languages concerning the type of subject movement and the type of object movement.

Alexiadou & Anagnostopoulou (1996, henceforth A&A) argued in detail that this is actually the case. More specifically, A&A assumed, following Chomsky (1995), that the Extended Projection Principle (EPP) is reformulated as the requirement that strong Categorial D features I° be checked. This checking can take place in two ways: either i) by Merging an XP (here the only option being an expletive) or ii) by Moving an XP (in the case of subject). Under this reasoning, SVO and Expletive-VS(O) strings in English/Icelandic are both related to EPP. Alexiadou & Anagnostopoulou presented evidence from distributional, interpretational facts that in Greek type languages: a) preverbal subjects are clitic-left dislocated, b) inverted orders involve VP internal subjects and lack an expletive, unlike their counterparts in the Germanic languages. Since SVO orders in the languages under discussion involve Clitic Left Dislocation, the authors concluded that Null Subject Languages (NSLs) lack Move XP to check the EPP feature in I°. Moreover, given that inverted orders in NSLs do not involve an expletive, NSLs also lack Merge XP to check the EPP feature in I°.

A&A proposed that NSLs check the EPP feature via V-movement to AgrS°. A&A capitalized on the basic intuition in the GB literature concerning NSLs, namely that these languages have (pro)-nominal agreement (cf. Taraldsen 1978, Rizzi 1982, Chomsky 1981, Safir 1985 a.o.). Specifically, A&A assumed that verbal agreement morphology includes a nominal element ([+N, +interpretable phi-features, potentially +Case]) which permits EPP-checking. Thus, languages like Greek move an X° to AgrS and not an XP in order to check the EPP-feature.

(35), revised as Move/Merge XP vs. Move/Merge X° to *Agr*, unifies the behavior of subjects and objects within a language and across languages. In other words, scrambling and doubling constitute another manifestation of the Move XP vs. Move X° AGR parameter, in this case regulating object licensing. The behavior of objects in Romance/Greek and Germanic mimic the behavior of subjects. In the spirit of Schütze (1993), we propose that scrambling and doubling is checking of a categorial feature in AgrO. Unlike EPP-checking, which is overt obligatorily, categorial feature checking for objects is 'optional' and relates to a number of factors (interpretational, intonational or related to the lexical semantics of the predicate, as in the case of experiencer object predicates and double object constructions). The asymmetry between subjects and objects in this respect is gradual, as indicated in the schema in (39):

(39) Subjects > Indirect Objects > Direct Objects
Obligatory > virtually obligatory> optional

Thus, EPP checking for subjects is obligatory. Categorial feature checking for direct objects is optional, but categorial feature checking for prepositionless dative objects is virtually obligatory. Dative clitic doubling is in most cases obligatory in Greek and Spanish, and Müller (1993) has convincingly argued that Dative-scrambling is obligatory in German.[21]

Note that our proposal crucially relies on the existence of Agr. Otherwise it is not possible to unify the behavior of subjects and objects by relating them to properties of the agreement system. Chomsky proposes that DP-raising without the functional category Agr is possible and he suggests a way in which this can be done. A strong D-feature can be added on T or v and this triggers movement creating an additional specifier (Chomsky: 1995: 352, 354). However, given the facts that we have examined in this paper we believe that under a layered specifier approach there is no straightforward way:

a) To connect subject movement to object movement within a language because T and v are not of the same nature.
b) To express the parametric difference between subjects and objects in Germanic and subjects and objects in Romance. Since T and v are not related it is not clear why in Germanic there is uniformly XP movement (for subjects and objects) and in Romance uniformly X° movement.

Under a layered specifier approach there is a way to partially achieve similar results; if D is a strong feature added on T and v triggering XP movement in Germanic, and the agreement or clitic is a head merged on T/v eliminating the strong D feature in Romance/Greek. However, under such an approach D is simply a notational variant for Agr.

5. Conclusion

In this paper we argued in favor of the common formal properties of doubling and scrambling. We proposed that these relate to a parametrization of AGR which offers the means to unify the behavior of subjects and objects within a language and to express parametric differences in the behavior of subjects and objects across languages. Under our proposal doubling languages move a head to Agr° while scrambling languages move an XP to Agr and this derives the common propertis of doubling and scrambling. In other words, the view that scrambling of objects in Germanic involves movement to Agr captures the correlation between scrambling and doubling straightforwadly, as the clitic is clearly an agreement marker. An analysis of scrambling as adjunction to VP or as free base generation of arguments does not accommodate the common facts, as it cannot carry over to clitic doubling constructions. A question that we do not address in this paper is the connection between morphological case and freedom of scrambling/doubling. Greek and German have overt morphological case markings and they both have extensive scrambling/doubling. Other Germanic and Null Subject Languages (Dutch, Spanish) have less

[21] Obviously, more research on this topic is required. It is fairly clear that dative doubling is subject to conditions regulating dative shift in English. It also seems that dative doubling and scrambling relate to an Agr projection while dative shift in English and Dutch targets a lower position. The generalisation that appears to emerge is that the licensing of indirect objects in an Agr projection is related to the presence of morphological case in Greek and German. We believe that in constructions lacking overt dative markings (English, Dutch, German and Greek double accusative constructions) dative shift has the form of a passive-like operation which takes place VP-internally (cf. Larson 1988). The theme is licensed as an adjunct and for this reason, it cannot scramble or double to the functional domain (cf. 24 & 25 above).

case morphology and fewer scrambling/doubling possibilities. That might be an interesting direction to take for further research (cf. Fanselow 1996).

Note that this paper only discusses *overt* operations suggesting that a lot of the differences among languages reduce to the way in which properties of Agr determine licensing of arguments in the *overt* syntax. This implies that agreement projections are relevant for the PF interface. The interpretational or information-structure effects that are some times connected to these phenomena are not primitives driving these operations but rather by-products. These effects can be derived if we combinè theories of the interfaces such as, for instance, Diesing's (1992) Mapping Hypothesis or Abraham's (1994), Cinque's (1993) and Zubizarreta's (1994) theories of Stress with Chomsky's *attract* theory of Movement. A spelled out proposal concerning the precise way in which this can be done awaits further research.

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*Polish auxiliary clitics: morphology or syntax?**

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1. *Introduction*
In this paper, I will be concerned with two classes of Polish auxiliary clitics, exemplified under (1) below.

(1)

Singular	Plural	
-(e)m	-(e)śmy [śmi]	1st person
-(e)ś	-(e)ście [śće][1]	2nd person
'class A'	' class B '	

Booij and Rubach (1987) (henceforth B&R) observe that the singular and plural clitics form two classes, differing in their involvement into certain processes. Adopting this division, I will refer to the singular clitics as 'class A' and to the plural ones as 'class B'.
B&R account for the behaviour of these clitics in terms of the theory of Lexical Cliticization (their section 6.2.), briefly summarized below.

(2) *Lexical Cliticization* (paraphrased):
Auxiliary clitics are attached to their hosts in the Lexicon by morphological rules, freely, and only then are the host+clitic complexes inserted into the syntactic structure. Possible multiple occurances of clitics are then ruled out by a syntactic filter leaving only one instance of the clitic.

The theory of Lexical Cliticization (LC) is based on two insights: (i) that clitics are movable within a sentence (Polish is not clitic-second), and (ii) that they interact with word phonology processes.
In the present paper, I will suggest an analysis which will attempt to preserve these two insights, at the same time assuming that both classes of clitics are syntactic heads and that their involvement into word phonology processes can be accounted for by means of the theory of Distributed Morphology proposed by Halle & Marantz (1993) (henceforth H&M).

The paper is structured as follows. Section 2 presents the data exemplifying the involvement of clitics in lexical phonology processes. The examples adduced come mostly from B&R. I will make two additional claims there: (i) that considering a broader range of data forces another division, cutting across the two classes of clitics, and having to do with the morphological (verbal vs. non-verbal hosts) or, alternatively, structural (Head-Head vs. Spec-Head configuration) contexts for clitic attachment (section 2.1.), and (ii) that Lexical Cliticization as defined by B&R incorrectly predicts certain ill-formed structures to occur (sections 2.2. and 2.3.).
Section 3 offers a different analysis, treating clitics as syntactic objects and suggesting that their behaviour with regard to certain morphological processes may be a function of Morphological Structure in the sense of H&M.
Section 4 summarizes the results.

2. *The data*
2.1. Stress assignment
In Polish, stress falls regularly on the penultimate syllable. The examples in (3) below show that when a class A clitic is attached to a stem, the stress shifts to conform with the penultimate pattern (stressed vowels are marked by bold type).

* I wish to thank the audiences of the *Workshop on Syntax, Morphology and Phonology of Clitics* at ZAS, Berlin and of the evening workshop at the *3rd International Summer School in Generative Grammar* in Olomouc, where I presented earlier versions of this paper, for their comments and help to clarify my points. Special thanks are due to Damir Ćavar for the initial incentive he gave me to write this paper as well as for his discussions.
[1] I use [ś] and [ć] for a prepalatal fricative and affricate, respectively.

(3)

	Participle, 3rd, Masc		Participle, 3rd, Masc + CL_A	
(a)	robił	-	robił+em	'do'
(b)	odpowiedział	-	odpowiedział+em	'reply'

B&R note the fact that with class B clitics, two patterns of stress are possible; the cultivated forms have antepenultimate stress, whereas in the spoken language, forms stressed on the penult appear frequently:

(4)

robiliśmy - robiliśmy 'we did'
poszliśmy - poszliśmy 'we went'

If a broader range of host+clitic combinations is taken into consideration, however, it becomes clear that this optionality does not hold for all structures involving class B clitics. In the examples in (5) below, only the antepenultimate stress is possible:

(5)

(a)	zmęczeniśmy	- * zmęczeniśmy	'we are tired'
(b)	czegoście (nie zrobili)	- * czegoście	'what (haven't you-pl done)'
(c)	Jankaście (widzieli)	- * Jankaście	'(you-pl saw) John'
(d)	długoście (tam byli)	- * długoście	'(you-pl were there) long'

All the above structures have something in common: the hosts are phrases: predicative in (a), wh-object in (b), fronted object in (c), and an adjunct in (d). Therefore, it seems that the mode of adjunction determines the properties of the complex resulting from it. This is made more explicit in (6) below.[2]

(6)

(a)	robiliśmy, robiliśmy	- $[[_V$ robili $]$ $[_{Aux}$ śmy$]]_{head}$	- head-head adjunction (X-CL)
(b)	Jankaście, * Jankaście	- $[[_{DP}$ Janka$]$ $[_{Aux}$ ście$]_{head}$ $]$	- phrase-head adjunction (XP-CL)

It seems that the adjunction structures in (5) above are 'weaker' in the sense that they do not behave as units with regard to certain processes; I will assume that the process involved is phonological word formation. There are two ways to characterize the 'exceptional' constructions in (5): either to say that they are structures involving a specifier- or adjunct-head (as opposed to head-head) relation between the host and the clitic, or to say that we are dealing with non-verbal vs. verbal hosts here. Although the latter seems tempting, possibly showing effects of categorial selectivity of clitics changing, I will explore the possibility where it is the structurally defined proximity to the host which is at stake.

2.2. *e* - insertion

All four clitics have two variants, differing in the presence of an [e]. The examples are given in (7) below.

(7)(a)

root 'bake'	past	gender	+CL
piek	ł	a (feminine)	m/ś
piek	ł	∅ (masculine)	em/eś
piek	ł	y (non-virile)	śmy/ście
piek	l	i (virile)	śmy/ście

(b) już+em/eś/eśmy/eście
already+CL

What (7a) is intended to show is that for participle hosts, the [e] is supplied if the stem is masculine singular only (the first three morphemes make up the past participle form of the verb, and the fourth is what surfaces if a clitic is attached). There is a class of words which also trigger the appearance of the [e] for all clitics (7b).

[2] It is impossible to construct similar examples for class A clitics, because phrase-head adjunction (XP-CL) generally blocks the insertion of [e], which would provide an additional syllable, which could be then used as a test for whether the stress shifts of not (cf. section 2.2). The only possible examples involve monosyllabic words like *tam* 'there'. However, the fact that *tam+em* is stressed on the penult follows in either case.

2.2.1. *e*-insertion as the output of Lower

B&R attribute the surfacing of [e] to the operation of the cyclic rule of Lower, which turns yers (high lax vowels) into /e/, if another yer follows. Lower is responsible for the following alternations:

(8)

	Nominative		Genitive	
(a)	mech	-	mch+u	'moss'
(b)	kot+ek	-	kot+k+a	'kitten'
	cat+dimin			

(bold type marks the output of Lower)

Under the assumption that the stem in (a) and the diminutive suffix in (b) contain yers, surfacing of [e] in the left-hand examples is caused by a yer in the following morpheme: the Nominative ending (cf. B&R:fn. 9). Lower applies every cycle if the context is met, then a post-cyclic lexical rule of Yer Deletion applies to delete all remaining yers context-freely.[3]

B&R show that the masculine singular ending is a yer (cf. their section 2.1.), and under the assumption that auxiliary clitics also contain yers, they derive the presence of the [e], interpreting it as the masculine yer lowered before the yer in the clitic, cf. (9) below.

(9)

(a) robił+ĭ + CL_A --> robił+e+mĭ or robił+e+śĭ (the yer then deletes)

Because Lower is fed by cliticization, and because it is a cyclic lexical rule, B&R conclude that cliticization must be a morphological process.

2.2.2. Overgeneration of LC

Consider the examples in (10) below. The right-hand, accusative forms surface with an [e].

(10)

	Gen.	Acc.	
(a)	palc+a	palec	'finger'
(b)	zamk+u	zamek	'castle'
(c)	marchw+i	marchew	'carrot'

∅ vs. [e]

In accordance with the theory assumed in B&R, the ending of the accusative forms is a yer, because it triggers the appearance of [e] in the stem. Thus, B&R's theory predicts that the accusative yer will be lowered to [e] if a clitic is attached. This prediction is not borne out, as evidenced in (11) below.

(11)

(a)	* palec+e+ś złamał	'you (sg) broke your finger'
(b)	* zamek+e+śmy widzieli	'we saw a castle'
(c)	* marchew+e+ście jedli	'you (pl) ate carrots'

I conclude that Lexical Cliticization overgenerates. Nothing should prevent the appearance of [e] in the above forms, according to B&R's assumptions.

2.3. Raising

Raising is another (postcyclic) lexical rule interacting with cliticization. It turns /o/ into /u/ before voiced consonants in the word-final syllable. It is responsible for the following alternations:[4]

(12)

(a)	bóg [buk] 'god', Nom.	-	boga [boga], Gen.
(b)	rób [rup] 'do', Imperative	-	robić [robić], Infinitive

As shown in (13), Raising is blocked if a clitic is attached. Because cliticization blocks operation of a lexical rule, B&R again conclude that it must be a word formation rule.

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[3] The present-day theory does not make use of yers as underlying segments, to avoid the danger of absolute neutralization - yers do not surface in any case. Instead, floating vowels are typically postulated to account for the vowel-zero alternations. I believe that the points I make in this paper translate into the newer framework easily.

[4] The final segments in the left-hand forms are underlyingly voiced. The postlexical rule of Final Devoicing is responsible for their surface shape, cf. B&R:25.

(13) ja+m mógł - ja mogł+em 'I could'
[u] [o]

It is impossible to construct similar examples for class B clitics in X+CL constructions - recall that plural verb stems always end in a vocalic gender marker, whose appearance prevents Raising from applying.
B&R do not, however, consider XP+CL constructions, where, as shown in (14b) below, Raising does not apply either (14a shows that Raising does apply for *rów* if an inflectional ending is attached).

(14)
(a) rów - row+u 'ditch'
Nom. Gen.

(b) *row+ś/ście

Hence, (14b) is another argument against Lexical Cliticization as formulated by B&R.

2.4. Indefinite pronoun formation
Booij & Rubach cite Dogil's (1984) examples for the interaction between cliticization and the rule of Indefinite Pronoun Formation which attaches [ś] to interrogative pronouns, as shown in (15) below.
(15)
(a) jako 'how' - jakoś 'somehow'
(b) kiedy 'when' - kiedyś 'sometime'

According to Dogil, alternations such as those in (16) below are possible:
(16)
(a) jako+ś mu po+mog+ł+e+**m** = jako+**m**+ś mu pomógł 'I helped him somehow'
(b) kiedy+ś to kup+i+ł+e+**m** = kiedy+**m**+ś to kup+i+ł 'I bought it sometime'

In (16), the *-m* clitic, marked by bold type, must attach before the indefinite [ś] in the sentences on the right. Because the attachment of [ś] is a derivational process, Dogil's observations, in dialects where they apply, constitute a very strong argument for the morphological status of cliticization.

2.5. Clitic multiplication
Booij & Rubach note the fact that in uneducated speech, clitics may be multiplied.[5] They cite the examples given in (17) below, after Dogil (1984).
(17)
(a) ale+ś powiedział+e+ś 'but you (sg) said'
but+CL_A said+CL_A
(b) ale+ście zrobili+ście 'but you (pl) did'
but+CL_B did+CL_B

B&R attribute the appearance of the above constructions to the failure of their syntactic filter to apply (cf. (2) above).

3. *The analysis*
The analysis offered in this section presupposes the model of Distributed Morphology (DM) proposed by Halle & Marantz (1993). DM crucially claims that phonological features are supplied to terminal nodes only at the level of Morphological Structure (MS), mediating between syntax proper and PF. MS has its own set of principles and operations which target bundles of semantic and morphosyntactic features contained under one categorial terminal node. The features are drawn from the lexicon or supplied in the course of derivation by e.g. head-to-head movement. MS may rearrange these bundles to certain extent, merging, fusing or fissioning them, before the process of supplying phonological features known as Vocabulary Insertion (VI) begins. After VI, morphologically conditioned readjustment rules may operate on the structures derived.
DM immediately offers a way to reformulate the account for Indefinite Pronoun Formation, mentioned in 2.4. Apparently, the indefinite *-ś* triggers an MS rule which swaps it with the neighbouring

[5] I use the term 'multiplication' to stress that this process has nothing in common with clitic doubling in Romance languages.

inflectional morpheme and positions it at the right edge of the head to be spelled out. The additional evidence for this conclusion comes from (18) below, where it is apparent that [ś] jumps over the inflectional ending.

(18)	Masculine	Feminine	Virile		Non-virile
Nom.	jaki+ś	jaka+ś	jacy+ś		jakie+ś
Gen.	jakiego+ś	jakiej+ś		jakich+ś	
Dat.	jakiemu+ś	jakiej+ś		jakim+ś	

'what (kind of)' +inflection+[ś] -> 'some (kind of)'

Thus, it is possible to account for the phenomenon presented in (16) above even if cliticization is not a word formation rule.

The model suggested by Halle & Marantz is at first glance incompatible with that advocated by Booij & Rubach. One way of reconciling these two frameworks may be to assume that lexical rules apply only inside a relevant domain, which in the case of Polish (perhaps universally) is the domain of the phonological word (Pwd). The post-lexical rules, then, will operate inside larger domains.
As for the difference between cyclic and postcyclic rules, it may be assumed that the former may be redefined as applying at each VI cycle, under the assumption that VI proceeds left to right. In this way, filling the next feature complex with phonological material could create environment for the application of cyclic rules. Postcyclic rules could then be redefined as applying after the last VI cycle for the given terminal node, to the whole material contained in it, after morpheme boundaries have been erased.
With cyclic rules redefined as above, it may be assumed that H&M's readjustment rules conditioned by the neighbouring morphemes may also be considered as cyclic.
To ensure the cyclicity effect, H&M's assumption about morphemes being identified as suffixes as prefixes only at the moment of VI should be slightly modified. Namely, it should be assumed that feature bundles are first ordered as suffixes or prefixes relatively to the stem and one another, and only then does VI begin, understood as filling the bundles, one by one, with phonological material.[6]

3.1. host+clitic complexes
Consider first head-to-head adjunction structures with class A clitics (X-CL_A). After the morphemes have been ordered, VI fills them one after the other, ending with CL_A, which triggers Lower, syllabification, and, later on, blocks Raising, in the relevant contexts. Stress Assignment operates on the whole complex as well.
In this way, class A clitics merge with their hosts into one phonological word, just like typical affixes, simply by virtue of being within the same terminal node as the host.
As for X-CL_B constructions, I assume than class B clitics trigger a rule which adjoins them to the phonological word formed by the host.[7] This rule applies either at the stage of affix ordering, before VI, or as the first rule in the cycle for the clitic, pulling it out from the Pwd of the host. The resulting (possibly pre-VI) configurations are illustrated in (19) below.

[6] This means that MS operations, apart from performing language- and context- specific merger, fusion or fission may also perform language- and context-specific pre-VI ordering of morphemes. In this way H&M's assumption that the syntactic computation does not operate on phonological (in broad sense) features may be preserved. See however Ćavar & Wilder (1994) who make crucial use of *lexical* specification of clitics as elements *phonologically* deficient, following Zec & Inkelas (1990), and Chomsky (1996) who allows for the existence of features which may only function within the phonological component without being spelled out phonetically, but still be visible to the computation.

[7] The assumption about recursive adjunction to a Pwd avoids the assignment of clitics to separate phonological words of their own, which could pose problems connected with stress assignment to such Pwds. However, another problem arises of how to avoid stress assignment to recursive Pwds formed after the adjunction. At least three possible solutions come to mind: (i) to assume that stress is assigned to a foot, and clitics do not project feet, or (ii) to assume that the adjunction process does not form another Pwd but rather a clitic group (CG), which is not a domain for stress assignment (although the very existence of CGs is currently a debatable matter), or (iii) to assume the following rule: one (recursive) Pwd may only bear one primary stress. Because the present analysis only requires that in X-CL_B constructions with adjunction clitics be separated from the Pwd of the host, I will not attempt to explore the above possibilities now, assuming the third one to hold.

(19)
(a) X-CL_A: [host + CL]$_{Pwd}$
(b) X-CL_B: [[host]$_{Pwd}$ + CL]$_{Pwd}$ (cultivated forms)

I assume that in X-CL_B constructions with penultimate stress, clitics do not trigger the adjunction rule, taking it to be a reflex of their progressing grammaticalization.
In XP-CL constructions, under the above assumptions, VI targets the XP and the CL separately, so the question of their merging into one Pwd does not arise.[8] Still, both elements form a unit of the type illustrated in (19b) above, as a result of the fact that the CL subcategorises for a Pwd to its left, cf. (20) below.[9]
(20) XP-CL: [[host]$_{Pwd}$ + CL]$_{Pwd}$

The assumption that class A clitics do not merge with their hosts in XP-CL constructions is empirically motivated on the basis of examples like **marchew+m* ('carrot'+CL_A, cf. (11) above), where *e*-insertion, understood as Lower, does not apply. There is also a range of other facts that may support this conclusion. These facts have to do with the phenomenon of conjunction reduction. The examples below illustrate forward deletion of an inflectional ending (21) and clitics (22-25) under identity. I will assume that the minimal requirement for deletion is that the target be a distinct entity.[10]
(21) shows that it is impossible to delete the inflectional morpheme. In (22), however, class B clitics undergo deletion. (23) shows that this process is impossible for class A clitics. These facts follow straightforwardly from the assumption that in X-CL_A constructions, the clitic is indistinguishable from other morphemes constituting the host, unlike clitics in X-CL_B constructions, where the clitic is a separate entity adjoined to the host. (24) lends further support for this conclusion: in (a), the class A clitic may not be deleted; (b) is almost good, the slight deviation presumably due to the variable status of class B clitics; (c) is perfect - the modal clitic *by* always stays outside of the phonological word of the host.
If the above reasoning is assumed, (25) falls out straightforwardly as a construction shown in (20) above, where the class A clitic is not merged with the host, but adjoined to it.[11]
(21)
(a) bierzesz i dajesz 'you (sg) take and give'
(b) *bierzesz i ~~dajesz~~

(22)
(a) poszliśmy i zobaczyliśmy 'we went and saw'
(b) poszliśmy i zobaczyliśmy
(c) poszliście i zobaczyliście 'you (pl) went and saw'
(d) poszliście i zobaczyliście

[8] In languages in which it is required that XP-CL constructions form single Pwds (i.e., in which CL must undergo or trigger cyclic rules), it may be assumed that some kind of MS rule applies to join the XP and the CL. H&M do not discuss the question of how phonological words may be formed within their system. I assume that a rule similar to the one they postulate for structurally or linearly adjacent heads (merger, H&M:116) may be involved in such cases. Naturally, all sorts of questions arise as to how such rules may be constrained and how they operate if the XP consists of several terminal elements. I am not in a position to address these questions now.
[9] Thus, I assume that (some) clitics carry at least two kinds of specification: (i) subcategorization information identifying them as elements requiring a host (cf. Ćavar & Wilder 1994 following Zec & Inkelas 1990), and (ii) a feature triggering the adjunction rule. The latter feature represents the cost at which the cultivated forms are generated as compared to the novel forms (cf. B&R:41). At the same time, this feature seems to be shared by all other clitics of Polish, whether it is the modal *by* or the pronominal clitics. It is the first feature which is responsible for creating the structure in (20).
[10] See Wilder (1994) for extensive discussion of these issues.
[11] A warning about the data is in order here. Some of these judgements are not uniformly shared among speakers of Polish. Determining the extent to which the above facts are common and the explanation of the differences in judgements will be the subject of a future work. One interesting obsevation made so far was that an informant who rejected (22), uniformly stressed X-CL_B constructions on the penultimate syllable, which may suggest that in her idiolect, class B clitics lacked the adjunction rule altogether and that was the reason for her not being able to delete the clitics in (22). I am not aware of anyone disagreeing with the judgement in (24c), which seems a clear case, the varying judgements about auxiliary clitics being presumably caused by their transitional status.

(23)
(a) poszedłem i zobaczyłem 'I went and saw'
(b) * poszedłem i zobaczyłem
(c) poszedłeś i zobaczyłeś 'you (sg) went and saw'
(d) * poszedłeś i zobaczyłeś

(24)
(a) * włączyłem sobie radio i posłuchałem muzyki
(b) ? włączyliśmy sobie radio i posłuchaliśmy muzyki
(c) włączyłbym sobie radio i posłuchałbym muzyki
turn-on+CL self-Dat radio and listen-to+CL music

(25)
(a) ?zmęczonym i głodnym 'I'm tired and hungry'
(b) zmęczonym i głodnym

3.2. Lexicalized forms
There is one class of XP+CL structures not discussed yet, namely those like *jużem*, *tameście*, etc. Because there is a very small number of words in Polish which allow *e*-insertion in such configurations (see (26) below for a possibly exhaustive list), and because most of them have an archaic flavour in such constructions, I suggest that this class of structures involves lexicalization. As single-word adverbial expressions, closed class elements, these constructions might simply become stored as units, thus forming tight complexes. It is worth noting that if these words are followed by a clitic, resylabification applies.
(26)
tam 'there', już 'already', jak 'how', sam 'alone', gdzież 'where', nim 'before', cóż 'what'

There is one surprising fact about the complexes resulting from combining these words with class B clitics, namely that they do not have penultimate stress. As shown below, these complexes are stressed on the antepenult.
(27) tam+e+śmy, już+e+ście

The above examples reveal a paradox: because the [e] surfaces, it should be assumed that it is triggered by the yer inside the clitic. For this to be true, the clitic must be inside the domain of cyclic rules, a Pwd. But if so, then the post-cyclic rule of stress assignment should not ignore the vowel inside the clitic and stress the penultimate [e], and not the antepenultimate syllable.
One possible way to account for this phenomenon may be to assume that the lexicalization of these forms, besides placing the host and the clitic in the same domain, affected the clitic by postponing the application of the adjunction rule it triggers - if it applies as the last rule in the cycle, Lower will apply before it to create the [e]. Then, the postponed adjunction rule will make it possible for the clitic to escape from the domain of stress assignment.

3.3. The Friendliness constraint
Recall the ill-formed examples in (11) and (14b) above, where Lower or Raising fail to apply, repeated here as (28a,b). It turns out that these constructions are unacceptable even without the insertion of [e] or the [o] to [u] change, cf. (29a,b).
(28)
(a) * palec+e+ś, * zamek+e+śmy, * marchew+e+ście
(b) * row+ś, * row+ście

(29)
(a) * palec+ś, * zamek+śmy, * marchew+ście
(b) * rów+ś, * rów+ście

The above examples show the need for a condition on cliticization having to do with the phonetic make-up of the host:

(30) *Clitic-friendliness*:
To become a clitic host, an element has to be phonetically 'friendly', which ideally means that it has to end in a vowel, other types of segments being possible depending on the speaker

Friendliness of the host required to allow cliticization apparently varies slightly from speaker to speaker; the examples in (31) below present my own judgements, the final segment of the host given in square brackets.

(31) Acc.+CL
(a) Janka+ście 'John', [a]
(b) ?książkę+ście 'book', [w̃]
(c) *dom+ście 'house', [m]

In X+CL constructions, no violations of Friendliness arise: class B, as well as class A feminine clitics always end in a vocalic gender marker, and class A masculine clitics, being inside the relevant domain, always trigger Lower, resulting in the epenthesis of [e].
It is tempting to reduce Friendliness to some independent principle, and obviously, the conditions on syllable structure immediately come to mind here. In the case of class A clitics, Friendliness possibly does reduce to phonotactic constraints on the syllable structure, as these clitics have to be adjoined to the coda of the last syllable of the host. It is less clear that such a reduction is possible for class B clitics, given that they form syllables on their own, and there is no resyllabification after cliticization in XP-CL structures. Polish allows [ść] and [śm] or even larger sequences as onsets (e.g. *wściekły* 'furious' [fść-]). Therefore, I retain Friendliness as a separate condition, pending further research.
To save structures in which Friendliness blocks cliticization, an element homophonous with the finite declarative complementizer *że* may be inserted between the host and the clitic, to serve as the host. Results of this *że*-insertion are shown in (32) below (cf. the examples in (29)).

(32)
(a) palec że+ś, zamek że+śmy, marchew że+ście
(b) rów że+ś, rów że+ście

I return to this phenomenon in section 3.4.2.

3.4. Clitics as syntactic heads

In this section, I will first defend the idea that clitics should be analysed as syntactic elements, possibly originating under V_{aux}, taking VP_{prt} as the complement, and then undergoing a regular feature-checking movement to Infl.[12,13] From Infl, they may, but do not have to, climb higher - this optionality, whether true or apparent, is intended as a means of accounting for the lack of Wackernagel effects in Polish - clitics may appear deeper in the clause than the second position. From any of the head positions, these heads may cliticize on an element within the same maximal projection, capable of supporting them, either a head or a Spec. If such an element is lacking or it is impossible to cliticize onto it (Friendliness), Last Resort verb movement or *że*-insertion may be performed. If these fail as well, the derivation crashes at PF, because the phonological subcategorization properties of the clitic are not fulfilled - this, in turn, is a means of accounting for the Tobler-Mussafia effect of Polish - the fact that clitics may not appear in string-initial positions.[14] Section 3.4.1. shows how the above assumptions may account for certain facts better than the filter postulated by B&R. Section 3.4.2. offers some remarks on the status of *że*-insertion.

3.4.1. Inadequacy of the filter

The syntactic filter proposed by B&R (p. 36) is supposed to rule out structures in (33) below.

(33) * ... X+clitic$_i$ ... Y+clitic$_i$ ...

B&R do not discuss the kind of identity expressed by the index. I will assume that it stands for identical number-person features - this seems the only reasonable interpretation, under B&R's assumptions. Because auxiliary clitics do not climb out of their clauses, the additional condition the filter has to obey is that it may only target one clause at a time.
If cliticization is lexical, it may well happen that different clitics attach to different words in the same clause - the filter suggested by B&R will leave one instance of each. Notice that if clitic multiplication is interpreted as a violation of a syntactic filter, and host+clitic combinations arise in the Lexicon,

[12] See Wilder & Ćavar (1994) for extensive discussion of possible motivations for such movement of clitics.
[13] I do not commit myself to any particular syntactic framowork here, remaining within some version of the Minimalist Program. Hence, at this stage, for ease of exposition, I will use more traditional terminology.
[14] Again, see Ćavar & Wilder (1994) for the discussion of how these two properties may be accounted for in Croatian.

structures such as those in (34) below should at worst have status similar to those in (17) above, if not simply be well-formed because they do not violate the filter at all.

(34)
* już+e+m to widzieli+śmy
already+CL_A it see-Prt+CL_B
intended: 'we have already seen it'

The above violation cannot be a feature-checking violation, because adjuncts like 'already' are not supposed to check phi-features against anything. Semantic interpretation should not rule this example out either in view of sentences like *There's lots of people outside*, where the singular clitic *'s* does not agree with the plural NP *lots of people*. If, on the other hand, clitics are generated as heads of, V_{Aux}, it is predicted that only one clitic may occur in one clause.
Therefore, paradoxically, violations like those in (17) above, in dialects where they occur, seem to support an analysis where the clitic is generated in one position, and subsequently moved, possibly by head-to-head climbing, to another position. Clitic multiplication, in dialects where it exists, may be explained if the copy-and-deletion view on movement is adopted (cf. e.g. Chomsky 1993), by a failure of the PF (trace-) deletion rule to apply.

Although apparently optional, cliticization in Polish obeys a certain pattern: while it is possible to have many elements in front of the clitic and between the clitic and the verb, orders like that in (35), where the clitic is attached to an element following the verb, are impossible.

(35)
* Wczoraj widzieli Janka+śmy
yesterday saw-prt John+CL_B
'Yesterday, we saw Janek'

Under B&R's approach, the ungrammaticality of (35) is a mystery. It follows immediately if it is assumed that the clitic is generated higher than the verb, and that when the latter raises, it may not skip the Aux head, but rather has to adjoin to it.

There are also cases where clitics have to obligatorily cliticize onto certain hosts. One of such hosts is the modal clitic *by* 'would', cf. (36). In certain subjunctive constructions, it appears that *by* has to be adjoined to the complementizer - any other placement is ungrammatical, although in non-subjunctive contexts it is possible, cf. (37).

(36)
(a) Janka byśmy znowu zobaczyli
Janek-Acc by+CL_B again see-prt
'We would meet Janek again'
(b) *Janka+śmy by znowu zobaczyli
(c) *Janka by znowu+śmy zobaczyli

(37)
(a) chciał, żebyśmy tam poszli
wanted-prt C+by+CL_B there go-prt
'He wanted us to go there'
(b) *chciał, że tam byśmy poszli
(c) powiedział, że tam byśmy poszli
said-prt C there by+CL_B go-prt
'He said we would go there'

The above ungrammatical examples come as a surprise within Lexical Cliticization. Under the syntactic view, they receive a natural explanation. On the assumption that the underlying order of heads is $CL_{A/B}$ - *by* - V_{prt}, (36c) follows immediately. (36b) necessitates an admittedly ad hoc, but by no means unreasonable assumption that *by* always has to raise to Infl, creating a complex with the auxiliary clitic. In subjunctive clauses, it is either the modal *by* or Infl that has to adjoin to Comp, possibly to check its strong Mood feature. (37b) crashes because this feature is left unchecked.

Another, very important, issue concerns the interpretation of clitics. If they are attached in the lexicon, how to ensure that they be interpreted as referring to the clausal tense and agreement properties? If the syntactic view is adopted, this question receives a straightforward answer - they are

generated as a part of the extended projection of the verb; with the lexical view, there is no clear answer to this.

3.4.2. *że* - insertion

Earlier on, I mentioned two possible Last Resort strategies of avoiding a crash due to unsatisfied phonological subcategorization properties of clitics: verb (participle) movement, creating the necessary host by adjoining to the left of the clitic, or *że*-insertion, which may be an MS phenomenon, spelling out a functional head which provides such a host. Consider now the examples below.

(38)

(a) powiedział, że tam poszliście
(b) żeście tam poszli
(c) że żeście tam poszli
said-prt that (że)+CL_B there gone-prt
'He said you had gone there'
(d) * powiedział, że że tam poszliście

(39)

(a) powiedział, że znowu żeście podpalili szkołę
said-prt that again że+CL set-fire-prt school
'He said you had set fire to the school again'
(b) powiedział, że znowu+ście podpalili szkołę

The first conclusion to be drawn from (38) and (39) is that *że* is not a complementizer, but apparently some head itermediate between Comp and Infl, either belonging to the complementizer system in the sense of e.g. Hoekstra (1993) - hence the homophony, or even being a stacked Comp. I will not argue for either of these possibilities here, leaving the matter for further reasearch.

Another conclusion is that *że*-insertion, a dialectal phenomenon, apparently constitutes 'accidental' Last Resort, meaning that the clitic may either climb higher and adjoin to Comp (38b), or cliticize onto an XP within its maximal projection (39b). Apparently, the clitic is too 'lazy' to perform either the movement to the next head or to cliticize onto the structurally remote XP. The insertion of *że* at MS is simply a cheaper option.

Recall that there are two possible ways to characterize the difference between the constructions in (6) above - either in structural or in morphological terms. It seems that if clitics were heading towards becoming 'verbal clitics', the phenomenon of *że*-insertion, apparently becoming more common in the spoken language, would not receive clear explanation - verb movement would be the expected option. If all that suffices is a presence of a head in the minimal domain, *że*-insertion is explained as the most economical way out.

4. *Conclusion*

In the present paper, I have attempted to argue that the answer to the question posed in the title is: both, provided that 'morphology' is not identified with 'lexicon'. This is by no means a new result. Booij & Rubach's theory also admitted that both components are involved in cliticization. What I have tried to show is that the balance should (still) be shifted towards the syntactic analysis, with morphology to certain extent remodelling the results of syntactic operations. Syntax governs the placement of the auxiliary clitics, whereas morphology governs the final shape of the host+clitic complexes.

According to B&R, auxiliary clitics have gone all the way from being independent syntactic elements - auxiliary verbs, cf. (40) below - to the lexicon.

(40) Old Polish Modern Polish

wyszedł jeśm	---->	wyszedł+em	' I went out'
go-out-prt be-aux		go-out-prt+CL	

(after Klemensiewicz et al. 1955)

I hope to have shown that this process is by no means completed yet. Auxiliary clitics still originate as separate syntactic heads. Their grammaticalization is reflected in their phonological deficiency: the requirement for a phonological host, as well as in their tendency to form tight complexes with hosts contained under the same terminal node: the progressive loss of the rule of adjunction to Pwd. The

phenomena described by Friendliness and *że*-insertion are presumably another aspect of progressing grammatialization - a tendency not to cliticize to hosts which are too distant in structural terms (Specs), unless the phonological context is in some sense ideal.
Class A clitics lead the way presumably due to the fact that on the surface, they consist of only a single consonantal segment which has to adjoin to the last syllable of the host, and most often such adjunction is impossible.

If the analysis presented above is correct, many interesting results concerning Morphological Structure ensue: it is (naturally) capable of expressing lexicalization of forms which consist of two syntactically remote elements (the case of *tameście*, etc.), grammaticalization may be expressed in terms of its rules (the gradual loss of the adjunction rule for class B clitics), and it may play a role in economy calculations (*że*-insertion). It seems possible to recast the three-component model of Lexical Phonology as proposed by B&R into DM terms, provided that it is assumed that affix ordering takes place before Vocabulary Insertion.

Another aspect of this analysis is that if B&R are not right in their claim that cliticization is lexical, certain models regarding clitic placement as a strictly prosodic phenomenon, cf. e.g. Halpern (1992), get into trouble when attempting to account for the non-clitic-second nature of Polish.

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(Re)syllabification Across Word Boundaries: Psycholinguistic Evidence From Dutch Clitics

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1. Introduction

This paper deals with the question of how the syllabic structure of encliticized forms is produced during speaking. In connected speech, the right boundaries of lexical words do not always align with the end of a syllable. In Dutch, for instance, many function words have two forms, one being phonologically strong and the other phonologically weak. The phonologically strong form contains a full vowel (e.g., *het* "it" [hɛt], *hem* "him" [hɛm], *en* "and" [ɛn]), while the corresponding weak form normally has only schwa as a vowel (e.g., *het* "it" [ət], *hem* "him" [əm], *en* "and" [ən]). Note that prosodic words never start with a schwa in Dutch and never have exclusively schwa as a vowel (Booij, 1996), while many of the weak forms show these properties. To avoid a schwa-initial syllable, and in accordance with the general tendency of languages to avoid syllables that lack an onset, a schwa-initial weak form of a function word (henceforth "clitic") will prefer having a coda element of the preceding word in its onset position, as shown in (1). Following the analyses by Gussenhoven (1985), Lahiri et al. (1990), and Booij (1996), I'll assume that the clitic is prosodically integrated into the preceding prosodic word.[2]

(1)	$(ko:)_\sigma(kət)_\sigma$	*kook het*	"cook it"
	$(daŋ)_\sigma(kəm)_\sigma$	*dank hem*	"thank him"
	$(bo:)_\sigma(tən)_\sigma$	*boot en*	"boat and"

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[2]Whether the enclitic syllable is incorporated into the preceding Foot, or chomsky-adjoined to it, or is immediately linked to the prosodic word node, is not crucial for my argument (see Booij, 1996, for a detailed discussion). Important is that the clitic belongs to the preceding word. This claim can be defended, since the rules that apply obligatorily within prosodic words also apply obligatorily in host+clitic combinations. An example is the rule of homorganic glide insertion to avoid hiatus in Dutch, as in *Ruanda* [ruwɑnda] or *knieën* [knijən] "knies" (Gussenhoven, 1980). This rule also applies to encliticized forms: *zie het* "see it" [zi:jət] (Booij, 1995).

While most models of speech production deal with the encoding of single words, Levelt's (1992, 1993) model of phonological encoding accounts also for the production of encliticized forms like those in (1). According to the model, a speaker does not produce the syllables of the single lexical words when generating an encliticized form like $(ko{:}k)_\sigma$ and $(\partial t)_\sigma$ for *kook het*. The only syllabic structure produced is the postlexical surface structure, see (1). The results of experiments on encliticized forms in Dutch reported below in section 4, however, suggest that this claim may need modification. The results are not only relevant for models of phonological encoding in language production, but also for phonological theory, as will become apparent from section 5.

2. Phonological Encoding in Speech Production

A speaker produces on average three to five syllables per second, perhaps even more (Lenneberg, 1967). How those syllables are produced during speaking is an intricate issue that has become more and more important in the literature. Before looking at the special case of syllabification in encliticized forms, we have to ask how a speaker produces syllabic structure in general. Syllabification is one aspect of the encoding of a word's phonological form, which is again part of the general issue of how words are accessed from the lexicon when we speak.

2.1 Speech Errors and Models of Phonological Encoding

In the last two decades several models of language production have been developed (for instance, Fromkin, 1973; Garrett, 1975; Shattuck-Hufnagel, 1979; Dell, 1986, 1988; Levelt, 1989). In all models of language production mentioned above, lexical access consists of two parts, although the terminology used may be different. First, appropriate lexical items are selected and semantic and syntactic relations are created on the basis of the intended message. Second, the lexical units are phonologically encoded. We will look at this second process in more detail.

All models of phonological encoding have been heavily influenced by speech error data. The idea is that the way a system breaks down can provide insight into the way it works. The data are either naturally occurring errors, or errors that were elicited experimentally. Most phonological speech errors involve segments, which are exchanged, deleted, added, substituted, or shifted like in the sound exchange ***heft lemisphere*** (intended utterance: *left hemisphere*, example taken from Fromkin, 1973). The occurrence of those errors has lead researchers to believe that the phonological forms of words are not stored in the mental lexicon as units. Another argument against lexical storage of syllabified forms is that we would expect more errors that involve whole syllables as units, e.g. syllable exchanges. Those, however, are rare. Speakers seem to retrieve independently a word's segments and slots specifying positions within a syllable or a word and then combine the segments with the slots. When this process goes wrong, we encounter a speech error (see Meyer, 1992 for a detailed overview on the sound error literature).

Most models of speech production have been designed for the encoding of single words. However, connected speech is the output we normally produce. As mentioned above, postlexical syllable structure does not always coincide with the syllables of the single lexical words. This poses problems for models that specify syllabic positions in frames and

label segments for syllabic positions, e.g., Shattuck-Hufnagel (1979) or Dell (1986) or positions within lexical words (Shattuck-Hufnagel 1992; Dell, 1988). These models could not explain why the stop in the coda of *kook* surfaces in onset position of the second syllable $(k\partial t)_\sigma$ in (1), since it is specified as a coda segment of the verb *kook* that has to go into a coda position in the frame.

2.2 Levelt's Model of Phonological Encoding

A model designed to account for these forms is Levelt's (1992, 1993) outline of the phonological encoding component. He raises the question of why speakers should first partition a word's stored phonological form in a syllable frame and a string of segments, when they later unify them again. There should be another function for this partition than to provide speakers with the possibility to produce speech errors. Indeed, the separation of segments and frames to which the segments are then associated seems to be a useful concept to account for the production of encliticized forms in connected speech, where the surface syllables clearly do not correspond to the boundaries of lexical units: From the point of view of processing, it does not seem to be useful to first construct fully syllabified forms for individual lexical items that never appear in the output of the production process, but have to be resyllabified to account for the connected speech output. Instead, one would prefer to produce the postlexical surface syllables immediately.

(2) The Phonological Encoding Component of Levelt's Model:

activation of lexemes: <kook>, $<het>_{WEAK}$

separate segmental and metrical spellout procedures:	segmental	metrical ω | σ' σ
prosodic word formation:		ω | \\ σ' σ
segment to frame association:	$[(ko:)_\sigma(k\partial t)_\sigma]_\omega$	

Levelt therefore proposed that a speaker creates frames of the size of a prosodic word as the basis of syllabification instead of single frames for individual lexical units, see (2). Two separate procedures called "segmental" and "metrical" work on each prosodic word. The segmental spellout procedure delivers an ordered sequence of segments (e.g. /k,o:,k,∂,t/ for *kook het*). Crucially, these segments are not marked for syllable positions. The second procedure, metrical spellout, makes available information on the number of syllables a word consist of, its prosodic word status, and its stress pattern. The metrical information of the single lexical words (e.g.: "monosyllabic prosodic word" for *kook*, and "monosyllabic word, no prosodic word" for the enclitic *het*) is integrated into one metrical frame for the whole prosodic word, resulting in a structure like $(\sigma' \sigma)_\omega$. This frame is then combined with the

sequence of segments in a process of segment-to-frame association, the result of which is the surface syllable structure.[3] Producing separately an ordered string of segments not specified for syllable positions and frames for prosodic instead of lexical words has thus the advantage that only those syllables are produced that surface in speech output. This is appealing and elegant from an economical point of view.

A different though related claim concerns the time course of phonological encoding. Levelt's model predicts that syllables are produced at a late point of the production process, only after the metrical frames and the phonological segments have become available.

In section 4 I will report on experiments testing the claim that speakers do not produce underlying lexical syllables, but exclusively surface syllables. Section 3 describes the attempts to prove that syllables occur at a late point in phonological encoding.

3. The Time Course of Phonological Encoding

As research has shown in the past decade, the picture-word interference paradigm can be used to explore the time course of language production processes. The paradigm is based on the Stroop-task: Participants have no problem in reading aloud color terms that are printed in incongruent colors, for instance, the word *blue* printed in red ink. They are as good at this as at reading the color terms printed in black. However, participants have great difficulties in naming the colors of incongruent words, for instance, saying "red" when the word *blue* is written in red ink. This takes much longer than naming the color of a color block or a row of colored symbols.

The classic Stroop-task has been varied in several ways (see MacLeod, 1991, for an overview on research on the Stroop effect). In picture-word interference experiments, picture naming replaced color naming. Participants have to name pictures while interfering verbal information is presented. Interfering stimuli (IS) are either presented as written words superimposed on the picture (e.g., Rayner & Posnansky, 1978; Glaser & Düngelhoff, 1984) or they are presented auditorily (e.g., Schriefers, Meyer, & Levelt, 1990; Meyer & Schriefers, 1991). The IS can exhibit various relations to the pictures' names which affect response latencies. As compared to a neutral baseline (like a row of Xes in the visual or a rustle noise in the auditory domain), it takes longer to name, for instance, a picture of a sheep that is accompanied by a semantically related stimulus like *goat*. In contrast to that, a phonologically related stimulus like *sheet* speeds up response latencies as compared to the unrelated baseline (= phonological priming).

In addition to the relation between target and IS, the timing of the IS is important. IS in picture-word interference experiments can be presented at different points in time with respect to the appearance of the picture on the screen (= Stimulus Onset Asynchrony, SOA). Schriefers et al. (1990) found that semantically related IS slow down participants' response latencies when they are presented 150 ms before picture onset, whereas responses to phonologically related IS do not differ from responses in the neutral baseline condition when they are presented that early. However, when the IS are presented later (150 ms after

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[3]Meyer (1991) showed that segmental spellout is produced in a segment-by-segment, left-to-right manner. Segment-to-frame association works from left to right, too, as has been shown by Meyer (1990).

picture onset), a different pattern emerges. At this later point in time, semantically related IS do not differ from the neutral baseline condition, but phonologically related IS speed up reaction times as compared to the baseline. These results can be taken as evidence for the fact that semantic processing in language production starts before phonological encoding, as most models of speech production assume.

For investigating the time course of syllabification during phonological encoding, IS were either phonlogically related to the target word that had to be produced, i.e. they corresponded to the target's first phonemes, or they were unrelated, i.e. they corresponded to the first phonemes of a different target. Participants produced verb forms as targets. Since verbs cannot be easiliy depicted, a semantic-associate learning task was used to elicit the verb forms. In this task (developed by Meyer, 1988, 1990, 1991), participants receive a sheet of paper with a list containing pais of words that are semantically related. They are instructed to learn these pairs by heart, in such a way that they are able to produce the second member of a pair (e.g., the verb *koken* "to cook") as soon as the first member (e.g., *eten* "meal") appears on the screen. In different blocks of the experiments, participants were instructed to produce either the verb's infinitive form, or the past tense form, or an encliticized form, where the verb was followed by the schwa-initial weak form of the pronoun *het* "it", see (3). While naming the verbs, participants heard the phonologically related or unrelated IS.

(3) The Materials of the Priming Study:

Targets:

Infinitive:	*koken*	$(ko:)_\sigma(k\partial n)_\sigma$	"to cook"
Encliticized:	*kook het*	$(ko:)_\sigma(k\partial t)_\sigma$	"cook it!"
Past Tense:	*kookte*	$(ko:k)_\sigma(t\partial)_\sigma$	"cooked"

Interfering Stimuli (IS):

	Short	Long
Phonologically Related:	ko:	ko:k
Phonologically Unrelated:	le:	le:r

On the basis of the results of the earlier picture-word interference studies, we expect a phonological priming effect: Participants should respond faster if the IS are related to the target word than if the IS are unrelated. Furthermore, with respect to the time course of syllabification within phonological encoding, IS that are presented early during phonological encoding should show effects of segmental, but not yet of syllable production. The latter should occur at a later point in time. To test this, the phonologically related IS differed in length by one segment. As a result, they differed in the kind of their relation to the target: The IS either did or did not correspond to the target's first syllable. As shown in (3), long related IS corresponded to the first syllable of past tense forms, while short related IS matched the first syllable of infinitive and encliticized forms. To measure the amount of phonological priming that related IS provide independently from a general length effect that might be caused by the mere difference in length of the IS, the reaction times achieved with the related IS were subtracted from the reaction times that were obtained with unrelated IS of corresponding length.

Given these targets and IS conditions, the following predictions can be formulated on the basis of Levelt's model:

When the IS are presented at an early point in time, i.e. shortly before picture onset, no syllables should have been constructed yet, since syllabification is a late process in the model of phonological encoding. Therefore, the target word's syllable structure should not influence the results. Instead, one could expect that the more segments of the target are included in the interfering stimulus, the higher the priming effect of related IS should be, as compared to an unrelated baseline containing the same number of segments. Long IS should thus show higher priming effects than short ones, irrespective of the target's syllable structure.

When the IS are presented at a later point in time after picture onset, a speaker should be producing syllables. For this point in time we expect what can be called a 'syllable match effect': Related IS that coincinde with the target's first syllable should speed up reaction times more than related IS that do not coincide with the target's first syllable, both again as copared to an unrelated baseline of similar length. In other words, participants who produce infinitive or encliticized targets, which have a short first syllable, should show higher priming effects with short IS, which correspond to the target's first syllable, than with long ones. Participants who produce past tense target verbs, on the other hand, should show higher priming effects with long than with short IS.

Several experiments along this line have been run. Among others, the proportion of trials with related IS was varied. Another variation concerned the acoustic quality of the stimuli. In some experiments, the IS were spoken as syllables, in other experiments they were cut out of the target verb form that the subjects had to produce. Unfortunately, the results of the priming experiments did not reveal a pattern as clear as predicted (for a detailed discussion see Baumann, 1995). As expected, participants named the targets faster when they heard IS that were phonologically related to the targets than when they heard unrelated IS. This phonological priming effect indicated that the experimental manipulations tapped into the process of phonological encoding. Furthermore, participants generally reacted the faster the shorter the IS, irrespective of phonological relatedness. Participants thus seemed to be sensitive to the one segment difference between short and long IS. These robust effects were obtained in all experiments. Two control experiments furthermore showed that the results were not caused by morphological or lexical variables.

With respect to the role of the syllable, however, only one experiment yielded a pattern that could be interpreted as a syllable match effect. This experiment included infinitive and past tense targets, but no encliticized forms. The other experiments failed to show a syllable match effect. In sum, the experiments could not solve the issue of whether syllables are produced only at a late point during phonological encoding. The time course of syllabification needs further research.

4. Levels of Syllable Structure: Final Devoicing in Encliticized Forms

The second prediction of Levelt's model concerned the number of levels of syllable structure involved in phonological encoding: The only syllables constructed during speaking are those that do actually surface. For encliticized forms like *kook het*, this implies that a speaker never produces syllables that correspond to the single lexical items *kook* and *het*, but only

the surface syllables $(ko:)_\sigma$ and $(k\partial t)_\sigma$. How can we test this claim empirically?

Many languages have constraints for segments in coda position that do not hold for segments in syllable onsets. If we found effects of coda constraints for an obstruent which surfaces postlexically in onset position of the syllable that contains the schwa-initial function word, we would have to conclude that this obstruent has been in a coda position at an earlier stage of processing before it became an onset in surface syllable structure.

As some other languages, Dutch has only voiceless obstruents in syllable codas, while both voiced and voiceless obstruents occur in onsets, as shown in (4).[4]

(4)	*nies*	$(ni:s)_\sigma$	"sneeze (1st pers. sg)"
	niezen	$(ni:)_\sigma(z\partial n)_\sigma$	"to sneeze"
	rood	$(ro:t)_\sigma$	"red"
	rode	$(ro:)_\sigma(d\partial)_\sigma$	"red (inflected)"

As shown in (4), voicing is maintained in inflected or derived forms where the suffix starts with a vowel. For encliticized forms, it has been argued that final devoicing applies on the single lexical items, preceding postlexical resyllabification. In those forms, word-final obstruents are devoiced although they surface in onset position of the following syllable (e.g., Kooij, 1980; Booij, 1995, 1996).[5] Following this account, the encliticized forms should surface like the forms in (5a). The inflected forms show that the obstruents are underlyingly voiced: ***binden*** $(bɪn)_\sigma(d\partial n)_\sigma$ "to bind", *vrienden* $(vri:n)_\sigma(d\partial n)_\sigma$ "friends". A monostratal account like Levelt's model, on the other hand, predicts the forms in (5b).

(5a)	*bind het*	$(bɪn)_\sigma(t\partial t)_\sigma$	"bind it"
	vriend en	$(vri:n)_\sigma(t\partial n)_\sigma$	"friend and"
(5b)	*bind het*	$(bɪn)_\sigma(d\partial t)_\sigma$	"bind it"
	vriend en	$(vri:n)_\sigma(d\partial n)_\sigma$	"friend and"

Since the surface syllable structure is the only syllabic structure created during the production process, the first word's final obstruent is never in syllable-final position, where it could be devoiced. The experiments reported below were run to test which account makes the right predictions.

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[4]Devoicing applies syllable-finally: *ABVA*, which is an acronym for *Algemene Bond van Ambtenaren* "General Union of Civil servants" is pronounced *A*[p.f]*A* (Booij, 1995). Final devoicing is productive as becomes obvious when Dutch speakers speak languages that allow voiced obstruents in codas or pronounce foreign names like *Sy*[t.n]*ey* (Booij, 1977).

[5]Final devoicing in cliticized forms has been a subject for discussion, since final devoicing does not seem to be obligatory in some combinations of modal verbs and clitics in Dutch (see, Berendsen 1986, Booij & Rubach, 1987). For instance, ***heb ik*** ("have I") has two possible pronunciations $(hɛ)_\sigma(bɪk)_\sigma$ and $(hɛ)_\sigma(pɪk)_\sigma$. Berendsen accounts for this by different prosodic structures for the two forms, while Booij assumes that the voiced variant is stored as a unit in the lexicon. This discussion is not crucial for the present argument, since only full verbs were tested.

The empirical investigation of final devoicing in encliticized forms consisted of two sets of two experiments. Each set contained a production and a perception experiment. The aim was to obtain information about the voice quality of the final obstruent in forms like *raad en* ("commission and"), where the schwa-initial weak form of the conjunction *en* encliticizes to the preceding noun and the obstruent surfaces in onset position of the second syllable. The stimuli consisted of 13 minimal noun pairs that only differed in the underlying voice quality of their final stop like *raad* ("advice") and *raat* ("honeycomb").[6]

(6)	Singular		Plural		
raad	$(ra:t)_o$	"commission"	*raden*	$(ra:)_o(d\partial n)_o$	"commissions"
raat	$(ra:t)_o$	"honeycomb"	*raten*	$(ra:)_o(t\partial n)_o$	"honeycombs"

This is the complete set of monosyllabic minimal noun pairs varying in the voice quality of their final stops in Dutch. As shown in (6), devoicing neutralizes this difference in singular forms. In the plural forms, however, the voice quality of the stops is maintained, since they surface in onset position of the second syllable.

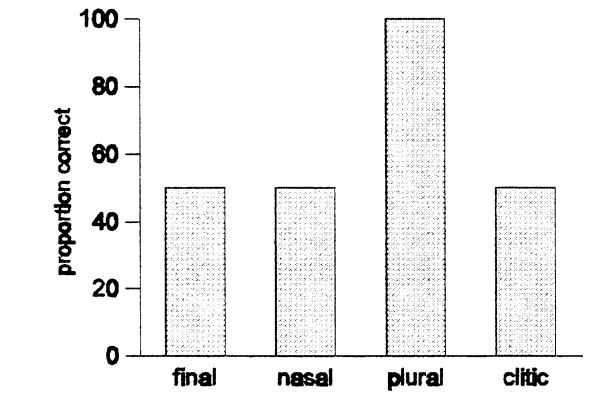

Figure 1a. Predictions of Resyllabification Theory for the Four Context Conditions

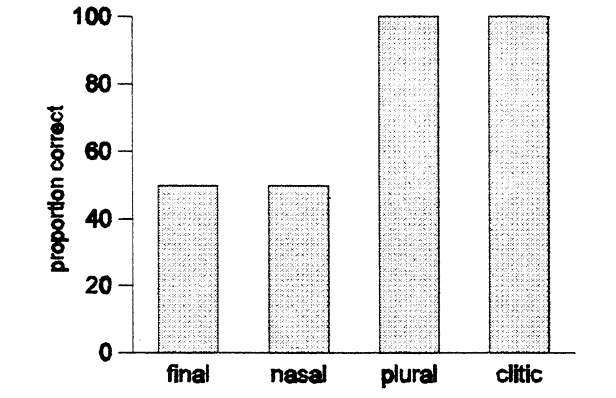

Figure 1b. Predictions of the Production Model for the Four Context Conditions

In the production experiment, participants produced sentences that contained the minimal pairs in different contexts. In the perception experiment, different participants heard the sentences that had been produced in the first experiment and had to perform a rating task on the voice quality of the critical obstruent.

The noun could occur in four different contexts. In a 'final' context, the critical obstruent occurred sentence-finally. In a 'nasal' context, the obstruent was followed by a nasal consonant which could not form a phonotactically legal onset with the obstruent. In both contexts, final devoicing should apply obligatorily. Participants in the perception experiments were informed that in 50% of the cases they would hear the member of a pair ending in a "d" (or "b"), and in 50% of the cases the word

[6]Dutch does not have minimal pairs ending in fricatives, since voiced and voiceless fricatives are accompanied by different vowels: Vowels preceding underlyingly voiceless fricatives are lax, while vowels preceding voiced fricatives are tense.

ending in a "t" (or "p"). When the voice contrast is neutralized like in the final and nasal context, the percentage of assignment of "voiceless"- and "voiced"-responses should be at chance level. Figures 1a and 1b show the predictions that the two accounts make for the proportion of correct responses in the different context conditions.

In the nasal condition, in addition a phonetic voice assimilation effect from the nasal on the preceding stop was expected. The stop should be more voiced in the nasal context than in the final context in underlyingly voiced as well as in underlyingly voiceless targets. In a 'plural' condition, the minimal pairs should be clearly distinguishable, leading to a high percentage of correct responses. In a 'clitic' context condition, the nouns were followed by a schwa-initial function word. Monostratal accounts predict for this condition that participants in the perception experiment should be able to correctly distinguish nouns with underlyingly voiced from those with voiceless stops, because the stop is never in syllable-final position, where it could be devoiced. Following a theory that includes resyllabification, on the other hand, participants should perform at chance level, since final devoicing applies on the individual lexical words, preceding resyllabification in the clitic context.

4.1 The First Final Devoicing Study

4.1.1 The First Production Experiment

The aim of this experiment was to have participants produce stimuli that could later be used in the perception experiment. A delayed repetition task served to elicit the responses. A sentence appeared on the screen for a short period of time (1500 ms). Participants had to memorize it and to produce it in reaction to a visual prompt on the screen that was presented after a random pause of 500 to 1000 ms. The minimal pairs occurred in three different contexts (clitic, final, nasal), see (7).

(7) The Sentences to be Produced for the Minimal Pair *raad - raat*:

Context	Underlyingly	
clitic:	voiced	*Pien zegt "Ik zie een **raad en** een akker".*
		"Pien says 'I see a commission and a field'"
	voiceless	*Pien zegt "Ik zie een **raat en** een akte".*
		"Pien says 'I see a honeycomb and a file'"
nasal:	voiced	*Pien zegt "Ik zie een **raad naast** een akker".*
		"Pien says 'I see a commission near a field'"
	voiceless	*Pien zegt "Ik zie een **raat naast** een akte".*
		"Pien says 'I see a honeycomb near a file'"
final:	voiced	*Pien zegt "Ik zie een akker en een **raad**".*
		"Pien says 'I see a field and a commission'"
	voiceless	*Pien zegt "Ik zie een akte en een **raat**".*
		"Pien says 'I see a file and a honeycomb'"

Several means were introduced to distract participants' attention from the minimal pairs to avoid contrastive pronunciations. For instance, 50% filler trials were included with word pairs that differed in one segment either in onset, or nucleus, or coda position (like *kan* "pitcher" - *pan* "pan"; *rek* "rack" - *rok* "skirt"; *been* "leg" - *beer* "bear"). furthermore, the two members of a minimal pair (e.g., *raad* and *raat*) were combined with two different, but phonologically similar nouns in the sentence (e.g., *akker* and *akte*), see (7). A native speaker

of Dutch controlled that the two nouns in the sentence were not semantically related and that all sentences were similarly odd. The phonological restrictions on the stimuli did not allow for the construction of semantically well-formed sentences. Participants were told that they performed in a syntax memorization task.[7] Since it is not easy to get subjects to produce encliticized forms in an experimental situation, the carrier sentences were rather long and had to be produced in a small amount of time (2000 ms).

4.1.2 The First Perception Experiment

Four participants of the production experiment provided the stimuli for the perception experiment. These were two men and two women, one of each came from the South and one from the North of the Netherlands. Their productions were slightly manipulated in the speech lab: The second noun, which had been different to distract the speakers from the minimal pairs, e.g., *akker* and *akte* was replaced by always the same noun *oom* "uncle" that had been taken from a filler sentence of the production experiment. Some of the minimal pairs of the production experiment had to be excluded, because in these pairs, one member has to be preceded by an article, while the other member is a mass noun and must not be preceded by an article. So the presence or absence of a determiner would inform the listeners which member of the minimal pair they heard. Seven minimal pairs were tested in the first perception experiment.

Participants were seated in a sound-proof booth in front of a monitor and a keyboard and heard a sentence over headphones, while the two members of the respective minimal pair were presented on the screen. One member of the minimal pair appeared on the right side, one on the left side of the screen. There was a scale between them with numbers from 1 to 5, for instance: *raat 1–2–3–4–5 raad*. Participants had to type a "1" when they were sure they heard the word appearing left on the screen (*raat* in the above example), a "2" when they thought they rather heard that word than the other one. They typed a "5" when they thought they heard the word presented on the right side of the screen (here *raad*), a "4" when they saw a trend towards this word. They typed a "3" when they could not make a decision between the words. The scores were automatically written to a result file. When they wanted to listen to the sentence again, they could do so maximally twice, using a push button device.

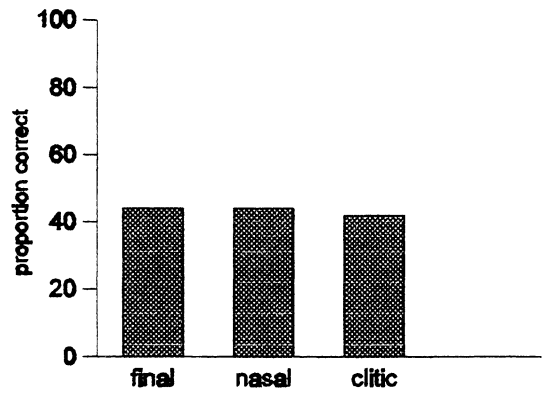

Figure 2. Proportions Correct Responses in the Three Context Conditions of Study 1

Looking at the results, the proportion of undecided responses was small in all contexts (about 10%). Speaker's region of birth and sex had no effect. Figure 2 shows the proportion correct responses. In the final and the nasal context, participants did not exceed chance level in deciding on the target word's final

[7]There were six different carrier sentences with small syntactic variation. The sequence *Ik zie* "I see" in (7) was replaced by *Ik zag* "I saw", *Er is* "There is", *Er was* "There was", *Ik heb* "I have", and *Ik had* "I had".

obstruent, as expected. Crucially, however, also in the clitic context the proportions of correct responses turned out to be low. The responses given in this context did not differ from those in the other contexts, as predicted by an account that includes resyllabification.

However, encliticization is an optional process in Dutch. It might have been the case that although the tempo in the production experiment had been reasonably high, it was not high enough to guarantee that subjects produced encliticized forms all the time. If this was the case, also the model of phonological encoding would predict final devoicing, since in the absence of encliticization, the noun and the following phonologically strong function word are encoded seperately. The noun's final obstruent would then syllabify in coda position.

Two phonetically trained judges investigated the material auditorily and found that one speaker had not produced encliticized forms consistently. A reanalysis after excluding this speaker did not change the pattern of results. However, a revised set of experiments was run. The modified form also allowed for including a plural condition.

4.2 The Second Final Devoicing Study

4.2.1 The Second Production Experiment

The carrier sentences and the task differed from the first study. Instead of long sentences, the stimuli only consisted of the minimal pair noun, the conjunction *en* ("and") and the second noun, which was always a monosyllabic vowel-initial word. The structure of the new short carrier sequences allowed for the whole set of minimal pairs to be included. In addition to a clitic context (*raad en aar* "commission and are", *raat en aal* "honeycomb and ale") and a final context (*aar en raad* "are and commission", *aal een raat* "ale and commission"), a plural context replaced the nasal context condition. Plural forms could be produced for four minimal pairs of which both members have a regular plural form. Underlyingly voiced obstruents should remain voiced in the plural context (*raden en aren* "commissions and ares", *raten en aalen* "honeycombs and ales"). Importantly, the plural condition can serve as a proof that subjects are able to pick up differences in voicing from the signal.

The materials again contained 50% filler pairs. Participants performed a repeated articulation task. They were asked to memorize the target sequence that appeared in the center of the screen and to produce the target sequence as soon as they saw a cue signal on the screen. They had to have finished their response when they heard a beep over headphones. The visual cue reappeared again and again (11 times in total) and the time lag between cue onset and warning beep decreased stepwise by 70 ms until it was 430 ms short. This forced subjects to use speech of increasing speed.

4.2.2 The Second Perception Experiment

The task in the perception experiment remained unchanged. This time, subjects listened to 13 minimal pairs that occurred in clitic and final context, and four minimal pairs in plural context, spoken again by two men and two women, two from the South and two from the North of the Netherlands. Of the 11 repetitions that had been produced in the production experiment, the 5th was chosen for the perception task. Again, the utterances were manipulated by replacing the second noun always with the noun *olm* ("elm"). In contrast to the first study, the presentation of context was blocked: One group of subjects started with the clitic condition, followed by the final condition, the other group started with the

final condition, followed by the clitic condition. Both groups ended with the plural condition.

As in the first perception experiment, the proportion of undecided responses turned out to be low. In the plural condition, subjects gave almost no such responses. As expected, in the plural context condition, both voiced and voiceless targets got above 90% accurate responses, and in the final condition, subjects again performed on chance level, see Figure 3. Most importantly, however, the rate of accurate responses was again about chance in the clitic context condition and did not differ from the final context. In both contexts, subjects assigned "voiceless"-responses to about half of both, the voiced and the voiceless targets. This indicates that although subjects are able to distinguish between the two members of a minimal pair in the plural condition, they cannot do this in the clitic and final condition.

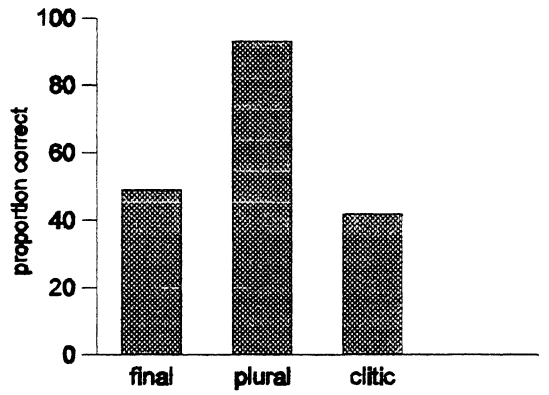

Figure 3. Proportions Correct Responses in the Three Context Conditions of Study 2

In addition, acoustic measurements were done on the materials of the second production experiment. The following cues to voicing were investigated: The duration of the vowel that preceded the stop, the length of the stop's closure and burst, and the absence or presence of voice activity during closure. The measurements confirmed the results of the perception experiment. In the plural forms, voiced stops clearly differed from voiceless stops. Voiced stops were accompanied by voicing during closure, whereas voiceless stops were not. Furthermore, voiceless stops had a clear burst, which was absent or minimal in voiced stops. In the final context condition, the durational values that were measured for underlyingly voiced and voiceless stops did not differ. This result indicates that final devoicing neutralized the voicing contrast not only phonologically, but also phonetically. Importantly, the measurements in the clitic context condition revealed the same pattern as in the final context condition. Underlyingly voiced and voiceless stops did not differ acoustically.[8]

5. Implications

Two perception experiments and acoustic measurements showed that the voice contrast of minimal pairs like *raad - raat* is neutralized when the stops occur at the end of an utterance, and hence in syllable coda position. In plural forms, on the other hand, where the stops are in onset position, subjects perceive voiced stops as voiced and voiceless stops as voiceless. Importantly, the voice contrast is neutralized in encliticized forms, although the stops preceding a schwa-initial clitic surface in onset position.

[8]The reader is referred to Baumann (1995) for a detailed description and discussion of the acoustic measurements.

This result is of interest for some issues in phonological theory. One ongoing debate is whether resyllabification or final extraprosodicity should be preferred in theories of syllabification (for a detailed discussion of this debate see Hall, 1994). Resyllabification is structure-changing: A consonant delinks from coda position, which in fact destroys the first syllable structure, before a new one is built. Therefore, some phonologists prefer extraprosodicity, where a root morpheme's final consonant is considered to be invisible for syllabification. When extraprosodicity turns off, the consonant participates in syllabification and accociates to the following onset if possible. In contrast to resyllabification, this procedure is structure-building only. According to Itô (1986), extraprosodicity turns off at word level, i.e., at the end of the derivational component. When a word-final consonant surfaces in the onset of a clitic's syllable postlexically, like in Dutch encliticized forms, she would have to assume postlexical resyllabification. Rice (1990), on the other hand, assumes that extraprosodicity holds by convention and remains active in phrasal phonology. The account is more appealing at first sight, since within- and between-word syllabification are treated by the same mechanism. But to account for final devoicing in Dutch encliticized forms, the obstruent has to occupy a coda position at some point, because underlyingly voiced stops surface voiceless in postlexical onset position. Dutch final devoicing in encliticized forms adds hence another case in favor of resyllabification to the debate of resyllabification versus extraprosodicity.

Furthermore, the experimental results are of interest for the question whether the phonological component includes intermediate levels of syllabification. A theory like Lexical Phonology, which distinguishes a lexical and a postlexical component, where the output of the former provides the input to the latter component, can account for the data (see also Booij, 1996): Final devoicing applies at the end of the lexical level, preceding the postlexical rule component. Theories that replace the traditional rules and derivations by other means can also explain the results. But they have to make additional assumptions to account for the data (as discussed in detail by Booij, to appear). For example, in Optimality Theory (McCarthy & Prince, 1993; Prince & Smolensky, i. pr.), the underlying (unsyllabified) representation of, say, a word is paired with a whole set of candidates for the word's surface structure, which is then evaluated by a set of ranked wellformedness constraints to determine the surface form. Postlexical phonological phenomena have not yet received much attention within the young Optimality framework. At the moment, the only option to account for the results seems to be to allow for two levels of constraint evaluation. First, surface candidates are evaluated at a lexical level, and the constraint that regulates syllable-final devoicing has to rank high within that level to make sure that candidate forms with voiced syllable-final obstruents are excluded from the set. The output of the lexical level is then further evaluated by constraints at a postlexical level that rule out candidates that are not encliticized. Importantly, these two levels of constraint evaluation have to be serially ordered. A simultaneous evaluation of the two levels does not provide the correct output.

To return to the production of syllables during speaking, the experimental results on final devoicing in Dutch enclititized forms present problems for Levelt's model of phonological encoding, according to which a speaker produces only one level of syllabic structure, and this is the postlexical syllable structure. Since in encliticized forms like *raad en* the final obstruent of the first lexical unit never surfaces in coda position, it should not be devoiced. however, the experimental results clearly showed that final devoicing applies on the stops

that surface in onset position. One possibility to account for this could be to allow for resyllabification during phonological encoding. Resyllabification was included in earlier versions of Levelt's model (Levelt, 1989), which assumed that lexical items are syllabified seperately by associating the ordered sequence of their segments with the independently generated metrical frames. Final devoicing may then apply on the lexical words before encliticized forms combine into one prosodic word.

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Conflicting prosodic and syntactic constraints on special clitics

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In this paper I elucidate the properties of clausal-scope, special clitics (as defined in Zwicky (1977)) upon which syntax and prosody impose conflicting requirements. The syntax requires these clitics to be clause-initial, while the prosody requires them to be suffixes, hence a conflict. A third, ALIGNment constraint restricts against extra-clausal suffixation.

I begin with a classic Wackernagel's Law, or second-position, clitic. I then show that other clitics which appear to behave drastically differently can be accounted for using the same constraints ranked in a different order. The data come primarily from Russian, Tagalog and Warlpiri.

1. The constraints.

(1a) ALIGN (Clause | L, PrPhrase | L) [McCarthy & Prince (1993); Prince & Smolensky (1993)]

(1b) PARSESCOPE: An element must precede (and c-command) the constituent over which it has scope. [≈ Legendre *et al* (1995); cf. also "EDGEMOST" in Anderson (1995)]

(1c) SUFFIX: Requires lexical or functional items marked as suffixes to be adjoined prosodically to the trailing (= right) edge of some prosodic word (PrWd). [Mine/LAB]

The SUFFIX constraint in (1c) may actually be a constraint requiring that the default directionality in a particular language—encliticization—be adhered to. That is, some constraint keeps such clitics from being markedly prefixal. (I return to this issue below in §4.) It is impossible to adhere to all three of these constraints simultaneously.

2. The Wackernagel (1892) strategy: violate PARSESCOPE.

It is possible, however, to adhere to any two of these constraints, as the Russian example in (2) shows. For clarity I show each PrWd in braces and each clause in square brackets; I also indicate word stress with acute accents (one per PrWd):

(2) Strategy I: Violate ALIGN; satisfy the remaining two constraints:

Result: a. **Já ne znáju, **=li** bylá oná tám.*
[{I} {not know [Y/N} {was} {she} {there}]]

Strategy II: Violate SUFFIX; satisfy the remaining two constraints:

Result: b. **Já ne znáju, **li=** bylá oná tám.*
[{I} {not know} [{Y/N was} {she} {there}]]

Strategy III: Violate PARSESCOPE; satisfy the remaining two constraints:

Results: c. *Já ne znáju, bylá **=li** oná tám.*
[{I} {not know} [{was Y/N} {she} {there}]]

d. **Já ne znáju, bylá oná **=li** tám.*
[{I} {not know} [{was} {she Y/N} {there}]]

e. **Já ne znáju, bylá oná tám **=li**.*
[{I} {not know} [{was} {she} {there Y/N}]]

'I don't know **whether** she was there.' [Russian]

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Tableau (3) formalizes the grammaticality of (2c) to the exclusion of the other four candidates.

(3) Russian

		ALIGN	SUFFIX	PARSE SCOPE
a.	[PrWd PrWd [**=cl** PrWd PrWd PrWd]]	*!		
b.	[PrWd PrWd [**cl=** PrWd PrWd PrWd]]		*!	
c. $	[PrWd PrWd [PrWd**=cl** PrWd PrWd]]			*
d.	[PrWd PrWd [PrWd PrWd**=cl** PrWd]]			* *!
e.	[PrWd PrWd [PrWd PrWd PrWd**=cl**]]			* *! *

I should further specify that PARSESCOPE is a gradient constraint. This means that while each of (2a-c) violate this constraint, (2c) incurs the least violations; *=li* is closer to the clause boundary than (2d), which is in turn closer than (2e) is to the beginning of that clause. Hence the increasing number of asterisks in the PARSESCOPE column of candidates (3a-c).

3. Another strategy: violate ALIGN

Strategy I is employed by two languages to my knowledge: Tagalog and Warlpiri. The Tagalog data are clearly within Strategy I, while those of Warlpiri represent a mixed strategy.

3.1 Tagalog's strict, clause-initial enclitic *=ng*

Tagalog (Austronesian, spoken in the Philippines) has a clitic, which Dell (1981) refers to as a "ligature", that consists of the velar nasal consonant, which I will spell here using the "Pilipino" orthography as *ng* (adding "=" to show that this element is a special clitic).[1]

(4) {Umuwi} {ang bata [***=ng***} {umipon} {nang mangga}]
went-home the child who collected mangoes

'The child [who collected mangoes] went home.' [Tagalog]

Tableau (5), using the same constraints, but ranking ALIGN below the other two, formalizes the Tagalog constituent order:

(5) Tagalog

		PARSESCOPE	SUFFIX	ALIGN
a. $	[PrWd PrWd [**=cl** PrWd PrWd]]			*
b.	[PrWd PrWd [**cl=** PrWd PrWd]]		*!	
c.	[PrWd PrWd [PrWd**=cl** PrWd]]	*!		
d.	[PrWd PrWd [PrWd PrWd**=cl**]]	*! *		

Incidentally, the choice of (5a) is not due to a restriction against syllable- or word-initial velar nasals, as is the case in Germanic languages (cf., for example, the following word: *.ngu.mi.ngi.ti.* 'is/are smiling').

I should also add that *=ng* has an allomorph, *na=*, which is prosodically a **pre**fix that appears either when there is no connected-speech PrWd before the clause or "when the preceding [prosodic] word ends in a non-syllabic segment which is neither /n/ nor a glottal

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[1] As in (1), in example (2) the square brackets represent the embedded-clause boundary, while the curly braces demarcate each PrWd. I assume a conventional, generative phrase structure for relative clauses. Note that at least one recent work, Kayne (1994), challenges this structure, placing the relative pronoun in the matrix clause.

stop" [Dell (1981:23)]. I have specifically selected PrWds in (4) that begin and end in these segments to abstract away from this allomorphy.[2]

3.2 Alternating monosyllabic special clitics in Warlpiri

Another language which employs Strategy I is the Australian language Warlpiri. My data for this language are incomplete, but the description of them in the literature is clear. Additionally, unlike Tagalog *=ng*, the special clitics of this language appear to alternate between the Wackernagel strategy of Russian (i.e., Strategy III) *=li* and that of Tagalog *=ng* (= Strategy I).

Anderson (1993:82) reports the Warlpiri data in (6). I've added braces around each PrWd (and tabulated the special clitics).

(6) { njuntu =ka =rna =ngku } { kuyu-ku } { yilya-mi }.
you PRES 1.SUBJ 2.OBJ meat-JUSSIVE send-NONPAST

'I am sending you for meat.' [Warlpiri; ≈ ex. 15a in Anderson (1993:82)]

The special clitics in (6) pattern exactly like the grammatical Russian datum in (2c); cf. Tableau (3) above. In any event, the reason I mention Warlpiri is not the data in (6), but a slightly different environment, for which no actual examples appear in either Anderson (1993) or his source, Simpson (1991:69): "in connected speech, monosyllabic AUX bases [such as *=ka*, *=rna*, and *=ngku* in (6)] are found sentence initially, because the last element of the previous sentence provides a phonological host for the clitics."[3]

Thus, Warlpiri appears to follow Strategy I—that of Tagalog—when there is a preceding, extra-clausal potential prosodic host. (Presumably there is no pause separating the clitic from that preceding word.) If there is no preceding word to prosodically adjoin to, as in example (6) above, then the data begin to look like the Russian instead. This would indicate that while SUFFIX is categorically unviolated in either type of Warlpiri data, ALIGN **is** violated in order for the monosyllabic clitics to be prosodically adjoined to a word of a preceding clause (i.e., in connected speech). When there is no accessible prosodic host preceding the clause (either because this clause is utterance-initial or because the preceding speech is not "connected"), then PARSESCOPE is violated (minimally!) in order to satisfy SUFFIX. These two data types are tabulated in (7) and (8):

(7) Warlpiri (**without** connected speech; cf. ex. (6) above)					SUFFIX	PARSESCOPE	ALIGN
a.	[**=cl**	PrWd	PrWd	]	*!		
b.	[**cl=**	PrWd	PrWd	]	*!		
c. **$**	[	PrWd**=cl**	PrWd	]		*	
d.	[	PrWd	PrWd**=cl**	]		* *!	

Tableau (7) formalizes the environment in example (6), similar to the Russian pattern in (2c), in which the clitic follows the first PrWd of its clause. Crucial to Tableau (7) is the notion that the clitic in candidate (7a) does not prosodically adjoin itself to any word. It may well be that this lone, unprosodized clitic violates other constraints (or even *Gen*, the repository of absolute universals); if so, then it could be plausible that this candidate doesn't actually violate SUFFIX but rather some other constraint which is likewise more highly ranked than PARSESCOPE. For these purposes I continue to assume that SUFFIX is violated by such a

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[2] In the orthography final glottal stops and /h/ are usually not written, *=ng* is written with the preceding word without a space, and *na=* is written as a separate word. When *=ng* is added to word ending in *n*, *g* is added.

[3] Simpson specifically identifies "monosyllabic" AUX clitics because disyllabic ones are apparently optionally clitics. I abstract away from that variable by restricting my discussion to monosyllabic clitics.

form. Candidate (7a) aside, however, Tableau (7) proves that {SUFFIX . » PARSESCOPE} › ALIGN.

Tableau (8), on the other hand, formalizes the connected-speech environment:

(8) Warlpiri (**with** connected speech; no example shown)					SUFFIX	PARSESCOPE	ALIGN
a. **$** ... PrWd	[**=cl**	PrWd	PrWd	]			*
b. ... PrWd	[**cl=**	PrWd	PrWd	]	*!		
c. ... PrWd	[	PrWd**=cl**	PrWd	]		*!	
d. ... PrWd	[	PrWd	PrWd**=cl**	]		*! *	

Because the clitic can find a preceding, connected-speech host, this proves that {SUFFIX » PARSESCOPE} › ALIGN. These two tableaux together transitively prove the ranking in (9):

(9) Warlpiri SUFFIX » PARSESCOPE » ALIGN

Whereas a complete ranking of all three constraints is impossible in Tagalog (or, for that matter, in Russian), this is possible in Warlpiri.

To summarize briefly, whereas Warlpiri employs two strategies, depending upon whether there is an extra-clausal, preceding prosodic host available for the clitic, Russian and Tagalog each employ only one of these two strategies. In Russian, even though *=li* is almost always in an embedded clause with preceding extra-clausal material, there always appears to be a pause at the clause boundary (i.e., where the comma appears by convention in (1c)). Thus, it is difficult to test for a Russian counterpart to (8).

As for Tagalog, as I mention above, the clitic *=ng* has the allomorph *na=* which is used, *inter alia*, when there is no preceding available extra-clausal prosodic host.[4] This suppletion of *=ng* and *na=* complicates the picture somewhat: Are the two allomorphs both subject to the SUFFIX constraint? This is unlikely, since *na=* would then be an enclitic that

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[4] Unlike *=ng*, which is enclitic (i.e., prosodically hosted by a preceding word), *na=* is proclitic to the first word of its clause. Schachter & Otanes (1972:131-132) list the following examples with *=ng* and *na=*, depending on whether the preceding word has a preceding, connected-speech word ending in the right segments:

(i) { ang mga mag-aaral }, [{ **na=** nagtrabaho } { nang-masikap }], ...
the students who worked hard
'the students, who worked hard, ...' [nonrestrictive, two intonation phrases (in both languages)]

(ii) { ang mga mag-aaral } [{ **na=** nagtrabaho } { nang-masikap }] ...
the students who worked hard
'the students who worked hard ...' [restrictive, one intonation phrase (in both languages)]

(iii) { ang mga estudyante }, [{ **na=** nagtrabaho } { nang-masikap }], ...
the students who worked hard
'the students, who worked hard, ...' [nonrestrictive, two intonation phrases (in both languages)]

(iv) { ang mga estudyante [**=ng** } { nagtrabaho } { nang-masikap }] ...
the students who worked hard
'the students who worked hard ...' [restrictive, one intonation phrase (in both languages)]

A comma in the orthography in both languages represents a pause. The synonyms *mag-aaral* and *estudyante* are an opportune minimal pair. The former ends in a consonant (other than *n* or glottal stop), while the latter ends in a vowel. As such, *=ng* can be prosodically hosted by *estudyante*, but not by *mag-aaral*. Because of the syntactically required pause in (i) and (iii), however, *=ng* is never possible. Only in (iv), where there are both connected speech **and** a suitable final segment, can *=ng* be used. Dell (1981) lists other examples as well.

always surfaces as a proclitic. Short of developing an Optimality-style theory of suppletion here, I leave this issue open to future research.[5]

To summarize Section 3, I have shown that there are languages that employ Strategy I: They violate ALIGN in order to satisfy each of SUFFIX and PARSESCOPE. Tagalog exhibits this ranking hierarchy. Warlpiri shows the same ranking, further clarifying the rankings of SUFFIX » PARSESCOPE.

4. Is Strategy II attested? Justifying the Suffix constraint.

Are there, then, languages that violate SUFFIX in order to satisfy the other two constraints? Essentially, I must show that there is indeed a constraint which requires a constituent to be lexically identified (somehow) as a "suffix" (i.e., to be adjoined prosodically to the preceding word). Ideally, there would need to be a non-suppletive special clitic which surfaces as an enclitic when there is an available preceding prosodic host, but as a proclitic otherwise. Unfortunately for this study, I know of no such a language. Lacking such evidence, I know of three phenomena that show that some morphemes can be either prefixal or suffixal, indirectly supporting the existence of a SUFFIX constraint.[6]

4.1 Languages with pre- and post-verbal clitics

Anderson (1995:§6) reports the relatively well known facts about various Romance languages in which pronominal clitics "accumulate in a fixed sequence before [a] finite verb. In some languages, however, the clitics appear[] *after* a non-finite form of the Verb in [the] same linear sequence as that found before finite forms." It is unclear from Anderson's characterization whether the clitics are actually prosodically adjoined to the verb in both environments. Sharon Peperkamp informs me that these clitics are indeed prosodically hosted by the verb in either position. My preliminary analysis of such constructions suggests that the pre-verbal clitics are syntactically incorporated into a null syntactic element and therefore require a prosodic host; furthermore, it seems that procliticizing to a preceding host (if any) can be explained by some sort of ALIGN constraint.

Bulgarian and Macedonian also have verb-adjacent clitics that are pre- or post-verbal depending on various factors.[7] In Bulgarian, Rudin (1996) reports, these clitics are nonetheless enclitics in both environments. In Macedonian, according to Rudin & Kramer (1994), these clitics are prosodically hosted by a preceding (finite) verb; if the verb follows

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[5] Alan Prince has suggested to me that another type of ALIGN constraint may be involved in the Tagalog data: a proclitic is required to be in one or more entirely separate syllables from its prosodic host. This observation also appears to hold elsewhere in the language without exception. As a lone consonant, *=ng* cannot procliticize (without vowel epenthesis). As a sequence consisting of a licit syllable, *na=* can however, be a tautosyllabic proclitic. Thus, it appears that *=ng* is the "preferred" allomorph of the suppletive pair, but is restricted to appearing as a proclitic. I will not explore this suggestion further here.

[6] Anderson (1983), incidentally, seems to avoid specifying affixation direction by assuming that Warlpiri merely adjoins clitics to a preceding word by default. That is, =ka, =rna, and =ngku in (6) are positioned after the first PrWd, njuntu, because they are prosodically deficient (i.e., less than disyllabic). It is not entirely clear from his account, but Anderson appears to assume that prosodically adjoining to a PrWd on the clitic's left is a given. There are, to be sure, languages in which all affixation is in one direction—e.g., all affixation is suffixal in Turkish, as Noyer 1994:69 reports, except for some now-unproductive prefixal reduplication, as Jaklin Kornfilt informs me). Whether or not each affix/clitic is specified lexically as pre/suffixal or just the marked ones is not crucial to this discussion. I need only show that some affixes appear in both positions.

[7] As Rudin & Kramer (1994) and Rudin (1996) point out, the yes/no clitic *li* in Macedonian and Bulgarian does not behave like the verbal clitics described here.

the clitics, however, the verb hosts the clitics as well.[8] Thus, it seems that in Macedonian, as in Romance languages, there is a case for dual directionality of prosodic adjunction. I will investigate this phenomenon in Billings (1996).

Thus, verb-adjacent clitics in Romance and Macedonian appear to be the kind of clitic that would support the existence of a SUFFIX constraint. Still, because these elements remain adjoined prosodically to the same word, it is not as easy to define them as "special" clitics as defined in Zwicky (1977). Clearly, further investigation of them is warranted.

4.2 Mobile affixes in Australian languages and Huave

Noyer (1994) shows that in Huave (isolate, spoken in Oaxaca, Mexico), as well as in some Australian languages, certain affixes are lexically prefixal, others suffixal, and yet others are unspecified as to their direction of prosodic adjunction, "showing that phonological well-formedness crucially positions these [mobile] affixes, sometimes at a location at variance with the expected syntactic position" [p. 80]. To account for such data, Noyer assumes some form of Baker's (1984) Mirror Principle as an Optimality-theoretic (i.e., violable) constraint. It would appear possible to employ constraints like SUFFIX (and the analogous constraint PREFIX) to account for such data. These mobile affixes are not special clitics, however. For this reason, these affixes remain adjacent to the same word.

4.3 Dual-position affixes in Afar

Fulmer (1990) investigates a group of apparent dual-position affixes in Afar (East Cushitic, spoken in Ethiopia and Djibouti). Fulmer concludes that a certain group of affixes, which are clearly definable by their underlying phonological shape (i.e., they contain no specified vowel features in their underlying representations), are realized as suffixes in most environments but as prefixes in certain specific situations (namely, only if the stem begins with a segment containing vowel features). If this condition is not met, then suffixation results. The scenario in Afar, therefore, is that the so-called dual-position affixes are underlyingly suffixal and are realized as prefixes to satisfy other (more highly ranked) constraints. My preliminary proposal is that either Afar has a rather language-specific constraint that requires each word's left edge to ALIGN with a [+ consonantal] feature or possibly some form of the ONSET-requirement constraint (Prince & Smolensky 1993). As in the preceding subsection, the morphemes discussed by Fulmer are apparently not special clitics.

I conclude this section by summarizing the salient facts: In Romance languages and Macedonian certain clitics remain adjacent to—and prosodically hosted by—the verb but appear on either side of that stem, depending on the finiteness of the verb. Such phenomena, although not investigated fully in this working paper, appear to be the best candidate so far for the violability of a SUFFIX constraint. In Huave, certain affixes appear to be positioned with respect to their PrWd host on either the left or the right side. Assuming, with Noyer (1994), that there is no underlying marking of suffix- or prefix-hood on the dual-position affixes he investigates, the Huave data do not therefore actually support my proposed SUFFIX constraint. Noyer's mechanisms do support the notion that in some languages at least it is necessary to mark some affixes as suffixal (and others as prefixal, yet others as neither). Fulmer's account of Afar does argue convincingly for the underlying suffix-hood of some affixes which then appear as prefixes in very specified phonological environments. The Afar facts, if fully spelled out in Optimality terms, would need a SUFFIX constraint. In each of these subsections, therefore, there seems to be a need for some sort of SUFFIX constraint.

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[8] The literature on Macedonian clitics, summarized in Elson (1993:158, n. 3), is generally in agreement that post-verbal clitics (aside from *=li*) are part of the verb's PrWd. Primary evidence is that each enclitic syllable shifts the stress rightward by one syllable, stressing the antepenult of the verb + clitic(s) cluster. The picture with pre-verbal clitics is not nearly as clear: Pre-verbal clitics do not attract stress (e.g., a disyllabic verb stem with one preceding monosyllabic clitic will nonetheless stress the verb stem's initial syllable, not the clitic).

5. Languages that employ strategies outside this typology: NON-INITIAL.

I should add—without providing the necessary supporting arguments, regrettably—that other languages utilize a similar strategy. Instead of requiring its second-position special clitics to follow (and prosodically adjoin to) the first word, these languages instead require such clitics to follow the first **syntactic** maximal projection. Anderson (1995), using data from Serbo-Croatian, employs a NON-INITIAL family of constraints to achieve this syntactic second-positioning (analogous to the NONFINALITY constraint used to keep stress from appearing on final elements in the phonological Optimality literature; cf. Prince & Smolensky (1993)). Serbo-Croatian (specifically dialects described in Browne 1974; 1975 and Ćavar & Wilder 1994) is further complicated by being able to employ either the syntactic (post-XP) or the prosodic (post-PrWd) second-position type.[9]

Czech, reported recently in Toman (1996), primarily uses the syntactic second-position strategy for its special clitics. The one exception is *=li* (with similar meaning as Russian *=li*), which must be prosodically suffixed to the first word of the clause it is in. Unlike Serbo-Croatian, there is no option between the syntactic and prosodic types; any given clitic in Czech has only a single option: prosodic or syntactic second position.

I conclude this section by showing that other constraints are necessary to account for syntactic second-position effects. From the behavior of the data presented in the preceding sections of this paper, however, it is necessary to posit some constraint that requires the clitics not only to be NON-INITIAL, as Anderson (1995) proposes, but one that specifically requires the clitic to be prosodically adjoined as a suffix. NON-INITIAL-type constraints account for a range of Wackernagel's Law phenomena (including post-PrWd suffixes like *=li* in Russian). Such constraints cannot, however, account for the Tagalog and (entire) Warlpiri data (above in §3) in a principled way.

6. Conclusion.

It is necessary to have the SUFFIX constraint along with PARSESCOPE (Legendre *et al* 1995) and clausal ALIGNment (Prince & Smolensky 1993; McCarthy & Prince 1993) to account for the behavior of various **prosodic** second-position clitics. I have not dwelt on the operator-hood of these clitics, but assume that these clitics must be clause-initial for such reasons. I do examine in detail, however, these elements' suffixhood and the requirement that prosodic and syntactic clausal units ALIGN their right edges. I have also shown that all three of these constraints are violable in some languages.

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[9] As Damir Ćavar argues in his paper in this volume, Browne's data can be accounted for in syntactic terms.

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On Cliticization in Croatian: Syntax or Prosody?

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Abstract

In the following paper it will be argued that the phonological approach to clitic placement in Serbian/Croatian, as proposed in Zec & Inkelas (1990), not only fails to explain the observed phenomena, but also fails at the level of descriptive adequacy.

Further arguments are presented against accounts which claim that clitic placement is syntactic and which utilize a post-syntactic operation of *Prosodic Inversion* (PI) in order to explain certain cases of apparent split of syntactic constituents (Halpern, 1992; Schütze, 1994).

It will be argued that an alternative analysis which assumes syntactic clitic placement as proposed in Wilder & Ćavar (1994) and Ćavar & Wilder (1994) appears to be descriptively adequate.

1 Properties of Clitics in Croatian*

Table (1) gives a brief overview of different enclitic and proclitic categories in Croatian:

(1)

		forms		cliticization
		full	reduced	direction
pronouns	ACC	fem: *njû*	*ju/njú*	←
		msc: *njega*	*ga/nj*	←
auxiliaries	pos	*jesam*	*sam*	←
	neg	*nisam*		
prepositions		*nâ*	*ná*	→

The enclitic forms of the accusative pronoun for masculine and feminine differ depending on the syntactic context in which they appear. While the forms *njú* and *nj* are only licensed as complements of prepositions, i.e. only appear in prepositional phrases and only cliticize to a non-clitic (e.g. mono-syllabic and bi-moraic) preposition, the other forms *ju* and *ga* may only appear elsewhere.[1]

Another category that appears either as a full or as an enclitic form, is auxiliaries. Auxiliaries have two full forms, an affirmative and a negative form. The enclitic auxiliary appears in neutral contexts, i.e. neither emphatic nor negative contexts.

Prepositions may be realized as independent words, if they are stressed (when they are bi-moraic, i.e. have a long vowel, for example in *nâ*), or proclitic (when they are mono-moraic, i.e. have a short vowel, for example in *ná*).

With the exception of prepositions and enclitic pronouns that only appear in PPs, all the other clitics, the reflexive pronouns and the question marker *li* form a morphological unit in which (apparently) the individual elements appear in fixed positions:

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[1] Several informants consider the reduced enclitic pronoun in PPs archaic (e.g. Nedzad Leko (p.c.)), or even unacceptable (e.g. native speakers of Serbian), while other dialects (e.g. in Dalmatia and Hercegovina), or other Slavic languages make more or less extensive use of the two different enclitic forms.

(2) **The Clitic Cluster** (Spencer, 1991: 356):

li – AUX – DAT – ACC – Refl. – *je*

There is a tendency among syntacticians to assume that the apparent order in the clitic cluster is the result of syntactic operations or constraints. However, as mentioned in Wilder & Ćavar (1994), and argued in Ćavar (1996), the order of the clitics is not strictly fixed for all native speakers and for all dialects of Serbian/Croatian. Certain clitics may invert with others, depending on their morpho-phonological shape. Therefore it is assumed here that the order in the cluster has to be explained in terms of morphology rather than syntax. The only position that seems to be fixed across dialects and idiolects, is the initial position of the question marker *li*. The auxiliary clitic *je* is preferred in final position, and is usually dropped, if the reflexive pronoun *se* appears in the cluster.[2]

1.1 The 'Tobler-Mussafia-Effect'

The basic property of enclitic elements in Slavic shows up in the so called 'Tobler-Mussafia-Effect' (TM-effect hereafter), namely, that enclitic elements may not appear in string initial position.[3] The examples in (3) and (4) show this for matrix clauses, i.e. the enclitic auxiliary *sam* in (3c), and the enclitic pronoun *me* in (3d) may not appear in absolute string initial position, while their full form counterparts in (3e) and (3f) may:

(3) a. *Spavao* ***sam*** *čitavi dan.*
sleep$_{ptc}$ be$_{1sg}$ whole day
'I slept the whole day.'

b. *Nije* ***me*** *probudila.*
NEG-be$_{3sg}$ me wake-up$_{ptc}$
'She didn't wake me up.'

c. * ***Sam*** *spavao čitavi dan.*

d. * ***Me*** *nije probudila.*

e. ***Jesam*** *spavao čitavi dan.*

f. ***Mene*** *nije probudila.*

As argued in Wilder & Ćavar (1994), the same condition holds in embedded contexts. As the examples in (4) show, the TM-effect can be found in embedded contexts as well, i.e. the clitic cluster, which contains the enclitic pronoun *me* and the enclitic auxiliary *je* in (4a) may neither appear in some relative string initial position in embedded finite clauses, cf. (4a), nor in initial position in N-selected infinitive clauses, cf. (4c-d):[4]

(4) a. *Senka tvrdi* [$_{CP}$ *da* ***me je*** *probudila*]
S. claim$_{3sg}$ that me be$_{3sg}$ wake-up$_{ptc}$
'Senka claims that she woke me up.'

b. * *Senka tvrdi* [$_{CP}$ ***me je*** *da probudila*]

[2]Note that the full form and the enclitic form of the third person singular auxiliary differ only in vowel length: *jé* vs. *jê*, i.e. the first is a mono-moraic, the second a bi-moraic syllable. On the other hand, the other clitics have a special morphological shape which differs from the full form. One could take *je* to be a simple clitic in terms of Zwicky & Pullum (1983), or Zwicky (1985), while the other enclitic elements are all special clitics, hence the right peripheral position of *je* could be the result of simple cliticization.

[3]There may be some differences with respect to (en)clitic reflexives in Czech, because these apparently appear in string initial position in some contexts (as pointed out in Toman (1993) and by Tobias Scheer (p.c.)). There is no evidence that this is true for enclitic auxiliaries and other pronouns, while there is enough evidence for a special behaviour of reflexive pronouns in other Slavic languages, Polish, as well as Croatian. However, the discussion of these phenomena would go beyond the scope of this paper.

[4]Note that verb-selected infinitival clauses in Croatian are transparent for clitic climbing (see section 1.3), while finite complements are not, i.e. (4b) would be ungrammatical even if the clitics would move to the absolute second position.

c. *Imam mogućnost* [$_{IP}$ *upoznati* ***ga***]
have$_{1sg}$ possibility get-to-know$_{inf}$ him
'I have the possibility to get to know him.'

d. * *Imam mogućnost* [$_{IP}$ ***ga*** *upoznati*]

1.2 The 'Wackernagel Effect'

Another phenomenon observed for enclitic elements in Croatian is the so called 'Wackernagel Effect' (W-effect hereafter) (Wackernagel, 1892): the clitic cluster may not appear in a position deeper than second position in the clause.[5]

The examples (5a-c) show that the enclitic auxiliary *je* may not appear in some absolute third (8b), or absolute forth position (8c) in a clause that contains a fronted *wh*-element, i.e. following a fronted *wh*-word and the subject (8b), or a *wh*-word, the subject, and the participle (8c):

(5) a. *Šta* ***je*** *Ivan radio čitavi dan?*
what be$_{3sg}$ I. do$_{ptc}$ whole day
'What did Ivan do the whole day?'

b. * *Šta Ivan* ***je*** *radio čitavi dan?*

c. * *Šta Ivan radio* ***je****?*
what I. do$_{ptc}$ be$_{3sg}$
'What did Ivan do?'

The same holds for sentences with topicalized elements. In (6a) the clitic cluster that contains the enclitic auxiliary *sam* and the enclitic reflexive pronoun *se* may directly follow the topicalized adverb *danas*, but not both the adverb and the participle (6b):[6]

(6) a. *Danas* ***sam se*** *naspavao.*
today be$_{1sg}$ self have-a-good-sleep
'Today I had a good sleep.'

b. * *Danas naspavao* ***sam se.***

One could argue that the ungrammaticality of examples like (6b) results from the final position of the clitic.[7] However the examples in (7) show that a construction in which the clitic appears in third position, following two topicalized phrases, is ungrammatical (7c), even if the clitic is not in absolute final position in the clause:

(7) a. *Stipi* ***su*** *Ivan i Marija sinoć dali knjigu.*
S. be$_{3pl}$ I. and M. yesterday give$_{ptc}$ book
'Ivan and Mary gave a book to Stipe yesterday.'

b. *Sinoć* ***su*** *Ivan i Marija Stipi dali knjigu.*

c. * *Stipi sinoć* ***su*** *Ivan i Marija dali knjigu.*

[5] In Wilder & Ćavar (1994) it is argued that one has to differentiate between the TM-effect and the W-effect in an analysis of cliticization in Croatian. While the former has to be explained in phonological terms, the later has to be explained in syntactic terms. This will be discussed in more detail in section 5.

[6] These cases of topicalization differ from the topicalization constructions discussed in Zec & Inkelas (1990). This is discussed in more detail in section 5.1.

[7] See Wilder & Ćavar (1994) for a discussion of such cases.

As argued in Wilder & Ćavar (1994), this placement constraint holds also for relative third position, i.e. enclitic elements may not appear in a position other than second position in embedded clauses. The examples in (8) show that the clitic cluster containing the enclitic pronoun *me* and the enclitic auxiliary *je* may not appear in third position inside a finite sentential complement, neither in absolute final position (8a), nor in some intermediate position (8b):

(8) a. * *Netko tvrdi* [*da probudila* ***me je***] (compare with (4a-b))

b. * *Netko tvrdi* [*da probudila* ***me je*** *u dva sata*]
somebody claims that wake-up$_{ptc}$ me be$_{3sg}$ at two o'clock
'Somebody claims that she woke me up at two o'clock.'

The same condition holds for clitics in noun selected infinitives as the examples in (9) show:

(9) a. *Želja* [*Mariji dati ružu*] *bila je velika.*
wish M. give$_{inf}$ rose be$_{ptc}$ be$_{3sg}$ great
'The wish to give Mary a rose was great.'

b. *Želja* [*Mariji* ***ju*** *dati*] *bila je velika.*
wish M. it give$_{inf}$ be$_{ptc}$ be$_{3sg}$ great

c. * *Želja* [*Mariji dati* ***ju***] *bila je velika.*
wish M. give$_{inf}$ it be$_{ptc}$ be$_{3sg}$ great

The enclitic pronoun *ju* may not appear in some position deeper than second position in the N-selected infinitive clause, compare (9b) with (9c).

1.3 Clitic Climbing

While clitics cannot raise out of finite sentential complements or noun selected infinitives, the examples in (10) show that they may raise out of infinitive complements into the matrix clause:

(10) a. *Ivan* ***je*** *želio* [$_{IP}$ *čitati Krležu*]
I. be$_{3sg}$ wish$_{ptc}$ read$_{inf}$ K.
'Ivan wanted to read Krleža.'

b. *Ivan* ***ga*** ***je*** *želio* [$_{IP}$ *čitati*]
I. him be$_{3sg}$ wish$_{ptc}$ read$_{inf}$

c. *Želio* ***ga*** ***je*** *Ivan* [$_{IP}$*čitati*]
wish$_{ptc}$ him be$_{3sg}$ I. read$_{inf}$

In fact, the clitics have to move out of the infinitive, as the examples in (11) show:

(11) a. * *Ivan* ***je*** *želio* [$_{IP}$*čitati* ***ga***]
I. be$_{3sg}$ wish$_{ptc}$ read$_{inf}$ it

b. * *Ivan* ***je*** *želio* [$_{IP}$ ***ga*** *čitati*]

Whether the enclitic pronoun *ga* appears in post-verbal second position in the infinitive clause as in (11a), or in preverbal initial position in the infinitive as in (11b), it doesn't change the fact that the examples are ungrammatical.

2 The Phonological Analysis

Zec & Inkelas (1990) observe that clitics in Serbian/Croatian apparently may split syntactic constituents.

(12) a. *Taj čovjek **joj ga je** poklonio.*
that man her it be$_{3sg}$ present$_{ptc}$
'That man presented her with it.'

b. [*Taj **joj ga je** čovjek*] *poklonio.*
that her it be$_{3sg}$ man present$_{ptc}$

The auxiliary clitic *joj* may follow an initial constituent, i.e. a complex DP *taj čovjek* in (12a), but it may also appear inside the DP, after the first word, i.e. the demonstrative *taj* in (12b).

However this splitting of constituents is not possible if the only element that precedes the clitic is a preposition (Zec & Inkelas 1990: 367) as in (13c) below.

(13) a. *Petar **je** u kući.*
P. be$_{3sg}$ in house
'Petar is in the house'

b. *U kući **je** Petar.*
in house be$_{3sg}$ P.

c. * *U **je** kući Petar.*
in be$_{3sg}$ house P.

While the enclitic auxiliary *je* may appear directly after the fronted PP in (13b), it is not possible for the clitic to split this PP and occupy a position immediately following the initial preposition in (13c).

Zec & Inkelas (1990) offer an explanation for these facts in terms of phonology. The basic assumption is that there is a fundamental difference between the phonological properties of functional words (closed class elements) and substantives (open class elements). While substantives bear inherent word accent (High tone and pitch accent), functional words do not. Hence, the claim is that open class elements are always phonological words, while functional words can be phonological words only if they are accented.

As the following examples show, certain conjunctions indeed may host clitics, if they bear High tone and accent (Zec & Inkelas 1990: 368):

(14) a. *Mi smo zvonili, ali nitko **nam** nije otvorio.*
we be$_{1pl}$ ring$_{ptc}$ but nobody us NEG-be$_{3sg}$ open$_{ptc}$
'We rang but nobody opened the door for us.'

b. *Mi smo zvonili, ali **nam** nitko nije otvorio.*
we be$_{1pl}$ ring$_{ptc}$ but us nobody NEG-be$_{3sg}$ open$_{ptc}$

The basic assumption with respect to clitic placement, as formulated in Zec & Inkelas (1990) is that the distribution of clitics is prosodically restricted, i.e. word order in Serbian/Croatian is subject to prosodic constraints.

The explanation for the distributional properties of clitics in Serbian/Croatian is given in terms of prosodic properties of the clitics themselves. It is assumed that the prosodic subcategorization frame in (15) is the lexical specification of these enclitic elements (here given for the enclitic auxiliary *je* (3rd sg. 'to be')):

(15) *je*: [[ ]$_w$ __]$_w$

Since Zec & Inkelas (1990) claim that the preposition in Serbian/Croatian is never a phonological word, cliticization to a preposition like in (13c) is ungrammatical, because the subcategorization frame in (15) is not saturated (at a certain level).

2.1 Problems and Consequences

On the one hand, it is not quite clear, what the process of clitic placement is under this analysis. Since placement of the clitic after a complex initial syntactic phrase that contains several phonological words, is possible (cf. (7a) and (12a)), Zec & Inkelas (1990) have to assume that (15) is a (probably syntactic) constraint on clitic placement. On the other hand, since Zec & Inkelas (1990) seem to assume that clitic placement is a syntactic operation, it is not clear, how syntactic operations could access purely phonological information of the categories involved, i.e. what is 'a phonological word in syntax'. One could probably think of (15) as a PF-filter that excludes representations with initial clitics, or with clitics following a constituent which is not a phonological word (cf. Vogel & Kenesi, 1990).

However, while this analysis offers a possible explanation for the TM-effect with respect to clitics in Serbian/Croatian, the major problem for such an approach is the fact that clitic placement underlies for example the Wackernagel-constraint, i.e. clitics may not appear in a position deeper than second position in embedded finite clauses (8) and follow always the first fronted *wh*-element, cf. (5a) vs. (5b).

3 The Syntactic-Phonological Solution

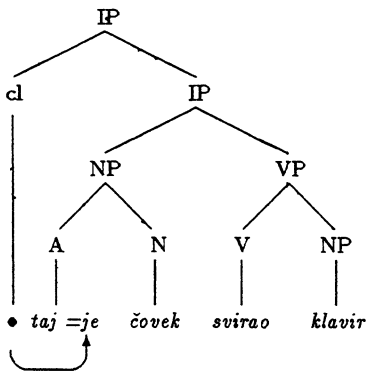
An attempt to analyse the described phenomena and avoid the problems mentioned above with respect to constraints on clitic placement, is presented in Halpern (1992), and Schütze (1994). In addition to adopting the assumption of Zec & Inkelas (1990) in (15), Halpern (1992) assumes that clitics occupy a fixed syntactic position.

The distinction between placement after the first phonological word (1W hereafter), and after the first syntactic constituent (1C hereafter) is explained in the following way: 1C appears after fronted constituents (topicalization, *wh*-movement) and is due to the fact that clitics are adjoined to IP, while the fronted XPs end up in some CP-projection, preceding the clitics.[8] On the other hand, 1W results from the Last Resort operation *Prosodic Inversion*, that inverts two adjacent prosodic entities, i.e. a clitic with the following (or preceding) phonological word, if and only if the subcategorization frame (15) is not fulfilled at some level on the way to PF. It is assumed that PI is operative after syntax, on the way to PF, i.e. clitics may move (after syntax).

The following example (16b) shows the PI-analysis for examples like (16a) in Serbian/-Croatian:

(16) a. *Taj* ***je*** *čovek svirao klavir.*
that be_{3sg} man $play_{ptc}$ piano
'That man played the piano.'

b.



The enclitic auxiliary *je* which is adjoined to IP (or to C^0 in Schütze (1994)), inverts at PF with the following phonological word.

Halpern (1992) defines PI as follows:

[8] In Schütze (1994) it is assumed that clitics are placed in C^0. Since this doesn't make any difference for the following discussion, this will be ignored here.

(17) **Prosodic Inversion** (Halpern, 1992: 81)
Prosodic adjunction of clitics: For a DCL X, which must attach to a w to its left (respectively right)
i. if there is a w = Y, comprised of material which is syntactically immediately to the left (right) of X, then adjoin X to the right (left) of Y,
ii. else attach X to the right (left) edge of the w composed of syntactic material immediately to its right (left).

In other words, after syntax (on the way to PF) any directional clitic (DCL) (enclitic or proclitic), namely, any element that contains (15) as part of its lexical specification, i.e. requires a phonological word w to its left (or right), may invert with a phonological word immediately to its right (or left), only if there is no phonological word preceding (or following) it.

3.1 Problems and Consequences

The PI-account offers a possible explanation, and makes clear predictions with respect to the examples (12) discussed in the previous section.

However, one problem for this analysis arises, when we consider examples with scrambled constituents in finite complement clauses, as in (18). One might assume that in (18b) the direct object *Krležu* is scrambled to VP, and in (18c) to IP.

(18) a. *Ivan kaže da Marija čita Krležu.*
I. say$_{3sg}$ that M. read$_{3sg}$ K.
'Ivan says that Mary reads Krleza.'

b. *... da Marija Krležu čita*

c. *... da Krležu Marija čita*

If the assumption is that clitics are adjoined to IP, and if embedded finite clauses that contain clitics are taken under consideration, it can be observed that the clitics have to be always the highest adjuncts to IP, cf. (19b) vs. (19c):

(19) a. *Ivan kaže da **mu je** Marija dala knjigu.*
I. say$_{3sg}$ that him be$_{3sg}$ M. give$_{ptc}$ book
'Ivan said that Mary gave him the book.'

b. *... da* [$_{IP}$ ***mu je*** [$_{IP}$ *knjigu* [$_{IP}$ *Marija dala*]]]

c. * *... da* [$_{IP}$ *knjigu* [$_{IP}$ ***mu je*** [$_{IP}$ *Marija dala*]]]

The fact that the W-effect appears in embedded clauses, does not follow from the assumptions in Halpern (1992).[9] On the contrary, this analysis massively under- and over-generates. The relevant data is discussed in the following section.

4 Problems for Phonological Accounts

4.1 Splitting Complex XPs

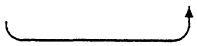
The PI-account analyses splitting of constituents in examples like (20) as inversion of the enclitic element with the first phonological word immediately to its left. This operation is

[9] As already mentioned, Schütze (1994) assumes that clitics occupy the C^0 position, thus solving this inconsistency.

assumed to be a Last Resort operation, because, first, it is only licensed if the clitic appears in string initial position at some post-syntactic level, therefore the subcategorization frame (15) would be violated, and second, the inversion is restricted, namely, only one phonological word may invert with the clitic. Thus the PI-account makes the strong prediction that clitics may only appear after the first phonological word, as in (20b), assuming an underlying representation as in (20a):[10]

(20) a. [IP ***su*** [IP *u stara raspala prljava kola* [IP *Marija i Ivan sjeli*]]]
be$_{3pl}$ in old rotten dirty car M. and I. sit$_{ptc}$

b. [IP __ [IP *U stara* ***su*** *raspala prljava kola*] *Marija i Ivan sjeli*]]



However, it is possible for clitics to appear in apparent third or fourth position inside a complex phrase. The following examples show that the enclitic auxiliary *smo* may appear in second position in the clause, when preceded by the complex PP like in (21a), but it may also appear 'inside' the complex PP, following the third phonological word like in (21b):[11]

(21) a. [PP *U stara raspala prljava kola*] ***smo*** *sjeli*
in old rotten dirty car be$_{1pl}$ sit$_{ptc}$
'We sat into an old dirty rotten car.'

b. [PP *U stara raspala prljava* ***smo*** *kola*] *sjeli*
in old rotten dirty be$_{1pl}$ car sit$_{ptc}$

Since such constructions are neither marked, nor seldom, we may conclude that the PI-account not only fails to offer an explanation for the observed effects, but in fact undergenerates.

It is clear that clitic placement in (21) neither takes place after the first syntactic constituent, nor after the first phonological word. Hence, this data seems to be problematic for both, a phonological and a syntactic clitic placement analysis.

However, the properties of prepositions and split PPs have to be examined in more detail, before an alternative analysis is taken into consideration.

4.2 The Properties of Prepositions

As already mentioned above, in Zec & Inkelas (1990) it is assumed that functional words do not have independent High tone and accent, and therefore are not phonological words, and, therefore, cannot host clitics. Furthermore, it was assumed that certain functional words may bear High tone and accent and function as hosts for clitics, while prepositions may not.

However, as described in traditional grammar books of Croatian, prepositions may be either proclitic or, if accented (stressed), morphologically and phonologically independent (cf. Barić et al, 1990).

While the proclitic version of e.g. the preposition *na* ('on') is mono-syllabic and mono-moraic (short vowel nucleus), the full-form preposition is mono-syllabic, but bi-moraic (long vowel nucleus).

While both the bi-moraic and the mono-moraic (i.e. proclitic) preposition may directly precede substantives or full-form pronouns like *njega* in (22a-b), only the bi-moraic preposition may directly precede enclitic pronouns (22c-d):[12]

[10] Note that in (20) the preposition is assumed not to be a phonological word, therefore the clitic *su* inverts with the complex *u stara*.

[11] As confirmed by Nedzad Leko and native speakers of Serbian, every single adjective in the complex PP in (21b) has to/can be stressed, i.e. represent phonological words.

[12] More information on properties of prepositions and the two different enclitic pronouns *nj* and *njú* vs. *ga* and *ju* of the full-form pronouns *njega* and *njû* can be found in Barić et al (1990).

(22) a. *nâ njega* b. *ná-njega*
on him

c. *nâ-nj* d. * *ná-nj*

Although the bi-moraic preposition can host clitics, as shown above, it is not possible for the enclitic reflexive pronoun *se* to 'split' the preposition from the pronoun in (23b). As the example (23c) shows, the preposition may function as a host for the enclitic pronoun *nj*, and the whole complex can host the enclitic *se* in string initial position.[13]

(23) a. *Ná Ivana* ***se*** *naslonila.*
on I. self lean_{ptc}
'She leaned on Ivan.'

b. * *Nâ/*Ná* ***se*** *njega naslonila.*
on self him lean_{ptc}

c. [*Nâ* ***nj*** ***se***]$_w$ *naslonila.*
on him self lean_{ptc}

Therefore, contrary to what was claimed in Zec & Inkelas (1990), we conclude that prepositions may function as hosts for clitics.[14] Furthermore, we can conclude that prepositions, like other functional words may be phonological words, if stressed/accented. However, it is not possible for the preposition to function as a host for clitics in examples like (23b). An explanation for the ungrammaticality of (23b) appears to be straightforward, when this construction is compared with the following phenomena:

(24) a. * [*Takvoj situaciji*]$_i$ ***smo se*** *našli u, da ...*
such situation be_{1pl} self find in, that ...

b. * *U smo se našli* [$_{\text{PP}}$ t_i *takvoj situaciji*], *da ...*

As can be seen in (24a), Croatian does not allow preposition stranding, and it is not possible for the preposition alone to be fronted, leaving the rest behind (24b).

However, what seems to be possible is splitting of complex phrases, DPs as well as PPs. This will be discussed in more detail in the following section.

4.3 Splitting Constituents

As the examples in (25) show, Croatian allows split-topicalization of parts of complex PPs. Apparently the non-constituent part of a PP can be topicalized, while the NP-part remains in situ:

(25) a. [*U takvoj*] ***smo se*** *našli* [*situaciji*], *da ...*
in such be_{1pl} self find situation that

b. [*U tako lošoj*] ***smo se*** *našli situaciji, da ...*
in so bad be_{1pl} self find situation that

[13] I constructed the examples in (23) together with Nedzad Leko, who gave two comments: 1. the *nj* in (23c) has a default, or the only possible reading as [+human]; 2. the construction itself sounds rather archaic. While I agree with the first comment, I disagree with the second, e.g. native speakers from the Dalmatian coast and from Hercegovina accept constructions like (22c).

[14] Wilder & Čavar (1994) and Čavar & Wilder (1994) argue that prepositions may be morphologically and phonologically independent if they appear in contrastive coordinated constructions where the complement of one preposition undergoes ellipsis.

The same is true for complex DPs like in (26), where either the whole DP (26a), if it contains a *wh*-adjective, or the *wh*-adjective alone (26b) is moved to initial position:

(26) a. *Kakva kola je Ivan kupio?*
what-kind-of car be_{3sg} I. buy_{ptc}
'What kind of car did Ivan buy?'

b. *Kakva je Ivan kola kupio?*
what-kind-of be_{3sg} I. car buy_{ptc}

Since for all split-topicalization constructions, namely, splitting of DPs and PPs, the same constraints seem to hold in Croatian, in the following section we will focus on the split-PP cases.

4.3.1 Constraints on Split Topicalization

The split topicalization constructions in Croatian underly certain constraints. First, as the examples in (27) show, there is no stranding of the left branch of a complex PP with topicalization of the NP-part only:

(27) a. *Ivan je bacio loptu na veliki ravni krov.*
I. be_{3sg} $throw_{ptc}$ ball on big flat roof
'Ivan has thrown a ball on a big flat roof.'

b. * *Krov$_i$ je Ivan bacio loptu* [PP *na veliki ravni* t_i]
roof be_{3sg} I. $throw_{ptc}$ ball on big flat

It is not possible for the NP *krov* to be extracted out of a complex PP as in (27b). Second, there is no split topicalization of the left branch alone, if the right branch does not move:

(28) a. * [*Na kakav*] *je Ivan bacio loptu* [*krov*] ?
on what-kind-of be_{3sg} I. $throw_{ptc}$ ball roof

b. * [*Na kakav*] *je Ivan bacio* [*krov*] *loptu?*

c. [*Na kakav*] *je Ivan* [*krov*] *bacio loptu?*

d. [*Na kakav*] *je* [*krov*] *Ivan bacio loptu?*

e. [*Na kakav krov*] *je Ivan bacio loptu?*

Whether one assumes the base position of the PP to be right of the direct object (28a), or left of it (28b), the NP-part of the complex PP may not remain in situ, but rather, has to move either to some position preceding VP (28c) or IP (28d). Alternatively, the whole PP may be topicalized, as in (28e).

Further conditions are that the remainder of such split-PP-topicalization constructions has to be a syntactic constituent. This fact and the contrast in (28) suggest an analysis of constructions like (28d) in terms of syntax, rather than, in terms of PI or pure phonology. The observation that the NP-part of a split constituent cannot remain in situ, forces an analysis in which the NP-part moves out of the complex PP first, and in a subsequent step the remnant PP is topicalized.

The examples in (28) show where the phonological and the PI-analysis massively undergenerate. In the following section, the cases of over-generation will be discussed.

4.4 Complex NPs

4.4.1 Nouns and relative clauses

The following examples show that complex NPs containing a head noun plus relative clause may be topicalized as in (29a), or the head-noun may be topicalized while the relative clause may be extraposed to the right peripheral position as in (29c), but the relative clause may not be stranded in some intermediate position in the clause, see (29b):

(29) a. [$_{DP}$ *One knjige* [$_{rel}$ *koje sam želio kupiti*]] *nisam našao.*
these books which be$_{1sg}$ wish$_{ptc}$ buy$_{inf}$ NEG-be$_{1sg}$ find$_{ptc}$
'I didn't find the books that I wanted to buy.'

b. * [$_{DP}$ *One knjige*] *nisam* [$_{rel}$ *koje sam želio kupiti*] *našao.*

c. [$_{DP}$ *One knjige*] *nisam našao* [$_{rel}$ *koje sam želio kupiti*]

Furthermore, complex DPs which contain a relative clause may be scrambled in embedded finite clauses, where they may occupy a position between the complementizer and the subject:

(30) *Ivan kaže*
I. say$_{3sg}$

da ***su*** ***mu*** [$_{DP}$ *one knjige* [$_{rel}$ *koje* ***je*** *jučer kupio*]] *poslali poštom.*
that be$_{3pl}$ him these books which be$_{3sg}$ yesterday buy$_{ptc}$ send$_{ptc}$ mail

'Ivan said that they send him the books, that he bought yesterday, by mail.'

The PI-account predicts that the clitic cluster in (30) inverts with the following phonological word, if the word order in the embedded construction in (30) occurs in a matrix context. Although it seems to be possible to scramble a complex DP to IP in embedded finite clauses as in (30), (31b) shows that it is not possible for PI to operate on an underlying structure (31a):

(31) a. [$_{IP}$ ***su*** ***mi*** [$_{IP}$ [$_{DP}$ one *knjige* [$_{rel}$ *koje sam jučer kupio*]] *poslali ...*]]
be$_{3pl}$ me these books which be$_{1sg}$ yesterday buy$_{ptc}$ send$_{ptc}$

b. * [$_{DP}$ *One knjige*] ***su mi*** [$_{rel}$ koje sam jučer kupio] poslali poštom.

Note that this is not only problematic for the PI-account, but also for any account that claims that clitic placement is phonological.

In order to rescue the PI-approach, one might argue that scrambling of DPs that contain relative clauses is restricted in matrix contexts. However, in examples like (32) with complex subject DPs, we observe the same restriction, namely, PI cannot operate on the underlying representation (32a):[15]

(32) a. [$_{IP}$ ***se*** [$_{IP}$ [$_{DP}$ *čovjek koji mi je obećao pomoći*] *nije pojavio*]]
self man who me be$_{3sg}$ promise$_{ptc}$ help$_{inf}$ NEG-be$_{3sg}$ show-up

b. * [$_{IP}$ _ [$_{IP}$ [$_{DP}$ *čovjek* ***se*** *koji mi je obećao pomoći*] *nije pojavio*]]

[15] Note that *pojaviti* ('show up') requires a reflexive pronoun, and that the reflexive pronoun *se* causes drop of the finite auxiliary *je* ('to be', 3sg).

It is not possible for the enclitic reflexive pronoun *se* to occur in some position between the head noun and the relative clause, although the head noun of the subject DP in (32) is a phonological word.

If it is assumed that the subject DP with relative clause occupies the spec-IP position, it is unclear why PI cannot occur in such cases. While the PI-account would have to stipulate obligatory topicalization of the complex subject DP, the split-topicalization analysis explains the ungrammaticality of (32) in terms of independent syntactic constraints, i.e. splitting of the head noun and the relative clause is only possible if the relative clause is extra-posed.

4.4.2 Noun Selected Infinitives

Other cases where a complex XP cannot be syntactically split in Croatian are complex DPs which contain a noun selected infinitive.[16]

In the examples in (33) the infinitive clause may not be split from the head-noun, i.e. the infinitive may not be extra-posed or stranded in some base-position as in (33c), and, as expected, clitics may not split a complex DP, if it appears in a sentence initial position, see (33d):

(33) a. *Ivan* ***mi je*** *dao mogućnost upoznati Mariju.*
I. me be_{3sg} $give_{ptc}$ possibility get-to-$know_{inf}$ M.
'Ivan offered me the possibility to get to know Mary.'

b. [*Mogućnost* [*upoznati Mariju*]] ***mi je*** *Ivan dao.*

c. * [*Mogućnost*] ***mi je*** *Ivan dao* [*upoznati Mariju*]

d. * [*Mogućnost*] ***mi je*** [*upoznati Mariju*] *Ivan dao.*

Compared with complex DPs which contain a relative clause, the DPs that contain N-selected infinitives differ only with respect to extraposition. Although DPs that contain N-selected infinitives may be scrambled to IP, or base generated in spec-IP, the Last Resort operation, PI, is not possible.

Again, the PI-approach fails to explain the observed restrictions. In fact, the PI-operation turns out to be completely unnecessary, since all the cases where the operation of PI seems to be motivated, can be explained in purely syntactic terms. Complex DPs cannot be split with clitics, if these DPs cannot be split in syntax. All the cases where the PI-approach over-generates, are cases that are excluded in syntax for independent reasons; all the cases where the PI-approach under-generates, are cases where splitting of complex DPs is independently licensed in syntax.

5 The Syntactic Solution

In the following it will be argued that in order to explain the discussed phenomena, one has to adopt a purely syntactic analysis. The analysis presented in Wilder & Ćavar (1994) and Ćavar & Wilder (1994) is the best candidate for a descriptively adequate theory of clitic placement in Croatian.

In Wilder & Ćavar (1994), it is argued that clitic placement is syntactic, i.e. clitics always occupy the C^0 position. Placement of the clitics in C^0 is responsible for the W-effect. The TM-effect is explained by assuming that special clitics in Croatian include the subcategorization

[16] Constructions like (33a-b) don't exist in Serbian, or if some native speakers accept them, they seem to be rather marginal.

frame (15) as part of their lexical specification. This requires a phonological word to precede the clitic cluster in a PF-representation.

Additionally, it is assumed that apparent XP-splits (cf. (12), (28d), etc.) result from scrambling out of a complex XP, with subsequent topicalization of the remnant.

The predictions are that only one XP and/or one X^0 may precede the clitic cluster inside the CP-domain, since CP offers only one landing-site for an XP, and only one head-position. This explains the strong adjacency condition between the complementizer and the clitic cluster in embedded finite complements (cf. (4a-b) vs. (8)), and the strong adjacency between fronted verbs and the clitic cluster in the so called *Long Head Movement* (LHM) constructions.[17]

Furthermore, it is predicted that only one XP may precede the clitic cluster in the CP-domain. Certain types of topicalization that seem to be counterexamples to this prediction will be discussed in the following section.

5.1 Topicalization

As correctly observed in Zec & Inkelas (1990), there seems to be a constraint on topicalized XPs, comparable with the Heavy NP Shift cases: only branching phonological representations are well formed topics (Zec & Inkelas, 1990: 373):

(34) a. *Taj čovek voleo **je** Mariju.*
that man love_{ptc} be_{3sg} M.
'That man loved Mary.'

b. * *Petar voleo **je** Mariju.*
P. love_{ptc} be_{3sg} M.
'Peter loved Mary.'

Zec & Inkelas (1990) claime that there is a phonological constraint on topicalization, that heavy constituents may be topicalized as in (34a) while light constituents may not, cf. (34b). Heaviness is defined in terms of branching of phonological constituents, i.e. a bi-moraic syllable is heavier than a mono-moraic, a phonological phrase that contains more than one phonological word is heavier than a phonological phrase that contains only one.

However, as argued in Wilder & Ćavar (1994) and Ćavar & Wilder (1994), a distinction between CP external (free) topics and topicalization to spec-CP has to be made.[18] The following examples (see (7) in section 1.2) show that there is a difference between the two types of topics:

(35) a. *Stipi **su** Ivan i Marija sinoć dali knjigu.*
S. be_{3pl} I. and M. yesterday give_{ptc} book
'Ivan and Mary gave a book to Stipe yesterday.'

b. *Sinoć **su** Ivan i Marija Stipi dali knjigu.*

c. * *Stipi sinoć **su** Ivan i Marija dali knjigu.*

As in (34b) a non-branching phonological representation, i.e. a subject which is a single phonological word, cannot function as a topic in (34b), an indirect object as in (35a), or an adverb as in (35b), which has a non-branching phonological representation can function as a topic.

Furthermore, a construction like (35c), where two such topics occur, is ungrammatical, while a similar construction (34a) is well-formed with more than one topic:

(36) *Taj čovjek, prošli tjedan, u nekom parku u Zagrebu, poljubio **je** Mariju.*
this man last weak in some park in Zagreb kiss_{ptc} be_{3sg} M.
'Last weak this man kissed Mary in some park in Zagreb.'

[17] A discussion of the *Long Head Movement* constructions would lead beyond the scope of this paper. For further details see Wilder & Ćavar (1994).

[18] This distinction may also be formulated in terms of adjunction to the clause (free topics as in (34)), and movement to some clause internal specifier position (as in (35a-b)).

Another observation which supports the proposed difference between these two topic-constructions is that [+*wh*]-phrases, i.e. complex *wh*-phrases as in (37)[19] and [+NEG]-phrases,i.e. negative elements that require negative concord as in (38), have to be string adjacent to the head that contains the clitic cluster, if they are moved to a sentence-initial position:

(37) * *Koji čovjek, prošli tjedan, u Zagrebu poljubio* ***je*** *Mariju.*
which man last weak in Zagreb kiss_{ptc} be_{3sg} M.

(38) a. * *Ni u kom slučaju, naša Marija nebi* ***ga*** *poljubila.*
in-no-case our M. NEG-would him kiss_{ptc}

b. *U nekom parku, naša Marija* ***ga*** *ni u kom slučaju nebi poljubila.*
in some park our M. him in-no-case NEG-would kiss_{ptc}
'In no case our Mary would kiss him in some park.'

c. *Ni u kom slučaju* ***ga*** *naša Marija nebi poljubila.*

These data suggest that, while there might be a phonological restriction on CP external topics (comparable with Heavy NP Shift in English), there is definitely no such constraint with respect to topicalization to spec-CP.

Furthermore, with respect to topicalization, only one XP-position seems to be available preceding the clitic cluster, spec-CP.

5.2 *Wh*-Constructions

Further evidence for analysing clitic placement in Croatian as placement of the clitics in C^0, comes from multiple *wh*-constructions.

In multiple *wh*-questions one *wh*-element has to move to sentence initial position (CP-spec), while the other *wh*-elements may either remain in situ as in (39a), or, all *wh*-elements cluster in sentence initial position as in (39b):

(39) a. *Šta Ivan daje komu?*
what I. give who
'What does Ivan give to who?'

b. *Šta komu Ivan daje?*
what who I. give

However, if the sentence contains clitics, the clitics always have to follow the initial *wh*-constituent. In contrast to topicalization constructions like in (36), the enclitic auxiliary *je* may not appear in third position, following two *wh*-elements (40c-d), but has to follow directly the first *wh*-phrase (40b), if two *wh*-phrases are fronted:

(40) a. *Šta* ***je*** *Ivan komu dao?*
what be_{3sg} I. whom give_{ptc}
'What did Ivan give to whom?'

b. *Šta* ***je*** *komu Ivan dao?*

c. * *Šta komu* ***je*** *Ivan dao?*

d. * *Komu šta* ***je*** *Ivan dao?*

One can conclude that in multiple *wh*-questions, where apparently all *wh*-elements cluster together in initial position, in fact, only one occupies the spec-CP position, while the others are located lower of C^0, probably scrambled to IP.

[19] This is discussed in more detail in section 5.2.

6 Conclusion

It was argued in sections 2 and 4 that the phonological account presented in Zec & Inkelas (1990) does not explain the facts with respect to clitic placement in Croatian. The impression that clitics may appear after the first phonological word of some complex constituent in sentence initial position is not consistent with the syntactic properties of the relevant constructions. Rather, the syntactic properties of constructions where clitics apparently split complex constituents suggest that clitic placement is syntactic in nature. Hence, all analyses that try to explain clitic placement as occuring after the first syntactic constituent (1C), and in addition after the first phonological word (1P) are inadequate (cf. Halpern, 1992; Schütze, 1994; Zec & Inkelas (1990)). Since clitics in Croatian always appear after an XP (*wh*-phrase or topic) and/or a syntactic head X^0, it is only necessary to explain why there is clitic placement after the first syntactic constituent.

Nevertheless, certain phonological conditions with respect to constructions containing clitics seem to hold. The generalization that clitics may never appear in string-initial position seems to require a phonological explanation. The explanation proposed by Zec & Inkelas (1990), in terms of lexical properties of clitics, is the most promising.

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SJA-Verbs in Russian: Phonology, Morphology, or Syntax?

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1. Introduction

The present paper is concerned with a class of verbs in Russian that is distinguished by an element that appears to be attached to the verb. For expository purposes I will refer to this element as α.

(1) V-α

α has two phonological realizations depending on whether it is preceded by a consonant or a vowel.

(2) Surface realizations of α:
  (a) V-*sja*: / [V ...consonant] __
  (b) V-*s'*: / [V ...vowel] __

Note that participles do not obey (2b). Cf. Isačenko (1983, 408).

Grammatical tradition as well as lexicography treat α as morphology. This view poses a serious problem – if α is morphology, then it is "misplaced" morphology. I will show below that α affects the structural accusative. As an "unaccusativizing" affix it should precede affixes that are correlated with structurally higher functional categories, but it does not. α is always the last element in the word form. Cf.:

(3) (a) *myt'sja*
  wash-inf-α
  (b) *moetsja / mojus'*
  wash-pres 3p sg-α / wash-pres 1p sg-α
  (c) *mylsja / mylas'*
  wash-past sg masc-α / wash-past sg fem-α
  (d) *mojuščajasja*
  wash-part pres active nom fem sg -α
  (e) *mojtes'*
  wash-imp 2p pl-α

It turns out that α, taken as morphology, violates the *Mirror Principle*. This is shown in (4).

(4) (a) [AgrSP ... [TP ... [AgrOP ... [VP ... clause structure[1]

(b)	V	AgrO	T	AgrS	
(c)	*my-*	–	*l*	*a*	α

(b) reversed order of heads
(c) word structure of *mylas'* (cf. (3c))

Traditional grammar has created a special label for α calling it a postfix. However, this does not answer the question of why α appears where it does.

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1 Irrelevant details are omitted here. For the explicit structure of the Russian clause see Junghanns (1995).

In recent research various proposals have been put forward concerning α. The solutions proposed can be divided into three groups: (i) phonological, (ii) morphological, and (iii) syntactic analyses. Schoorlemmer (1993) treats α as the phonological spell-out of the marked value of a functional category. Zimmermann (1995) sticks to the tradition and considers α a bound morpheme ("reflexive postfix"). Babby (1975) suggests that the syntax introduces α.

In this paper I will suggest an analysis that treats the verb and α as syntactic atoms, although α has morphological properties as well. If one can find evidence that α is not pure morphology, then the lexicon could be freed from the huge burden of redundant entries for verbs that can be regularly correlated with homonymous verbs that display only one difference – they lack α. The worth of pursuing such an aim can be seen from the fact that, e.g., the reverse dictionary of Russian (Bielfeldt (1958)) contains about 7,500 SJA-verbs – one tenth of the total number of lexical entries – the majority of which could be simply disregarded by lexicographers.

This paper will be organized as follows: Section 2 presents a cross-Slavic survey of reflexive verbs. It also describes the basic properties of Russian SJA-verbs. In section 3 I introduce the analysis of Russian SJA as a verbal clitic. Section 4 deals with the semantics of SJA. In section 5 I sketch out the format of lexical entries for verbs. Section 6 concludes the paper.

2. Data

2.1. Survey of Slavic languages

(5) illustrates α – Russian SJA and its counterparts – in the modern Slavic languages. The one sentence given means 'The boy is washing himself.' Reflexivity, however, is not the only meaning α can convey. See below.

(5) *α in the various Slavic languages*[2]

South Slavic

(a) Момчето **се** мие. (Momčeto **se** mie.)
(b) Детето **се** мие. (Deteto **se** mie.)
(c) Дечак **се** пере. (Dečak **se** pere.)
(d) Dečko **se** pere.
(e) Fant **se** umiva.
(f) Хлапец **ше** умива. (Hlapec **še** umiva.)

Bulgarian	**se**
Macedonian	**se**
Serbian	**se**
Croatian	**se**
Slovene	**se**
(Vojvodinian) Rusyn[3]	**še**

West Slavic

(g) Chlapec **se** myje.
(h) Chlapec **sa** umýva.
(i) Hólc **so** myje.
(k) Golack **se** myjo.
(l) Chłopiec **się** myje.

Czech	**se**
Slovak	**sa**
Upper Sorbian	**so**
Lower Sorbian	**se**
Polish	**się**

2 I would like to thank Natalja Börner, Dorothee Fehrmann, Silvana Gabauer, Wojciech Głowacki, Lily Grozeva, Tatjana Kolosnjaji-Prescher, Petar Legović, Olga Mišeska Tomić, Catherine Rudin, Shanna Schütt, Elisabeth Seitz, Jana Šołćina, Andreas Späth, Dragi Stefanija, Slavica Stevanović and Dana Zbíralová for their help with the examples.

3 Classifying Rusyn is not without problem. Today the language is spoken, e.g., in Poland, Slovakia, the former Yugoslavia, and the Ukraine. The genetic link to Ukrainian suggests that Rusyn should be regarded as an East Slavic language. Because of the P2 status of *še* in Rusyn (see below) I group it with South Slavic rather than East Slavic.

East Slavic

(m) Мальчик моется. (Mal'čik moets**ja**.)
(n) Хлопчик умивається. (Xlopčyk umyvajet'**sja**.)
(o) Хлопчык мыецца. (Xlopčyk myecca.)[4]

Russian	**sja**
Ukrainian	**sja**
Belarusian	**sja**

At first glance it appears that α is only in the South and West Slavic languages a syntactic atom ("free morpheme"). α in Russian, Ukrainian, and Belarusian seems to be incorporated into the verb which is reflected by spelling the verb and α in one word. Taking this seriously would mean that there is a substantial difference between the East Slavic subgroup of the Balto-Slavic branch and the other subgroups. However, the freedom of α in the South and West Slavic subgroups could be taken as a clue of how to analyze it generally. This can be taken as a first bit of evidence that SJA in Russian need not necessarily be considered a bound morpheme.

The various Slavic languages differ with respect to the placement of α. Consider (6)–(20):[5]

(6) *Bulgarian*
  (a) Момчето **се** мие. (Momčeto **se** mie.) 'The boy is washing himself.'
  (b) Момчето сега **се** мие. (Momčeto sega **se** mie.) 'The boy is washing himself now.'
  (c) Мие **се**. (Mie **se**.) 'He is washing himself.'

→ α is a verbal proclitic. If there is no phonological host to the left of α the verb must raise as in (6c).

(7) *Macedonian*
  (a) Детето **се** мие. (Deteto **se** mie.) 'The boy is washing himself.'
  (b) Детето сега **се** мие. (Deteto sega **se** mie.) 'The boy is washing himself now.'
  (c) Таа **се** гледаше во огледалото. (Taa **se** gledaše vo ogledaloto.)
  'She was looking at herself in the mirror.'
  (d) Овај пат не **се** погледаа напоречки. (Ovaj pat ne **se** pogledaa naporečki.)
  'This time they didn't look at each other askance.'
  (e) Ќе **се** убијам! (Ќе **se** ubijam!) 'I'll kill myself!'
  (f) **Се** готвеше ручек. (**Se** gotveše ruček.) 'Dinner was being prepared.'

→ α is a verbal proclitic. Macedonian α is unique in that it needs no phonological host to its left – (7f).

(8) *Serbian*
  (a) Дечак **се** пере. (Dečak **se** pere.) 'The boy is washing himself.'
  (b) Дечак **се** темељно пере. (Dečak **se** temeljno pere.)
  'The boy is washing himself thoroughly.'

→ α is a P2 clitic.

(9) *Croatian*
  (a) Dečko **se** pere. 'The boy is washing himself.'
  (b) Dečko **se** temeljito pere. 'The boy is washing himself thoroughly.'

→ α is a P2 clitic.

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4 In Belarusian *sja* fuses with the third person singular present tense ending to give *-cca*.

5 Abstracting away from more complicated details I will presuppose a rough distinction between clitics that are hosted by the verb (verbal clitics) and second-position clitics (P2 clitics).

(10) *Slovene*
(a) Fant **se** umiva. 'The boy is washing himself.'
(b) Fant **se** temeljito umiva. 'The boy is washing himself thoroughly.'

→ α is a P2 clitic.

(11) *(Vojvodinian) Rusyn*
(a) Хлапец **ше** умива. (Hlapec **še** umiva.) 'The boy is washing himself.'
(b) Њешка **ше** хлапец умива детаљно. (Nješka **še** hlapec umiva detaljno.)
'Today the boy is washing himself thoroughly.'

→ α is a P2 clitic.

(12) *Czech*
(a) Chlapec **se** myje. 'The boy is washing himself.'
(b) Chlapec **se** důkladně myje. 'The boy is washing himself thoroughly.'

→ α is a P2 clitic.

(13) *Slovak*
(a) Chlapec **sa** umýva. 'The boy is washing himself.'
(b) Chlapec **sa** dôkladnie umýva. 'The boy is washing himself thoroughly.'

→ α is a P2 clitic.

(14) *Upper Sorbian*
(a) Hólc **so** myje. 'The boy is washing himself.'
(b) Hólc **so** porjadnje myje. 'The boy is washing himself properly.'

→ α is a P2 clitic.

(15) *Lower Sorbian*
(a) Golack **se** myjo. 'The boy is washing himself.'
(b) Golack **se** porědnje myjo. 'The boy is washing himself properly.'

→ α is a P2 clitic.

(16) *Polish*
(a) Chłopiec **się** myje. / Chłopiec myje **się**. 'The boy is washing himself.'
(b) Chłopiec **się** dokładnie myje. / Chłopiec myje **się** dokładnie.
'The boy is washing himself thoroughly.'

→ α is a P2 clitic. In some cases the verb seems to have raised to the position of the clitic.

(17) *Russian*
(a) Мальчик моется. (Mal'čik moet**sja**.) 'The boy is washing himself.'
(b) Мальчик тщательно моется. (Mal'čik tščatel'no moet**sja**.)
'The boy is washing himself thoroughly.'

(18) (a) * Мальчик **ся** тщательно моет. (* Mal'čik **sja** tščatel'no moet.)
boy-nom α thoroughly wash-pres 3p sg
(b) * Мальчик тщательно **ся** моет. (* Mal'čik tščatel'no **sja** moet.)
boy-nom thoroughly α wash-pres 3p sg

→ In Russian, α has to appear immediately after the verb. If α is not regarded as pure morphology, then it is a verbal enclitic.

(19) *Ukrainian*
(a) Хлопчик умивається. (Xlopčyk umyvajet'**sja**.) 'The boy is washing himself.'
(b) Хлопчик щодня умивається. (Xlopčyk ščodnja umyvajet'**sja**.)
'The boy washes himself daily.'

→ If α is not regarded as pure morphology, then it is a verbal enclitic.

(20) *Belarusian*
(a) Хлопчык мыецца. (Xlopčyk myecca.) 'The boy is washing himself.'
(b) Хлопчык чыста мыецца. (Xlopčyk čysta myec**ca**.)
'The boy is washing himself thoroughly.'

→ If α is not regarded as pure morphology, then it is a verbal enclitic.

We can conclude:
- α is a verbal clitic in Bulgarian and Macedonian. It is proclitic in both cases.
- α is a P2 clitic in Serbian, Croatian, Slovene, Rusyn, Czech, Slovak, Upper and Lower Sorbian, and Polish.
- It is possible to regard α in the three East Slavic languages – Russian, Ukrainian, Belarusian – as verbal enclitic.

Some Slavic languages allow not only an element α that is mutually exclusive with an accusative object but also a clitic that excludes the presence of a dative object. Such a language is Czech. Cf.:

(21) *Chlapec* [V' [V *myje*] [DP *svou sestru*]].
boy-nom wash-pres 3p sg his-acc sister-acc 'The boy is washing his sister.'

(22) Accusative clitic in Czech:
(a) *Chlapec se* [V *myje*].
boy-nom α wash-pres 3p sg 'The boy is washing himself.'
(b) * *Chlapec se* [V' [V *myje*] [DP *svou sestru*]].
boy-nom α wash-pres 3p sg his-acc sister-acc

(23) Dative clitic in Czech:
(a) *Chlapec si* [V' [V *myje*] [DP *obličej*]].
boy si wash-pres 3p sg face-acc 'The boy is washing his face.'
(b) *Chlapec* [V *myje*] [DP *své sestře*] [DP *obličej*].
boy wash-pres 3p sg his-dat sister-dat face-acc 'The boy is washing his sister's face.'
(c) * *Chlapec* si [V *myje*] [DP *své sestře*] [DP *obličej*].
boy si wash-pres 3p sg his-dat sister-dat face-acc

Of course, the lexicon need not contain a special entry for the verb taking a dative clitic. Neither is it necessary to assume that the lexicon lists both the verb without the accusative clitic α and the verb with α.

2.2. Russian SJA-verbs

A convincing analysis of Russian SJA-verbs has to cover all the varieties of meaning that such a construction can convey. Although reflexivity comes to the mind first, it is by far not the only meaning one finds with SJA-verbs. This is illustrated in (24)–(28).[6] Note that all the examples constitute cases of regular correlations between verbs taking two arguments and

6 For an exhaustive list see Isačenko ([4]1982, 456ff.). It seems worthwhile comparing similar possibilities of semantic diversification for reflexive constructions in other Slavic and non-Slavic languages (e.g. Serbian, Swedish). This is outside the scope of this paper.

verbs with a single argument. Whereas in the latter case there is no α in the structure, in the former case we find SJA.

(24) Reflexivization
  (a) *Ivan moet syna*. Ivan-nom wash-pres 3p sg son-acc 'Ivan is washing his son.'
  (b) *Ivan moetsja*. Ivan-nom wash-pres 3p sg-α 'Ivan is washing himself.'

  other verbs: *odevat'sja* ('to dress'), *pričesyvat'sja* ('to comb one's hair'), *pudrit'sja* ('to powder oneself'), *zastrelit'sja* ('to shoot oneself')

(25) Reciprocalization
  (a) *Anton obnimaet Ninu*. Anton-nom embrace-pres 3p sg Nina-acc 'Anton is embracing Nina.'
  (b) *Anton i Nina obnimajutsja*. Anton and Nina-nom embrace-pres 3p pl-α
  'Anton and Nina are embracing.'

  other verbs: *celovat'sja* ('to kiss'), *vstrečat'sja* ('to meet')

(26) Passivizing effect
  (a) *Plotniki strojat dom*. carpenters-nom build-pres 3p pl house-acc
  'The carpenters are building a / the house.'
  (b) *Dom stroitsja (plotnikami)*. house-nom build-3p sg-α
  'The house is being built (by (the) carpenters).'

  other verbs: *čitat'sja* ('to be read'), *rekomendovat'sja* ('to be recommended')

(27) Detransitivizing effect
  (a) *Otec rugaet Sergeja*. father-nom scold-pres 3p sg Sergej-acc 'The father is scolding Sergej.'
  (b) *Otec rugaetsja*. father-nom scold-3p sg-α 'The father is scolding.'

  other verbs: *podpisyvat'sja* ('to sign'), *kusat'sja* ('to bite'), *razbirat'sja* ('to know one's way around sth.')

(28) Unaccusative interpretation (Middle, Inchoative)
  (a) *Dmitrij otkryl dver'*. Dmitrij-nom open-past sg masc door-acc 'Dmitrij opened the door.'
  (b) *Dver' otkrylas'*. door-fem sg nom open-past sg fem-α 'The door opened.'

  other verbs: *načat'sja* ('to start'), *ostanovit'sja* ('to stop')

What happens in all these cases is that the argument structure of the verb undergoes a change when α co-occurs with the verb. This, of course, is a lexical rather than a syntactic property.

2.3. α and Case

One of the effects Russian α has is that it prevents the assignment of structural accusative.[7] Cf.:

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[7] Vinogradov's (1947) statement about "ustranenie perexodnosti" (detransitivization) reflects the fact that structural accusative is excluded. Only one of the verb's arguments can be realized in syntax. The internal argument either is blocked or receives the nominative of the blocked external argument. Therefore "ustranenie perexodnosti" covers different phenomena.

(29) (a) Anton zastrelil Ninu. Anton-nom shoot-past sg masc Nina-acc 'Anton shot Nina.'
(b) Anton zastrelilsja. Anton-nom shoot-past sg masc-α 'Anton shot himself.'
(c) * Anton zastrelilsja Ninu. Anton-nom shoot-past sg masc-α Nina-acc

There are few exceptions. Fowler (1993), citing Miloslavskij (1981, 76-77) – mentions four SJA-verbs that allegedly take an accusative object.

(30) SJA-verbs taking an accusative object (cf. Fowler (1993))
bojat'sja ('be afraid of'), *osteregat'sja* ('beware of'), *opasat'sja* ('beware of'), *slušat'sja* ('obey')

The four verbs take a genitive complement in Standard Russian, though. Those speakers who allow an accusative complement with the SJA-verb can be assumed to reanalyze the complex 'verb + α' (the verb and the enclitic) as a V^0-category, thus enriching the lexicon by a new verb. This I will call relexicalization.[8] There may be more relexicalized verbs than the four mentioned above. However, the vast majority of the 7,500 SJA-verbs exlude an accusative object. So the exceptions are irrelevant for the syntactic treatment of SJA proposed below.

However, α is not to be mixed up with another type of "reflexive" that does not block the assignment of accusative case by the verb. We find it, e.g., in Polish. The construction is impersonal. α is associated with Agr_S. It absorbs the external argument of the verb.

(31) *Polish "reflexive" constructions* (cf. Růžička (1986), Müller (1988))
(a) Książka się drukuje. *się* : Agr_O
book-nom α print-pres 3p sg 'The book is being printed.'
(b) Książkę się drukuje. *się* : Agr_S
book-acc się print-pres 3p sg 'They are printing the book.'

(32) (a) Książka się drukowała.
book-nom sg fem α print-past sg fem 'The book was being printed.'
(b) Książkę się drukowało.
book-acc sg fem się print-past impersonal 'They were printing the book.'

We find similar phenomena with the personal and impersonal participial passive. In Ukrainian e.g. a verb with passive morphology may or may not show personal agreement. In the former case, the verb is a true passive form not allowing the assignment of accusative case. In the latter case, the verb is interpreted as an impersonal form that does not block accusative assignment.

(33) *Ukrainian "passive" constructions* (cf. Sobin (1985), Růžička (1986), Billings (1993))
(a) Церква була збудована в 1640 році. (Cervka bula zbudovana v 1640 roci.)
church-nom sg fem aux-past sg fem build-pass sg fem 'The church was built in 1640.'
(b) Церкву було збудовано в 1640 році. (Cerkvu bulo zbudovano v 1640 roci.)
church-acc sg fem aux-past impersonal build-pass impersonal
'They built the church in 1640.'

For Russian the claim can be upheld that α and structural accusative are in complementary distribution.

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8 Note that this is just the same as putting idioms in the lexicon – they also consist of syntactic atoms.

3. Syntax: What you see is what you've got
3.1. More considerations supporting the syntactic treatment of α in Russian

Diachrony provides an argument in favour of a syntactic treatment of Russian α. α derives from the clitic form of the accusative singular reflexive pronoun. Compare the following paradigm:

(34) The Old Church Slavonic reflexive (cf. Trunte ([3]1992, 35)):

nom sg	gen sg	dat sg	acc sg	instr sg	loc sg
–	себе (sebe)	себѣ | си (sebě | si)	себе | сѧ (sebe | sę)	собоиж (sobojǫ)	себѣ (sebě)

⇓

α (SJA)

For the historical origin of Russian α see also Klenin (1975).

Isačenko (1983, 407) points out that Old Church Slavonic α usually is an enclitic.

(35) о себѣ бо землѣ плодитъ сѧ (o sebě bo zemlě ploditъ **sę**)
(Mar., Mk 4:28); (Isačenko (1983, 407))
'because the earth by itself brings forth fruit'

However, up until the 17th century East Slavic, and later Old Russian, α can also precede the verb and – in postposition – be separated from the verb by another enclitic element.

(36) а кто **ся** [v осталъ] в городѣ (a kto **sja** [v ostalъ] v gorodě)
(Hyp 1185); (Isačenko (1983, 407))
'who stayed in the town'

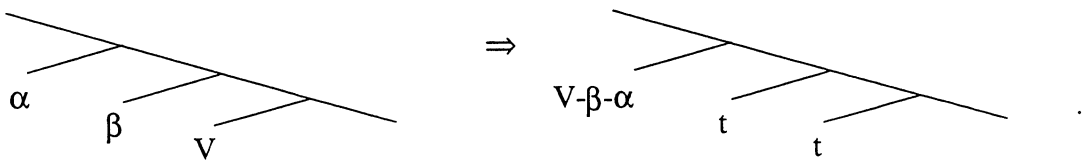
(37) древле же повели [v отрешти] ми сѧ иже сжтъ въ домоу моемь
(drevle že poveli [v otrešti] mi **sę** iže sǫtъ vъ domu moemь)
(L 9:61); (Isačenko (1983, 407))
'but first let me take my leave from the ones who are in my house'

In the 17th century – Isačenko writes – α loses its independence. It can no longer precede the verb and it cannot be separated from the verb by another clitic. It seems that only for the older stages of Russian is it appropriate to analyze α as a clitic. But is that really true?

The first observation – that α can no longer precede the verb – can be paraphrased by saying that at that time α has become a true enclitic. What about the other observation?

α would be separated from its verbal host only if there was some enclitic element β generated lower in the tree than α. This is illustrated in (38):

(38)



Modern Russian does not have any clitics of the β-type. So there is no way to prove that α can be separated from the verb. If syntax requires α and the verb to go together, the output yielded looks the same as the wordform 'V+α' assumed by traditional grammar. Therefore, it is

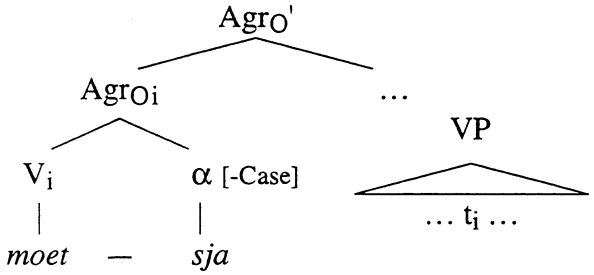
legitimate to suggest the alternative analysis of Modern Russian α as a clitic. This would yield the most natural explanation for the position of α in the word form. The verb enters syntax from the lexicon as a full-fledged word form. An element that is added to this form comes after any possible ending. This is what we find with Russian α. As verbal enclitic α follows the verb's inflectional ending. There is no violation of the *Mirror Principle* because α is not morphology proper.

(39) Properties of Modern Russian SJA:
- (a) SJA is a clitic. Therefore, it needs a host.
- (b) SJA is a verbal clitic. Therefore, only the verb can host it.
- (c) SJA is an enclitic. Therefore, the verb must left-adjoin to it.
- (d) SJA is the only clitic of its kind. Therefore, it cannot be separated from the verb.

3.2. Analyzing α as verbal clitic

Diachrony tells us that α is the clitic accusative reflexive. Synchronic facts make it clear that the occurrence of α excludes the assignment of the structural accusative. Therefore, I suggest to base-generate Modern Russian α under Agr_O. In other words, Modern Russian α correlates with an Agr_O-node whose Case feature is negatively specified. The verb raises to Agr_O to act as host for α. This is to say: What we see in the surface is what we've got in syntax. This is illustrated in (40).

(40) Russian SJA as Agr_O-clitic:



This is in line with similar suggestions for Bulgarian, Serbian/Croatian, etc. Russian has a clitic accusative reflexive and, thus, looks just the same as the other Slavic languages.

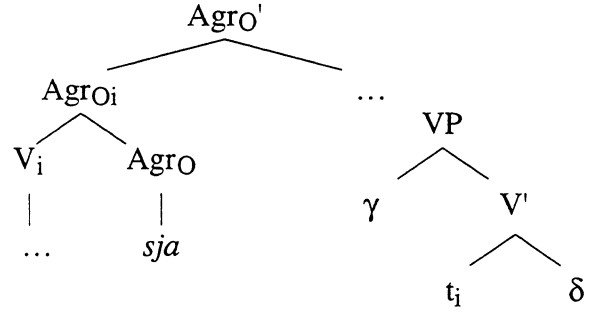
If α is analyzed as enclitic, then we have an instance of obligatory overt verb movement in Russian. The Russian verb moves if (i) a clitic needs a host (*sja, li*) or if (ii) the information structure of the clause requires it to leave its base position. Cf. Junghanns/Zybatow (1995).

3.3. Evidence for overt verb raising

The first piece of evidence has already been mentioned: Overt verb raising most naturally explains the placement of α after any inflectional affix. Cf. (4c).

More evidence comes from word-order facts. Consider (41):

(41)



In the case of reflexivization, reciprocalization, or detransitivization the only argument of the verb is generated in the position of γ in (41). If the verb raises to Agr_O, then one should find contexts where the verb naturally precedes the element generated in γ (that is, the surface subject). This is indeed borne out by the facts. Cf. (42)–(44):

(42) *Včera zastrelilsja* [VP *kakoj-to oficer* t]. yesterday shoot-past sg masc-α indef pronoun-nom officer-nom 'Yesterday, an officer shot himself.'
(43) *Na ulicax obnimalis'* [VP *neznakomye drug drugu ljudi* t]. on streets embrace-past pl-α unknown to each other people 'In the streets strangers embraced.'
(44) *Po rasporjaženiju direktora podpisalsja* [VP *zamestitel'* t]. in-accordance-with order-dat director-gen sign-past sg masc-α deputy-nom 'In accordance with the director's order the deputy signed.'

These cases are clear evidence for overt verb raising.

With passivization and unaccusative interpretation the only argument of the verb is generated in the position of δ in (41). The verb raises to Agr_O to host the clitic. As δ is a post-verbal position, the fact that in the surface the verb precedes the element base-generated in δ is not an argument for verb movement to have occurred. Cf. (45), (46).

(45) *Tam stroitsja* [VP t *gidroèlektrostancija*]. there build-pres 3p sg-α hydroelectric power station-nom 'A hydroelectric powerstation is being built there.'
(46) *Vnezapno otkrylas'* [VP t *dver'*] suddenly open-past sg fem-α door-fem sg nom 'Suddenly the door opened.'

4. Some remarks on the Semantic Form (SF) of expressions containing SJA-verbs

The following remarks are but a sketch of the processes to be considered. What we find with α is that it usually absorbs one argument of the verb:[9]

- reflexivization: absorption of the internal argument
- reciprocalization: absorption of the internal argument
- passivization: absorption of the external argument
- detransitivization: absorption of the internal argument
- unaccusative interpretation: absorption of the external argument

If we stick to the principle "one form, one meaning", then the semantics of α is rather poor. It takes a predicate expression and provides an instance for one of the predicate's arguments. Therefore, this argument gets absorbed.

(47) The Semantic Form (SF) of α:
λP [P z]

Note that P in (47) ranges over predicates of varying adicity. One-place, two-place, three-place etc. predicates qualify as instances for P.

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9 It might be the case that α does not always absorb an argument of the verb. If this is true, then *z* in (47) must be put in parentheses, indicating the optional absence of *z* in the SF of α. The foregoing consideration may be relevant for the treatment of verbs like *belet'* ('to become / be perceived as white') which form a complex with α without any obvious change in their argument structure. This was pointed out to me by Maaike Schoorlemmer. Cf. Vinogradov's (1947/^{2}1972) group 12 of verbs conveying the meaning of passive expression of an external property ("značenie passivnogo obnaruženija vnešnego priznaka", p. 499). The issue needs further investigation.

As becomes clear from (47), α has the SF of an affix. This is what makes α oscillate between a syntactic element and morphology. Although it is inserted into syntax separately from the verb, it still must be applied to the SF of the verb in the lexicon. What does this application look like? The necessary semantic operation is Functional Composition. Cf. Zimmermann (1988).

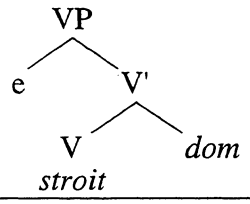
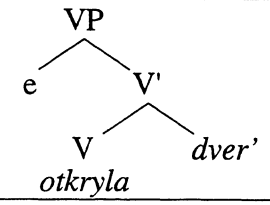
(48) $P(Q) \equiv \lambda x_n \ldots \lambda x_1 [P (Q (x_n) \ldots (x_1))]$ (Zimmermann (1988, 163))

When the SF of α is amalgamated with the SF of the verb, one of the verb's arguments gets blocked. With passivization and unaccusative interpretation it is the external argument that is absorbed:

(49) λP [P z] (λy λx λe [e INST [x ... y]])
≡ λy [λP [P z] (λy λx λe [e INST [x ... y]] (y))]
≡ λy [λP [P z] (λx λe [e INST [x ... y]])]
≡ λy [λx λe [e INST [x ... y]] z]
≡ λy λe [e INST [z ... y]]

Therefore, the verb can project a VP that contains an internal argument only.

(50) Blocking of the external argument:

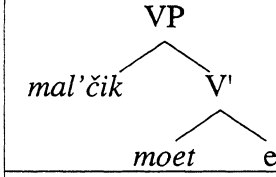
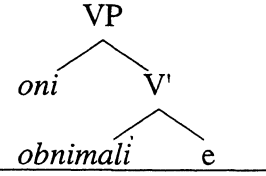
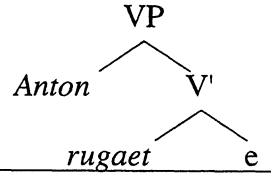
Passivization	Unaccusative interpretation
	
Tam stroitsja dom. 'A house is being built there.'	*Vnezapno otkrylas' dver'.* 'Suddenly the door opened.'
λe [e INST [z BUILD [A HOUSE]]]	λe [e INST [z OPEN [THE DOOR]]]

With reflexivization, reciprocalization, and detransitivization it is the internal argument that is absorbed:

(51) λP [P z] (λy λx λe [e INST [x ... y]])
≡ [λy λx λe [e INST [x ... y]] z]
≡ λx λe [e INST [x ... z]]

Therefore, the verb can project a VP that contains an external argument only.

(52) Blocking of the internal argument:

Reflexivization	Reciprocalization	Detransitivization
		
Mal'čik moetsja. 'The boy is washing himself.'	*Oni obnimalis'.* 'They embraced.'	*Anton rugaetsja.* 'Anton is scolding.'
λe [e INST [[THE BOY] WASH z]]	λe [e INST [[THEY] EMBRACE z]]	λe [e INST [[ANTON] SCOLD z]]

z remains a parameter that has to be interpreted in Conceptual Structure. A set of conceptual rules applies to yield the necessary interpretations.

- passivization: z = an arbitrary agent
- unaccusative interpretation: z = an arbitrary agent or force[10]
- reflexivization: z = coreferential with the agent
- reciprocalization: z = coreferential with the agent
- detransitivization: z = arbitrary

At this point, it seems mysterious what determines the absorption of the relevant argument. There is no problem on the part of the speaker. S/he intends to talk about a specific situation. An appropriate thematic role must be assigned to the argument that gets projected into syntax. The other role potentially assigned by the verb must be suppressed.

For the hearer, it may become quite difficult to get the interpretation the speaker has in mind. If the only semantic function α has is absorbing one of the verb's arguments (cf. (47)), then one would expect that there are cases where a sentence with a SJA-verb can have different meanings. An oscillation of meaning may occur due to two reasons: (i) There is no one-to-one relationship between the absorption of either the external or internal argument and the semantic subtype under which the predicate can be subsumed. (ii) The hearer may have a choice as to which of the arguments to block and, therefore, s/he interprets the expression this or that way.

ad (i): Unaccusative and passive SJA-verbs have similar SFs. In both cases it is the external argument that gets blocked (cf. (49), (50)). There should occur sentences whose meaning oscillates between the unaccusative interpretation and passive. Exactly this situation is described by Vinogradov (1947/^{2}1972, 497) who cites Šaxmatov.

(53) Poezd ostanavlivaetsja (signalom streločnika / opytnoj rukoj mašinista / po trebovaniju passažirov).
train-nom stop-pres 3p sg-α (signal-instr pointsman-gen / experienced-instr hand-instr engin driver-gen / on request passengers-gen)

Sentence (53) receives either the passive interpretation ("stradatel'nyj zalog") or the unaccusative interpretation ("sredne-vozvratnyj zalog"), depending on whether the hearer thinks of an underlying agent or not.

ad (ii): Whereas passivizing results in the absorption of the external argument, reflexivization affects the internal argument, which gets blocked by inserting the "dummy" z for the variable y (cf. (51), (52)). A sentence as (54) is, by default, interpreted as a reflexive expression.

(54) On odevaetsja.
he-nom dress-pres 3p sg-α 'He is dressing.'

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10 According to Zimmermann (1988) the causer is absent in the SF of some verbs. This would explain why unaccusative SJA-verbs cannot co-occur with a non-canonically realized agent phrase (in Russian, a noun phrase with instrumental case). The passive interpretation is excluded here.

(i) Mašina ostanovilas' (* milicionerom).
car-nom fem sg stop-past sg fem (* policeman-instr)
'The car stopped (* was stopped by a / the policeman).'

If Zimmermann's assumption is correct, the causative part of an unaccusative SJA-verb has to be removed by some semantic operation after the SFs of α and the verb have been amalgamated. In Conceptual Structure the agent or force still can be interpreted, at least in some cases.

However, the context may exclude the default interpretation. If the subject refers to a person that is not able or willing to perform intentional actions of the relevant type, then the sentence must receive a different interpretation. Cf.:

(55) Rebenok odevaetsja (njan'koj).
child-nom dress-pres 3p sg-α (nanny-instr)
'The child is dressing.' / 'The child is being dressed (by the nanny).'[11]

It should be clear by now that the meaning of *odevaetsja* cannot possibly be fully specified in the lexicon.

The two kinds of oscillation in meaning discussed in this section are an argument for assuming a rather poor lexical semantics for α.

5. On lexical entries

Treating α as a syntactic atom makes it possible to free the lexicon of a large number of superfluous entries. In order to reach this result, one has to show that the meaning of the verbs with and without α are basically the same. There are cases where this seems to be next to impossible. In order to solve this problem, I will make the following tentative assumptions: (i) Lexical entries have annotations. (ii) The verbs that can co-occur with α are of two types. For type A it suffices to annotate the verb with the feature [+SJA] (= combines with *sja*). Verbs of type B require an alternative SF in addition to the feature [+SJA]. The alternative SF obtains when the verb appears in the context of *sja*, i.e. when they are both realized in syntax.

(56) Lexical entry of a verb of type A: *myt'* (to wash):
myt'; [-N, +V]; λy λx λe [x DO e' & e' CAUSE e & [e INST [BECOME [CLEAN y]]]]
Annotations: [+SJA]

(57) Lexical entry of a verb of type B:[12]
PF; [-N, +V]; λ... [...]
Annotations: [+SJA]; λ... [...] / — X*sja* (where X is some grammatical ending)

Such a design of lexical entries allows one to reduce the lexicon even if the semantics of the verb that combines with α differs a great deal from the verb without α.

6. Final Remarks

I have suggested a syntactic treatment for the majority of SJA-verbs. The verb and α are inserted into syntax separately. Their semantics are amalgamated in the lexicon. Hence, α is an element with syntactic and semantic properties. A small number of SJA-verbs undergoes relexicalization. They incorporate α in the lexicon.

Many details remain to be filled in. The following problems will be left for future research: (i) SJA-verbs that lack a counterpart without α, (ii) the proper nature of type B verbs (differences in meaning), (iii) syntactic phenomena accompanying the attachment of α as for example the non-canonical realization of a suppressed argument, (iv) a cross-linguistic survey of the possibilities of semantic diversification with the reflexive construction.

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11 I am grateful to Vladimir D. Klimonov for providing this example.

12 A verb of type B is e.g. *sobirat'* ('to collect'). See Isačenko ([4]1982, 453).

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The Prosody of German Clitics*

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In this paper I discuss the prosodic representation of clitics in Standard German and in some German dialects.

The paper is organized as follows: first, I introduce the assumptions on clitics this paper is based on. In 2 I give the data on the different types of clitics that will be discussed and I show that clitics in German require the assumption of a special prosodic domain. In 3 I discuss the nature of this prosodic domain: is it the clitic group or some kind of recursive structure? The different prosodic representations are applied on the German data. Finally, the correct representations for enclitic and proclitic forms will be defended. I show that there is evidence from phonological processes that proclitic and enclitic forms have two different prosodic representations. Assuming this, some asymmetries in the phonology of clitics can be explained.

1. Introduction

The standard assumption in phonological theory is that words that leave the lexicon have all properties of phonological words (PWds) assigned to them. That is, metrical structure and syllable structure. PWds are prosodically independent and can stand on their own.

The most relevant issue in the phonology of clitics is their prosodic licensing. Since they are no PWds of their own, they have to be licensed by attaching to some prosodically free form, either a PWd or a higher category. This process, however, violates other phonological principles (cf. (3)).

This paper deals with various prosodic representations of clitics and their costs with respect to other principles of the PWd.

The data in the following sections are either taken from Heike (1964)[1] or from my own tape- recordings of German native speakers (the latter are marked with /). Syllable boundaries are separated by a dot.

1.1 Preliminaries

In this paper I assume that the properties listed in (1) hold for PWds.

(1) Properties of the PWd
  (a) The PWd is the domain of syllabification (cf. Booij 1985)
  (b) The PWd is assigned metrical structure in the lexicon

The topic of this paper will be one type of violation of this lexically assigned structure, namely clitics.

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* I thank C. Féry and T.A. Hall for helpful discussions.

1 The data taken from Heike are given in his original semi-phonetic orthography.

Clitics are a problematic subject. The problems start with defining the term. In this paper I will not go into any details about the syntactic licensing of clitics. Instead, I assume the characteristics of clitics that are summarized in (2).

(2) Properties of clitics
- (a) They are prosodically deficient (they are no PWd of their own).
- (b) Their reduction does not depend on speech rate.
- (c) They have to meet certain syntactic requirements:
  first, they have to be members of a closed class,
  second, they are not in a focus position (which interacts with their prosodic properties)

Since clitics are no prosodic word of their own, they have to be prosodically licensed, in other words, they somehow have to associate to a member of the postlexical prosodic hierarchy. Prosodic incorporation, however, comes at the cost of a violation of other principles in phonology, namely the alignment of lexical categories and prosodic words.

The most recent version of these principles which was set up by Selkirk (1995) is given in (3).

(3) Alignment constraints (Selkirk 1995)

(a) Word Alignment constraints
Align (Lex, L; PWd, L), *short: Align LexL*
Align (Lex, R; PWd, R), *short: Align LexR*

(b) Prosodic Word Alignment constraints
Align (PWd, L; Lex, L), *short: Align PWdL*
Align (PWd, R; Lex, R), *short: Align PWdR*

(3) lists all violations of the alignment of lexical and prosodic categories. To give an example: An encliticized form, that is a PWd of the form *Word+Clitic* violates both *Align LexR* (because the right edge of the Lexical category does not coincide with the edge of a PWd). *Align PWdR* (because the right edge of the PWd is not the edge of a Lexical category).

In (2)(b) I claim that speech rate is not one of these conditions but that cliticization is independent of speech rate. This view is not shared by all phonologists (cf. Baumann (this volume) for the opposing view). The data from German I present in this paper show that speech rate may serve in order to differ between reduction due to cliticization and fast speech reduction: reduction processes either respect syntactic information, in that case only the forms that meet the conditions in (2) are subject to them. At faster speech rates all unstressed forms are subject to these reduction processes.

2. Clitics in Standard German and in some Dialects

In this section I introduce the types of clitics that occur in German. Phonological means to identify cliticization will be introduced.

2.1 Types of Clitics (and other weak forms)

The standard cliticization in German is incorporation into the preceding PWd. Evidence for this will be given in 3.2. (4) shows some of these typical cliticizations in Rhinelandian.

(4) Function words in German (enclitic)

(a) / [erklä.ret] mal
erklär et mal
explain **it** for once

(b) /dat [fin.d**ich**] auch
das find **ich** auch
*this think **I** as well*
'I agree to that'

The direction of cliticization shows that the left edge of a PWd is protected better than its right edge: Enclisis is preferred over proclisis (this is a crosslinguistic tendency; cf. Selkirk (1995)).

Encliticization of a vowel-initial clitic leads to a mismatch between the phonological and the morphological structure, as illustrated in (5).

(5) Phonology-Morphology mismatch

{erklär} {et} mal	dat {find} {ich} auch	(morphological bracketing)
[erklä] [ret] mal	dat [fin] [dich] auch	(phonological bracketing)
explain it for once	*this think I as well*	

From (5) it becomes evident that cliticization has some restructuring effect on phonology. Below, this prosodic incorporation of the clitic forms into a host word will be looked at. Which factors determine this integration, how is it constrained and what does the resulting structure look like?

In (6) to (10), further types of cliticized forms in German are listed.

(6) Allomorphs

(a)
damit gehe ich **zu dem** Anwalt
*with this I will go **to the** lawyer* (referential)

(b)
damit gehe ich **zum** Anwalt
*with this I will go **to a** lawyer* (generic)

The allomorphs in (6)(a) versus (b) are historically related, but are separate lexical entries in Modern Standard German. The reduced form was once derived from the full form by productive phonological reduction rules. These forms are lexicalized nowadays, in other words, the full form and the cliticized form cannot be substituted for one another. Since they are not the result of the cliticization, these forms will not be discussed here.

A debate some years ago concerned the question whether clitics have to be specified individually for a certain direction (cf. Klavans 1985) or whether languages have a preferred direction for cliticization (cf. Booij 1996). In German, it is a mixture of both. Clitics clearly prefer to cliticize to the left, but there is a small number of bi-directional clitics[2]. An example of a bi-directional clitic is given in (7).

(7) Bi-directional clitics

ich hab (ə)n apfel gegessen
I have an apple eaten
'I have eaten an apple'

(a) ich [ha.bən] apfel (enclitic)

(b) ich [hap] [ən ʔapfəl] gegessen (proclitic)

The determiner *ən* (reduced from *einen* 'a/an.MASC') cliticizes either to the left or to the right.

Bi-directionality is restricted to determiners. This is no coincidence, but rather the consequence of two conflicting principles concerning this category: on the one hand, the left edge of a PWd is generally strongly protected, as I mentioned above, citing Selkirk (1995). This would block proclisis, since the result of proclisis is a PWd whose left boundary does not coincide with the boundary of the stem as illustrated in (8) (LEX = lexical category).

(8) Left edge of PWd not a LEX

$[kauf]_{LEX}$ einen $[Apfel]_{LEX}$ → $[kauf]_{PWd}$ [einen Apfel]$_{PWd}$ → Left edge of PWd not a LEX
buy an apple *buy an apple*

On the other hand, determiners always precede the noun they modify, so that enclisis automatically results in a mismatch between the prosodic and the syntactic structure, as illustrated in (9).

(9) Phonology-syntax mismatch (cf. Klavans 1985)

$[kauf]_{LEX}$ einen $[Apfel]_{LEX}$ → $[kauf\ einen]_{PWd}$ $[Apfel]_{PWd}$ → Syntax-Phonology Mismatch
buy an apple *buy an apple*

The enclitic structure in (9) creates a mismatch between the syntactic and prosodic structure, whereas the proclitic structure in (8) preserves the syntactic bracketing, but at the cost of a violation of the left edge of the PWd *Apfel* 'apple'.

The faster speech becomes, the less relevant is syntactic constituency and forms such as in (10) are strongly preferred. This has already been observed by Selkirk (1986).

---

2 There is no clitic that attaches solely to the right in German.

(10) Fast speech reduction
ich hapm apfel gegesssen
I have an apple eaten
'I have eaten an apple'

In (10) the clitic and the preceding form are a PWd, which can be concluded from the fact the nasal is assimilated. Fast speech reductions are typically enclitic and besides all unstressed forms are reduced, regardless of their syntactic status. Therefore, I will not treat fast speech as cliticization.

Rather, all the cases mentioned above have to be accounted for separately: enclisis differs with respect to the way is it prosodically licensed from proclisis and they both differ from fast speech reduction because of the different role syntax plays.

Despite the data in (7) cliticization in German support Booij's (1996: 17) assumption according to which languages have a preferred direction for cliticization. On the basis of Dutch he concludes that - contrary to Klavans - (1985) the directionality does not have to be stored in the lexicon for each clitic individually. As we will see from 3.3, German differs from Dutch with respect to the types of prosodic integration, but the basic idea is the same: the (rare) proclitic forms are a limited exceptional category. Proclisis is limited to determiners.

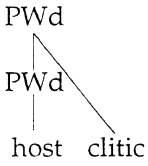
Clitic pronouns in German can be classified as "simple" clitics in the typology of Zwicky (1977), since they can freely be substituted by their full forms.

2.2 Diagnostics for Clitics

One problem concerning clitics is that the prosodic incorporation of clitics is often not evident. In this section I will show how one can nevertheless find out whether an unstressed form is cliticized or not. For the purposes of this section I will anticipate the results of the discussion in 3 and assume that enclitic forms and their host word together form a recursive PWd, as schematized in (11).

I will give detailed arguments in favor of this recursive prosodic structure in 3.

(11) Recursive Prosodic Word (cf. Selkirk 1995)



In order to show that cliticization has taken place, we need evidence that the function word is prosodically incorporated into a host category. Therefore, we have to look for phenomena at the word level domain that have clitic plus host word as a domain.

Since there is only little evidence from standard German data, I will additionally consider data from German dialects (Rhinelandian and Frankonian) that have more phonological clues.

In principle, there are two types of evidence that show that prosodic integration has taken place, namely two different rules that interact with cliticization and the phonological restructuring that is connected with cliticization.

The first is a rule common to both, MSG and dialectal forms. In German, syllable-final obstruents are devoiced.[3]

(12) Final Devoicing in German (Hall 1992: 53)
[-son] _ [-voice] / __]$_\sigma$

(12) says that a voiced obstruent devoices, if syllable-final. By this rule, we can tell, whether a consonant is syllable-final or not. Only syllable-final consonants undergo this rule.

However, as can be seen from (13), Final Devoicing (FD) fails to apply if the stem-final consonant that would be expected to be devoiced precedes a vowel-initial clitic.

(13)

(a)/ dat fin.**d**ich auch
das finde ich auch
this think I as well
'I agree to that'

(b) / dat [ɪ.zən]runder Turm
das is ein runder turm
this is a round tower

The reason for this is that the stem-final consonant is resyllabified to the onset of the following syllable. Since the domain of syllabification is the prosodic word, we can conclude that the clitic must form a PWd together with its host.

The second piece of evidence in favor of prosodic integration can only be found in some dialects. Dialects in the Rhinelandian / Franconian area have a rule that voices intervocalic obstruents, but only if the obstruent is stem-final and followed by a clitic.

(14) Obstruent Voicing (OV) in Rhinelandian/ Franconian dialects
[+obstr] → [+sth] / (V _)$_{w\,min}$ V...)$_{w\,max}$

(14) captures the fact that in these dialects, an intervocalic obstruent is voiced if it is located at the edge of a minimal prosodic word, with no minimal word boundary following. The result is a distribution of voiced and voiceless obstruents as in (15).

---

[3] Cf. Hall (1992) for arguments against other domains proposed for Final Devoicing.

(15) Distribution of voiced and voiceless obstruents in Rhine - Franconian dialects

	[p, t, k]	[b, d, g]
__ σ	+	–
V __ V	+	+
[[V __ V] $_{w\ min}$] $_{w\ max}$	-	+

(14) and (15) assume a recursion of the prosodic word. In section 3, the assumption of this representation and the phonological evidence for it will be discussed in detail. In (16), an example of OV are plus the syllable structure that can be derived from this is given.

(16) Obstruent Voicing (Rhinelandian, Franconian)[4]

(a) jof dä [ʃtRɪ.gɔp]
jof dä strik op
gave the argument up
'gave up the argument'

OV is a very general phenomenon and occurs independently of the speech rate. Therefore, it is a rule connected to cliticization rather than to fast speech reduction.

In (22), more cases of OV will be introduced in connection with the question whether these can serve as evidence in favor of the clitic group.

3. The Domain of Cliticization

In this section I am going to examine the domain that results from cliticization in German and discuss, how this process is constrained. These two questions are connected: whatever the resulting structure is, we would expect certain types of constraints.

The question I will address in this section is the domain of cliticization.

In (17), an overview over prosodic structures that have been proposed in the literature for clitics is given.

(17) Possible prosodic incorporations of clitics

a) [host]$_{\omega}$[clitic]$_{\omega}$]$_{CG}$ (cf. Hayes 1989, Nespor & Vogel 1983, 1986 and later)
b) [[host]$_{\omega}$ clitic]$_{\omega}$ (cf. Booij 1996, Peperkamp 1995)
c) [host clitic] $_{\omega}$ (cf. Booij 1996)
d) [[host]$_{\omega}$ clitic]$_{\phi}$ (cf. Peperkamp 1995; Selkirk 1995)

In this section I look at the structures listed in (17) in order to find out how German clitics are incorporated prosodically and I will conclude that enclitics are incorporated by adding a projection level to their host word (as in (17)(b)), while proclitics incorporate into the phrase (as in (17)(b)). I give evidence that excludes other possibilities of prosodic incorporation, starting with the category Clitic Group.

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4 Acknowledging evidence from word stress, Peperkamp concludes that Italian dialects may differ with respect to their prosodic integration of clitics. Since such evidence in lacking in German, I assume that all German dialects incorporte their clitics in an identical fashion.

3.1 The Clitic Group

Since clitics are prosodically deficient, the main concern of phonology concerning them has always been the question, to which type of prosodic constituent they attach in order to be licensed and what the resulting structure looks like.

Evidence for the assumption that cliticization requires a new prosodic constituent comes from cases such as the one in (5), repeated in (18), where phonological and morphological boundaries do not match and the resulting phonological category is larger than the PWd but smaller than the PPh.

(18) Syntax-Phonology Mismatch

[erklär] [et] mal	dat [find] [ich] auch	(morphological bracketing)
[erklä] [ret] mal	dat [fin] [dich] auch	(phonological bracketing)
explain it for once	*this think I as well*	

Hayes (in a paper that appeared 1990) was the first to propose that clitics and their host form a special kind of prosodic constituent, the clitic group. Subsequently, this category became famous through the work on higher level prosodic units of Nespor and Vogel. They gave further arguments in favor of this category and formalized its derivation in an algorithm cited in (20) and (21) (see Nespor and Vogel 1983; Nespor and Vogel 1986). According to them, the clitic group is a prosodic constituent between the Phonological Word and the Phonological Phrase.

(19) The Clitic Group in the Prosodic Hierarchy (Nespor & Vogel 1986)

Phonological phrase
↓
Clitic group
↓
Phonological word

According to Nespor & Vogel, CGs are cross-linguistically derived by the algorithm cited in (20):

(20) Clitic Group Formation (see Nespor & Vogel 1986: 154-155)

i) Clitic Group Domain
The domain of CG consists of a PW containing an independent (i.e. nonclitic) word plus any adjacent PWs containing
a) a DCL, or
b) a CL such that there is no possible host with which it shares more category memberships.
(DCL = Directional Clitic; CL = Clitic)

ii) Clitic Group Construction
Join into an n-ary branching CG all PWs included in a string delimited by the definition of the domain of CG.

The CG-algorithm was later revised by Vogel in order to account for compounds, which in some languages behave as clitic groups while in others they don't.

(21) Clitic Group Domain (revised) (Vogel 1990: 453)

The domain of CG consists of a PW or PWs containing any independent word(s) dominated by the $\left\{\begin{matrix}\text{highest}\\\text{lowest}\end{matrix}\right\}$ X^0 node plus
any adjacent PWs containing
etc.

The evidence for revising the Clitic Group Domain in this fashion may at the same time serve as evidence in favor of the Clitic Group itself. In languages, which choose the second option and constitute their CGs with the lowest X^0 nodes, a mismatch between syntax and phonology can be observed: syntactically, the two members of a compound behave as one single constituent, phonologically, the first member of the compound plus the determiner behave as a single constituent (in that the determiner cilticizes to the first member of the compound). This can be seen the behavior of these constituents towards phonological rules, such as stress assignment.

However, several people have argued that the clitic group is not necessary in order to account for the data. Peperkamp (1996b) takes a detailed look at some of the famous evidence in favor of this category and offers alternative proposals. In her account, clitics can be prosodically licensed in three fashions: they either incorporate into the preceding PWd or into the proceedings PPh or they can incorporate into the host word, resulting in a compound PWd.

For German, Prinz (1991) and Wiese (1996) have argued against this category. However, there are phenomena in the phonology of dialects that give rise to the assumption a CG. Recall (16), where an example was given from Rhinelandian. Further examples can be seen from (22).

(22) Obstruent Voicing (Rhinelandian, Franconian)

(a) k → g

jof dä [ʃtRɪ.**g**ɔp]
jof dä strik op
gab den Streit auf (MSG)
gave the argument up
'gave up the argument'

/ das [mer.gich]
das merk ich
this notice I
I notice that

(b) t → d

/ von d[ɔɒ.**d**]aus
von dort aus
from there on

wie jei. [**d**]et dann?
wie jeit es denn?
how is it going?

stei. [dəns]
steit ens
stands once
'once there stood...'

/ Ich [bra:.dən]
ich brat ihn
I bake him

(c)/ /p/ → [b]
das ti.[bic] noch mal neu
das tipp ich noch mal neu
that type I once again new
'I am going to type this again'

(d) /f/ →[v]
das ho.[ʊ]ich auch
das hoff' ich auch
this hope I too
I hope this as well

Between a clitic and its host word, intervocalic obstruents regularly become voiced, even at slower speech rates.[5]

Examples like these at first sight may count as evidence for the clitic group. In these cases, cliticization seems to cause a resyllabification of their hosts, if they end in a consonant. Voiced obstruents are then blocked from undergoing final devoicing. This seems to indicate that the domain of syllabification is the clitic group. This would then possibly even hold for German. At least, there wouldn't be any counter-evidence against this assumption, since clitics in MSG loose their vowel.

We could conclude that in these dialects, a rule applies like the following in (23)

(23) Intervocalic voicing (to be revised)
[+obstr] → [+voice] / V __ V

The problem about the voicing rule in (23) is its domain. Since it only applies between a clitic and its host word, the rule seems to be constrained by Clitic Group boundaries, a so-called domain span rule. A voicing rule within the clitic group would look like the one in (24).

(24) Intervocalic voicing (to be revised)
[obstr] _ [+voice] / V __ V]$_{CG}$

At first sight, (24) seems to be the representation that accounts for the intervocalic voicing data. (24) correctly voices obstruents at the boundary between clitic and host word, if we assume they were represented as in (25).

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5 This can only be illustrated with stems ending in *-t* or with the first person singular pronoun following, since the other pronouns require inflectional endings that cannot be deleted (in contrast to the first person singular ending *-e*, which is deleted at non-elaborated speech).

(25) Intervocalic voicing in the Clitic Group

von d[ɒɒ.**d**]aus
von [[dor**t**] [aus]]$_{CG}$ (phonological representation)
from there on

/ wie jei. [**d**]et dann?
wie [[jei**t**] [et] $_{CG}$ (phonological representation)
how is it going?

The problem about a rule applying in the clitic group, such as in (25) is that it would overgenerate voiced obstruents. It would voice all intervocalic obstruents within the domain of a clitic group. However, as can be seen from (26), there are voiceless intervocalic obstruents within the clitic group. In (26)(a), a voiceless obstruent occurs intervocalically before an inflectional ending, in (26)(b) within a single morpheme and in(26)(c) between the two members of a compound.

(26) (a) inflected form (b) monomorpheme (c) compound

(a) bra[**tə**]n	(b) Bra[**tə**]n	(c) bratapf[ə]l	
brat + en		[Brat] [apfel]	(morphological bracketing)
bake.INF	*roast(N)*	*roast apple*	
'to bake'	'roast'	'baked apple'	

Above this, in combinations of host words plus clitics, intervocalic obstruents in other positions than the one at the boundary between host and clitic do not voice (cf. (27)

(27)

[reiteste]$_{CG}$
reitest du
ride you
do you ride?

We can conclude that this rule provides no evidence in favor of the clitic group, which supports Wiese (1988) and Prinz (1991) who claim that there is no CG in German.

A problem for an account that does without the clitic group are proclitic forms as in (28).

(28) Phonology-Syntax mismatch

(a) enclitic:	(b) proclitic:	(c) *proclitic syllabification
ich [ha.bən] [apfel] gegessen	ich [hap] [ən ʔapfəl]	* [napfəl]
ich hab einen apfel eaten	*ich hab einen apfel*	*an apple*

According to Prinz (1991: 80) these forms must incorporate into the following PWd for theoretical reasons, since otherwise they would violate the SLH.

Incorporation into the PWd would result in the prosodic structures in (29).

(29)

(a) enclitic				(b) proclitic			
[ich]$_{PWd}$	**[ha.bən]$_{PWd}$**	**[apfel]$_{PWd}$**	gegessen	[ich]$_{PWd}$	**[hap]$_{PWd}$**	**[napfəl]$_{PWd}$**	gegessen
I	*have an*	*apple*	*eaten*	*I*	*have*	*an apple*	*eaten*

However, there are some empirical arguments against this. These data will be discussed below. In this section I show that the proclitic forms differ from the enclitics in that they incorporate into the phonological phrase. I conclude that the cliticization data have to be accounted for as two independent ways of prosodic incorporation.

The data in (27) suggest that enclitics and proclitics have to be treated separately: An encliticized determiner syllabifies together with its host word (cf. (28)(a)). This is not the case with proclitics. As one can see from (28)(b) and the ungrammatical syllabification in (28)(c), proclitics do not syllabify with their host: in these cases, the initial *a* in *apfel* is preceded by a glottal stop.

These forms are not enclitic either, which can be seen from the fact that in (28)(b) the stem-final *b* is devoiced, whereas in (28)(a), it is resyllabified to the onset of the following clitic.

I conclude that (27) shows that proclitic forms adjoin to the PPh they precede (cf. (17)(d)). This representation was suggested by Peperkamp (1995) and Selkirk (1995) in order to account for similar cases where the clitic

Below I argue that, in German, enclitic forms cannot be treated along the same line but are rather incorporated into their host word (as in (17)(b)), thereby adding a projection level to this PWd.

3.2 Incorporation into the Phonological Phrase

Above, I have shown that the intervocalic voicing does not provide evidence in favor of the category clitic group (as in (17)(a)) for German clitics. Still, a representation has to be found that accounts for the domain of intervocalic voicing which occurs only between a clitic and its host word.

Assuming that proclitics incorporate into the PPh, as in (17)(d). What about enclitics? It would be desirable to analyze them accordingly, because then the clitic forms in German would be symmetrical.

We can test this by looking again at the distribution of voiceless and voiced obstruents in some German dialects (cf. (15), repeated in (30).

(30) Distribution of voiced and voiceless obstruents in Rhine - Franconian dialects

	[p, t, k]	[b, d, g]
__ σ	+	−
V __ V	+	+
[[V __ V] $_{w\ min}$] $_{w\ max}$	-	+

One possible way to account for this distribution would be to assume that enclitics incorporate directly into the preceding PPh, as I have shown above for the proclitic forms.

The forms in (22) would then be represented as in (31).

(31)

/ von d[ɒɒ.**d**]aus
from there on
von [[dor**t**] $_{PWd}$ aus] $_{PPh}$ (phonological representation)

wie jei.[**d**]et dann?
how goes it now
how is it going?
wie [[jei**t**] $_{PWd}$ et] $_{PPh}$ (phonological representation)

Incorporation into the PPh could account for the obstruent voicing, since one could assume a rule that voices obstruents in that particular environment, such as in (32).

(32) Intervocalic voicing (to be revised)
[+obstr] → [+voice] / V __]$_{PWd}$ V] $_{PPh}$

However, representing enclitics in that way would pose a problem for the syllabification in German. As we have seen above (for instance in (28)), there is a contrast between proclitic and enclitic forms concerning syllabification. Only the proclitic forms do not syllabify with an adjacent form.

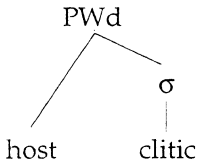
Considering the data in (28), enclitic forms and their host word have to be in the same PWd, since syllabification applies across them. Word boundaries are a barrier for syllabification in German. This can be seen from the data on prosodic mismatches in (28). Therefore, a PWd-boundary must include both, the enclitic form and its host word.

3.3 Cliticization at the PWd-Level

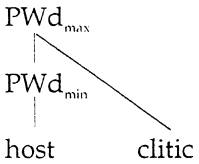
The last possible representation that remains to be tested is to analyze enclitic pronouns as incorporations into the PWd. Here, we again have two possibilities, as sketched in (33):

(33) Two ways of incorporating clitics into the PWd

(a)



(b)



In (33)(a), the clitic is literally incorporated. This violates one of the adjunction principles, according to which only identical constituents can be adjoined. In (33)(b), there is also the SLH violated: it is a recursive prosodic word. But since recursion has

to be assumed for other prosodic domains as well[6], this is no important objection against (33)(b).

Both, (33)(a) and (b) can account for the syllabification of enclitic forms. The domain of syllabification is the PWd in a representation as in (33)(a) or, assuming (33) (b), the Maximal Word. But considering the distribution of the voiced and voiceless obstruents, we find that only (33)(b) provides the environment that is required in order to describe the domain of voicing appropriately.

(34) Prosodic incorporation of encliticized forms in German

/ von d[ɔɒ.**d**]aus
von [[dort] $_{w\,min}$ aus] $_{w\,max}$ (phonological representation)
from there on

wie jei. [**d**]et dann?
wie [[jeit] $_{w\,min}$ et] $_{w\,max}$ (phonological representation)
how is it going?

The intervocalic voicing can be predicted if we assume that it is a domain edge rule at the Minimal Word level (see (22))

(35) Rule domains
w max: domain of syllabification
w min: domain edge of obstruent voicing (if no left prosodic boundary follows)

Note that the facts differ from the Dutch facts (cf. Baumann, this volume). While the data in Baumann could be accounted for as a domain span rule within the clitic group, the voicing in German is restricted to the particular edge between minimal and maximal prosodic word.

6 Cf. Ladd (1992) or Truckenbrodt (1995) for cases of recursion of the PPh.

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ON COPULAR CLITIC FORMS IN TURKISH*

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0. Introduction:

This paper argues for a novel classification of the morphology in a canonical agglutinative language, namely Turkish, in some respects. I argue here that what has traditionally been described as true agglutination is actually due to cliticization. While true agglutination exists as well, it is distinct from cliticization. I look here at verbs exclusively and discuss cliticized forms of the inflected copula as well as some other clitics that attach to verbs at cliticization sites. If the analysis proposed here is correct, Turkish has only two genuinely verbal simple finite forms: the definite past and the conditional. All other tense-aspect-mood inflections are actually inflections of the copula and not of the main verb.

1. Presentation of main arrays of facts concerning so-called simple verbs:

It is a well-known fact that among the various simple finite verb forms in Turkish, two behave differently from the others in two respects. The definite past and the conditional take somewhat different subject agreement suffixes than the other simple finite verb forms, and they are regular with respect to word-level stress, while the other simple verb forms are exceptional in this respect. I will refer to the definite past and the conditional as "genuine" verbal forms and to the other simple verbal forms as "fake" or "copular" forms, for reasons which will become clear in the course of the exposition and which form the core of the analysis to be proposed in this paper.

Let us first look at the genuine finite verbal forms, one a tensed form, the other one marked for the conditional mood. The agreement suffixes are boldfaced, and the primary word-level stress is marked with an accent sign.

(1) Genuine verbal forms:

	Definite past:		Conditional:	
1. sg.	git-tí	**-m**	git-sé	**-m**
2. sg.	git-tí	**-n**	git-sé	**-n**
3. sg.	git-tí	**-Ø**	git-sé	**-Ø**
1. pl.	git-tí	**-k**	git-sé	**-k**
2. pl.	git-ti	**-níz**	git-se	**-níz**
3. pl.	git-ti	**-lér**	git-se	**-lér**
	'go-Past	**-Agr.'**	'go-Conditional	**-Agr.'**

Note that the word-level accent in all of these forms is on the last syllable. This is the location of regular stress. Phonological words in Turkish bear final stress, irrespective of their length and irrespective of the weight of the final syllable. Let us now turn to the "fake" simple tenses.

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(2) "Fake" tenses; these consist of participle + inflected copula sequences under the present analysis; for reasons that will become clear later on, I am assuming here that the copula in these forms is in the present tense and hence null, since in Turkish, as in a variety of other languages, the present tense copula happens to be null:

	Future:		Reported past:	
1. sg.	gid-ecéğ-Ø	**-im**	git-míş-Ø	**-im**
2. sg.	gid-ecék-Ø	**-sin**	git-míş-Ø	**-sin**
3. sg.	gid-ecék-Ø	-Ø	git-míş-Ø	-Ø
1. pl.	gid-ecéğ-Ø	**-iz**	git-míş-Ø	**-iz**
2. pl.	gid-ecék-Ø	**-siniz**	git-míş-Ø	**-siniz**
3. pl.	gid-ecék-Ø	**-ler** (or: gid-ecek-**lér**)	git-míş-Ø	**-ler** (or: git-miş-**lér**)
	'go-Fut.-Cop.Pres.-Agr.'		'go-RP-Cop.Pres.-Agr.'	

Aorist:

1. sg.	gid-ér-Ø	**-im**
2. sg.	gid-ér-Ø	**-sin**
3. sg.	gid-ér-Ø	-Ø
1. pl.	gid-ér-Ø	**-iz**
2. pl.	gid-ér-Ø	**-siniz**
3. pl.	gid-ér-Ø	**-ler** (or: gid-er-**lér**)
	'go-Aor.-Cop.Pres. -Agr.'	

Comparing the agreement suffixes of this group with those of the previous group, we see that the suffixes for both the singular and the plural second person as well as for the first person plural are different in the two paradigms. (The difference in the suffixes for the first person singular can be attributed to a low-level phonological rule, deleting the initial vowel of the suffix after a directly preceding vowel.)

Perhaps more interestingly, the stress properties of the two groups are different, as well. In the "fake" verbal forms, stress is never final (with the exception of the third person singular form, where the agreement suffix is null).[1]

In traditional descriptions, the agreement suffixes of the second group are characterized as exceptional with respect to stress. Such exceptional suffixes (of which there are a number) do not receive word stress when they are in word final position.

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[1]A further exception to this generalization are the parenthesized forms for the third person plural, where we observe regular final stress. These forms actually constitute the standard pronunciation, while the forms with non-final stress are innovative, colloquial forms, obviously representing an attempt of native speakers to homogenize the paradigm completely. It should be noted that the suffix for the third person plural is itself an exception within the paradigm of subject agreement suffixes. It does not resemble any of the other suffixes either in shape or structure. Note that the first and second plural suffixes have a person and a number subpart; this is not the case for the third person plural suffix. The shape of that latter suffix is identical to that of the inherent plurality marker on nouns:

(i) kitap 'book' kitap - **lar** 'books'

It appears to be obvious, then, that the agreement paradigms "borrowed" this suffix from the nominal marking system. It should be noted that this suffix is regular with respect to stress in its function as an inherent plurality marker. This obviously influences its behavior in this respect in the standard dialect, when used as a third person plural agreement marker. More will be said about this point after the basic analysis of these forms will have been presented.

Rather, the syllable immediately preceding such an exceptional suffix receives word level stress. This can be illustrated via the verbal negative suffix **-mA**:[2]

(3) a. uyú! b. uyú - **ma!**
sleep (Imper.) sleep-**Neg.** (Imper.)
'Sleep!' 'Don't sleep!'

Where such an exceptional suffix is not in word final position, the primary word level stress that precedes it remains "trapped" in its position; in other words, no word final primary stress is possible in such examples; where the sequence following the exceptional suffix does not include yet another exceptional suffix and is rather long, a secondary or tertiary stress is found on the last syllable:

(4) uyú-ma-yabil-ìr
sleep-Neg.-Abil.-Aor.
'She might not sleep', 'she is able to not sleep'

Otherwise, the proximity of the primary stress appears to block the occurrence of non-primary stresses:

(5) a. uyu - dú
sleep-Past
'(he) slept'
b. uyú - **ma** - dı
sleep-**Neg.**-Past
'(he) didn't sleep'

I claim in this paper that the agreement suffixes of the second group are not exceptional. Rather, they are regular. Both their shape, different from that seen in the first group, and their behavior with respect to word level stress are an automatic consequence of the fact that they are actually affixed to a copula (to be more exact, to a copula in the present tense, as will be argued later). It can be shown easily that the agreement paradigm of the "fake" finite verbs and of the present tense copula are the same. To see this, compare the boldfaced agreement forms in all the columns of (2) with the agreement forms of the present tense column in (6) below. If so, the apparent verbal stems that precede the agreement suffixes in the second group are not genuinely finite verbal stems, but rather are adjectival, i.e. they are participles. If this claim is correct, only very few simple verbal forms in Turkish are genuinely finite: the definite past and the conditional are the most productive forms among those, and their paradigms were seen earlier, under (1).

In order to motivate this claim, it is necessary to first describe copular forms that are, indeed, clearly copular.

2. Copular constructions in general:

The following examples illustrate a variety of tenses (and one mood, the conditional) of the copula, using a clear-cut, morphologically underived adjective:

(6)Present tense:	Reported past:	Definite past:	Conditional:
1. sg. hastá-yım	hastá-**y**-mış-ım	hastá-**y**-dı-m	hastá-**y**-sa-m
2. sg. hastá-sın	hastá-**y**-mış-sın	hastá-**y**-dı-n	hastá-**y**-sa-n

[2]In this paper, I shall follow general Turkological practice in indicating segments that undergo a variety of assimilation processes by using capital letters. Capital letters for vowels indicate vowels that undergo vowel harmony (VH) for backness and rounding, while capital letters for consonants indicate consonants that undergo assimilation in voicing.

3. sg.	hastá(-dır)[3]	hastá-y-mış	hastá-y-dı	hastá-**y**-sa
1. pl.	hastá-yız	hastá-**y**-mış-ız	hastá-**y**-dı-k	hastá-**y**-sa-k
2. pl.	hastá-sınız	hastá-**y**-mış-sınız	hastá-**y**-dı-nız	hastá-**y**-sa-nız
3. pl.	hastá(-dır)-lar	hastá-**y**-mış-lar	hastá-**y**-dı-lar	hastá-**y**-sa-lar
	'sick-Agr.'	'sick-Cop.-RP-Agr.'	'sick-Cop.-P.-Agr.'	'sick-Cop.-C.-Agr.'

The status of /y/, the palatal glide, is not the same everywhere in the examples listed in (6). In the first column, i.e. in the present tense, the copula is zero. This is not unusual; in Slavic and Semitic languages, we find the same phenomenon, namely that the copula, otherwise overt, is zero in the present tense. The palatal glide which we see in the first singular and plural forms is inserted to break up a vowel cluster; informally, I state this as follows:

(7) Ø --> y / V __ V[4]

This is a well-motivated process, since it can be shown easily that the language does not tolerate vowel clusters in general. Space limitations make it impossible to motivate this rule further; this will be done in future work.

In contrast, the boldfaced palatal glide we see in the other columns in (6), i.e. in the two past tenses and in the conditional mood, *is*, I claim, the copula. We shall see the significance of this distinction in a moment. For the time being, it suffices to point out that this assumption is necessary in order to explain why we have contrasts as those seen between the second person forms of the present tense versus the conditional copular examples in (6), repeated here for the reader's convenience:

(8)	Present tense	(9)	Conditional
2. sg.	hastá-sın/*hastá-y-sın		hastá-y-sa-n
2. pl.	hastá-sınız/*hastá-y-sınız		hastá-**y**-sa-nız

The /y/ which we do find in the first person forms of the copular present tense in (6) is only found between vowels; its occurrence is due to the rule in (7); it is motivated on phonological grounds exclusively. On the other hand, the /y/ which I analyze here as the copula is found preceding consonants; its occurrence is certainly not due to the rule in (7). To formulate a special phonological rule for its insertion after a vowel and before a consonant, as is done in many traditional works, would be an objectionable move on two grounds: 1. it would complicate the grammar, since we do need the rule in (7) in any event, and the supposed insertion rule in question would effect the same change as in (7), but in a different phonological environment; 2. the supposed insertion rule would not be phonologically motivated, since vowel-consonant sequences are perfectly acceptable in Turkish, indeed are favored phonotactically; hence, the insertion of a non-syllabic segment before another non-syllabic segment would be non-motivated at best, and ill-motivated at worst, since

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[3]The clitic -DIr will be discussed later on. It is used optionally in the third person singular and plural agreement forms of the present tense copula. It most generally, but not necessarily, has epistemological functions, which will be mentioned later in the text. While this clitic is used more often with non-verbal adjectives than with verbal (i.e. participial) ones, the fact that it is found at all in the "fake" simple finite verb forms and not with the "genuine" ones, as we shall see later, also argues in favor of the analysis advanced here.

[4]It is possible that the environment of this rule has to be limited further to a special boundary site, thus to something like: /V#__V, whereby # would characterize a general cliticization site, as opposed to +, the general morpheme boundary within "simple" words, on the one hand, and ##, the boundary between full-fledged words. I leave this question open for further research.

consonant sequences in Turkish are, while existent, marked sequences phonologically; 3. the supposed /y/-insertion rule would derive the ungrammatical forms in (8)–unless the rule would be barred from applying in present tense copular forms; but this move would obliterate the rule's status as a *phonological* rule altogether.

An additional argument for this distinction in analyzing the two types of occurrences of the palatal glide as well as for analyzing the second type of palatal glide in these forms (i.e. the boldfaced /y/ in (6) and (9)) as the copula is the existence of corresponding strong (i.e. free) forms, which exist for all copular forms, with the exception of the present tense:

(10)	Reported past:	Definite past:	Conditional:
1. sg.	hastá **i**-miş-im	hastá i-di-m	hastá **i**-se-m
2. sg.	hastá **i**-miş-sin	hastá **i**-di-n	hastá **i**-se-n
3. sg.	hastá **i**-miş	hastá **i**-di	hastá **i**-se
1. pl.	hastá **i**-miş-iz	hastá **i**-di-k	hastá **i**-se-k
2. pl.	hastá **i**-miş-siniz	hastá **i**-di-niz	hastá **i**-se-niz
3. pl.	hastá **i**-miş-ler	hastá **i**-di-ler	hastá **i**-se-ler
	'sick Cop.-RP-Agr.'	'sick Cop.-P.-Agr.'	'sick Cop.-C.-Agr.'

The high front unrounded vowel /i/ in these forms is clearly best analyzed as the copula. These forms are, in present-day Turkish, used in official, formal registers, while their cliticized versions as illustrated in (6) belong to less formal, colloquial registers, but they are "taking over" the language as a whole, which can be seen from acquisition and dialect studies. Clearly, the palatal glide is the cliticized version of the high front unrounded vowel in the "free" forms of the copula, and thus analyzing the glide as a cliticized copula becomes more motivated after having observed the free copular forms. On the other hand, the fact that there don't exist free copular forms in the present tense argues that the palatal glide in the cliticized copular present tense is not the copula; if so, the copula in that form is, as I claimed, simply null.

These analyses also explain the stress facts in a principled way. Note that the stress in the examples of (10) is always on the final syllable of the adjective, i.e. it precedes the copula. This is as expected; the copula is a "weak", unstressed element, and the adjective receives regular, word-final stress. After cliticization, we find exactly the same stress facts. I suggest here that word-level stress is determined before cliticization and is not "redone" after cliticization has taken place.[5] (I shall return to this issue in the concluding section of this paper.) If so, we explain the apparent exceptional behavior of stress not only in (6), but also in (2), since the proposal in this paper is that there is a copula "hidden" between the (apparent) simple tense suffixes and the agreement suffixes. I shall address the question of why the copula is "hidden" in (2), rather than overt as in (6) when discussing so-called complex tenses and other complex finite verb forms.

3. Complex verbal forms:

[5]In contrast, phonological rules that determine the feature composition of segments apply after cliticization; these would be for instance sandhi rules and vowel harmony. The different application of the latter rule to cliticized versus non-cliticized copular forms can be seen by comparing (10) to (6); in (10), we see front harmony, triggered by the copula /i/, but in (6), we see back harmony, triggered by the last vowel of the stem, namely [a].

Another instance in the language where cliticized copular forms are observed are so-called complex tenses (or, more appropriately, complex verbal forms, since the conditional can be one component in these forms). A representative sample is presented in the next set of examples:

(11) So-called **complex tenses:** (A representative sample)

Future past:	Future reported past:
1. sg. gid-ecék-ti-m	gid-ecék-miş-im
2. sg. gid-ecék-ti-n	gid-ecék-miş-sin
3. sg. gid-ecék-ti	gid-ecék-miş
1. pl. gid-ecék-ti-k	gid-ecék-miş-iz
2. pl. gid-ecék-ti-niz	gid-ecék-miş-siniz
3. pl. gid-ecék-ti-ler (or: gid-ecek-lér-di)	gid-ecék-miş-ler (or: gid-ecek-lér-miş)
'go-Fut.-P.-Agr.'	'go-Fut.-RP-Agr.'

At first glance, the relevance of the complex verbal tense/mood forms to the issue of cliticized copular forms is not obvious, since there is no palatal glide in these examples. However, there exist corresponding "free" forms that do involve the unbound, "strong" form of the copula, i.e. the high front unround vowel /i/:

(12) Future past:	Future reported past:
1. sg. gid-ecék **i**-di-m	gid-ecék **i**-miş-im
2. sg. gid-ecék **i**-di-n	gid-ecék **i**-miş-sin
3. sg. gid-ecék **i**-di	gid-ecék **i**-miş
1. pl. gid-ecék **i**-di-k	gid-ecék **i**-miş-iz
2. pl. gid-ecék **i**-di-niz	gid-ecék **i**-miş-siniz
3. pl. gid-ecék **i**-di-ler (gid-ecek-lér **i**-di)	gid-ecék **i**-miş-ler (gid-ecek-lér **i**-miş)
'go-Fut. Cop.-P.-Agr.'	'go-Fut. Cop.-RP-Agr.'

Given the existence of the forms in (12), it is reasonable to analyze the synonymous forms in (11) as cliticized versions of the copular forms in (12), which, in turn, are analyzed as consisting of participles and the copula, the latter inflected for tense and agreement, in parallel to the simple adjective+inflected copula sequences we saw in (10). If (11) is parallel to (6), on the other hand, the cliticized form of /i/, i.e. the palatal glide /y/, appears to be missing.

To solve this dilemma, I propose a rule of glide deletion between consonants. The participial forms in (11) end in consonants, and the tense suffixes on the copula begin with consonants. Informally, this rule is stated as follows:

(13) /y/ --> Ø / C _ C

This is a well-motivated rule, given the marked nature of consonant clusters in Turkish; more specifically, we have to consider that the palatal glide cannot occur as the second member in the coda of a syllable, nor can it be part of a consonant cluster in the onset of a syllable.

This rule applies in all the other complex tenses or tense-mood combinations, as well:

(14) Past (def.) **perfective:**	Past (reported) **perfective:**
1. sg. git-**míş**-ti-m	git-**míş**-miş-im
2. sg. git-**míş**-ti-n	git-**míş**-miş-sin
3. sg. git-**míş**-ti	git-**míş**-miş
1. pl. git-**míş**-ti-k	git-**míş**-miş-iz

2. pl. git-**míş**-ti-niz — git-**míş**-miş-siniz
3. pl. git-**míş**-ti-ler (or: git-miş-lér-di) — git-**míş**-miş-ler (or: git-miş -lér-miş)
'go-Perf.-P.-Agr.' — 'go-Perf.-RP-Agr.'

(15) "Strong" forms corresponding to (14):

Past (def.) **perfective**:	Past (reported) **perfective**:
1. sg. git-**míş i**-di-m	git-**míş i**-miş-im
2. sg. git-**míş i**-di-n	git-**míş i**-miş-sin
3. sg. git-**míş i**-di	git-**míş** i-miş
1. pl. git-**míş i**-di-k	git-**míş i**-miş-iz
2. pl. git-**míş i**-di-niz	git-**míş i**-miş-siniz
3. pl. git-**míş i**-di-ler (git-miş-lér i-di)	git-**míş imiş**-ler (git-miş -lér **i**-miş)
'go-Perf. Cop.-P.-3Agr.'	'go-Perf. Cop.-RP-Agr.'

(16) **Future** conditional: — **Perfective** conditional:
1. sg. gid-**ecék**-se-m — git-**míş** -se-m
2. sg. gid-**ecék**-se-n — git-**míş** -se-n
3. sg. gid-**ecék**-se — git-**míş** -se
1. pl. gid-**ecék**-se-k — git-**míş** -se -k
2. pl. gid-ecék-se-niz — git-**míş** -se -niz
3. pl. ?gid-**ecék**-se-ler (or: gid-ecek-lér-se) — ?git-**míş** -se -ler (or: git-miş-lér-se)
'go-Fut.-C.-Agr.' — 'go-Perf.-C.-Agr.'

(17) "Strong" forms corresponding to (16):

Future conditional:	**Perfective** conditional:
1. sg. gid-**ecék i**-se-m	git-**míş i**-se-m
2. sg. gid-**ecék i**-se-n	git-**míş** i-se-n
3. sg. gid-**ecék i**-se	git-**míş** i-se
1. pl. gid-**ecék i**-se-k	git-**míş i**-se -k
2. pl. gid-**ecék i**-se-niz	git-**míş i**-se -niz
3. pl. gid-**ecék i**-se-ler (or: gid-ecek-lér-se)	git-**míş i**-se -ler (or: git-miş-lér i-se)
'go-Fut. Cop.-C.-Agr.'	'go-Perf. Cop.-C.-Agr.'

In all of the complex forms listed above that result from cliticization of the inflected copula in (15) and (17), i.e. in the examples in (14) and (16), the copula first cliticizes as /y/, which then deletes between consonants, according to the rule in (13)– an independently well-motivated rule, as discussed above. As seen earlier, the word accent falls to the left of the cliticization site; it is irrelevant whether the clitic copula shows up overtly or not.

Analyzing complex finite verb forms as involving an inflected copula is not altogether novel, even though this analysis is not widely accepted. For example, Underhill (1976) and Lewis (1975) characterize these forms by referring to the copula, even if not very explicitly so, while Johanson (1971) is representative of the more prevalent traditional approach in Turkish studies by analyzing the rightmost tense-aspect-mood suffixes as special markers, with functions (slightly) different from those in simple forms. Crucially, in Johanson's analysis (and in the approach he represents) those special markers which are the rightmost tense-aspect-mood suffixes are not identified as inflections on the copula, but rather as special inflections on the main

verb. The formal similarity between these sets of suffixes and the corresponding ones found in simple verbal forms would then be coincidental.[6]

What is more markedly novel about the proposal I am making in this paper is that some of the simple finite verb forms (i.e. those illustrated in (2)) are actually complex, if I am correct, in the sense that they consist of a participial main verb and an inflected copula; more specifically, the copula is in these instances in the present tense and is inflected for subject agreement.[7] There are two reasons for assuming that in these instances, the copula is in the present (or, rather, in the general, so-called "aorist") tense, and thus null. One is that in the simple forms, all the tense-aspect-related meaning is contributed by what I am calling the participle, and there is no other component of meaning which we can identify; therefore, it is sensible to say that the copula should be in the most "unmarked", general tense-aspect form, which is the present/aorist.

This consideration ties into the second reason for assuming that the copula here is in the present tense: if the copula were in any of the other tense-aspect-mood forms, even if abstractly, we would expect it to be realized as the palatal glide. However, we see that this segment doesn't show up in any of the forms of (2). Notice that our glide-deletion rule in (13) would not apply in these contexts, because in some of these examples, the hypothesized /y/ would not be in interconsonantal position, and we would expect it to surface. To illustrate, let us look at the first and second persons in the singular of the reported past:

(18) Hypothetical forms for the reported past:

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[6]This appears not to be disturbing to the proponents of the traditional view, however, since that approach does not regard the shape of these suffixes in the two groups as identical, given that the palatal glide is not identified as the copula in that approach, but rather as part of the "special" suffixes. There are two reasons for preferring the analysis advanced here to this traditional analysis: 1. the tense-aspect-mood suffixes found in the simple verb forms are sufficiently similar to those found in the complex forms to attribute their similarity not to coincidence, but to inherent identity; slight differences in function can then be attributed to their different positions in the word; 2. the formal difference between the two sets of suffixes concerns the palatal glide, which shows up in the complex forms but not in the simple forms. This segment is the same as that found in copular forms found with clear-cut adjectives and nouns; indeed, all of these tense-aspect-mood suffixes are the same as those found with adjectives and nouns. Therefore, the most insightful analysis is one where those suffixes are identified as the same ones, and hence the glide is identified as the copula in *all* instances.

Another traditional approach views the /y/ as a simple phonological "buffer". I reject this analysis here, due to the reasons explained in the text when motivating my own phonological rules (7) and (13): the palatal glide must be the copula in those instances where I have analyzed it as such, because in just those environments its occurrence is not phonologically motivated; in other words, there is no *phonological* reason why /y/ should be needed as a "buffer" in all (and just) those instances where I have identified it as the copula.

[7]Lees (1962) is the only instance that I am aware of in the literature where a proposal similar to mine is made. (Lees mentions in that paper an even earlier analysis of his, proposed in Lees (1961), but he views his later approach as superior.) Space considerations preclude an in-depth discussion of his proposal here. Suffice it to say that Lees does not advance arguments for his proposal as I do here, since his main aim is a different one from mine: to derive all of the different agreement paradigms and all the personal pronouns from a unique source. His proposal about the different agreement paradigms shown here under (1) and (2) is made only in that context and in passing. The specifics of his analyses are also different from mine; e.g. instead of my rule (7), he assumes the palatal glide to be part of the (underlying) representations of the agreement morphemes; the rules (which are numerous and quite complicated) which he needs to derive *all* of the agreement paradigms as well as the morphologically unbound personal pronouns from one unique source are not general and are not constrained by any universal principles. Other differences between Lees's approach and mine will be addressed in future work.

1.sg. *git-miş-**y** (-abstract tense)-im
2.sg. *git-miş-**y**(-abstract tense)-sin
'go-RP-Cop.(-abstr. tense)-Agr.

Note that the palatal glide is preceded by a consonant in both examples, while it is followed (in "concrete" phonetic representation) by a vowel in the first example. The second example would not be problematic, since rule (13) would delete the /y/, given that it is between two consonants there. However, that same rule would not be applicable to the first example, and therefore, the assumption that there is an overt copula there would lead to ungrammaticality. I conclude, therefore, that there are good reasons to claim that, while the so-called simple verbal forms illustrated in (2) do include a copula, that it is the present-tense null form of the copula that we find here. Hence, the null form for the copula that I had posited without discussion in (2) is justified.

4. Preliminary summary of claims:

To recapitulate, I have made the following claims so far:

1. The copula in the present tense for both the strong and clitic forms is null; otherwise, the copula is **i** in the strong forms and **y** in the clitic forms. The **y** found in the first person singular and plural in the present tense is only phonologically conditioned, i.e. inserted between vowels; the **y** in all other forms is the copula, which is deleted between consonants.
2. The domain of VH is the word; the domain of stress is the "small word", i.e. the domain preceding the clitic (provisional).
3. The so-called simple verb forms are, with the exception of the definite past and the conditional, actually participles which are the complements of the copular clitic; this explains 1. the apparent exceptional nature of the agreement suffixes with respect to stress as well as 2. the systematically different shapes of the agreement morphemes of the simple verbal forms, and 3. the fact that the "exceptional" agreement suffixes are also found with clear-cut copular forms whose complements are adjectives and nouns, as well as with so-called "complex" verb forms, whose rightmost tense-aspect-mood suffixes as well as agreement suffixes are attached to the copula.

I now turn to additional evidence for the basic claim made here concerning the "exceptional simple" verb forms, i.e. that those consist of a main verb participle and an inflected copula.

5. Additional evidence:

5. 1. Differences between verbal and nominal negation:

Turkish has different negation forms for verbs and for non-verbal categories. The verbal negation is the suffix **-mA**, while the non-verbal negation is the free morpheme **değil**:

(19) a. git-**me**-yeceğ-im
go-**Neg**-Fut.-1.sg.
'I will not go'

b. git-**me**-di -m
go-**Neg**-Past-1.sg.
'I did not go'

c. git-**me** -se -m
go-Neg-Cond.-1.sg.

'If I do not go' ('If I were not to go')

In all of these examples, the negation morpheme is attached to the root, which is verbal in all instances; it is irrelevant which tense-aspect suffixes follow the negation suffix.

Contrast this pattern of negation with the non-verbal one:

(20) hasta **değil**-im
sick **Neg.**-1.sg.
'I am not sick' ('It is not the case that I am sick')

We may analyze this free negation morpheme as a negative inflected copula, or as a negative operator to which the null present tense copula is attached, with the copular inflections for tense-aspect-mood and agreement. It is not necessary to take a stand on this question for the purposes of this paper. Suffice it to say that the absence of tense-aspect-mood suffixes on this negation morpheme signals the present–or rather the general, aorist–tense, in parallel to the "regular" copula.

What is interesting for our purposes here is the fact that we find this non-verbal negation form after the tense-aspect suffixes in (2), but not after those in (1). In other words, those forms which I claimed to be participles rather than genuinely finite verbal forms can be followed by this copular negation element, but the true finite verbal forms cannot be followed by this element, a fact which straightforwardly follows from my analysis:

(21) gid-ecek **değil**-im
go-Fut. **Neg.**-1.sg.
'I will not go' ('It is not the case that I will go')

Again, what is important here is what precedes the negation element; what follows it is irrelevant:

(22) gid-ecek **değil**-miş-im
go-Fut. **Neg.**-Rep.Past-1.sg.
'It is said that I will not go' ('It is said that it is not the case that I will go')

The contrast with genuine tenses is clear and robust:

(23) *git-se **değil**-im
go-Cond. **Neg.**-1.sg.
Intended reading: 'If I were not to go' ('It is not the case that if I were to go...')

(24) */?? git-ti **değil**-im
go-Past **Neg.**-1.sg.
Intended reading: 'I did not go' ('It is not the case that I went')

The meaning of these ungrammatical forms is well-formed. The reason for the ungrammaticality is a categorial mismatch; the copular negator needs a non-verbal, i.e. an adjectival or nominal complement, rather than a purely verbal one.[8]

5. 2. Possible locations for the Q-clitic:

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[8]Actually, the free negative element can also follow full-fledged clauses:

(i) bugün erken kalk -tı -m **değil**, erken-den iş -e bile git-ti -m
today early get up-Past-1.sg. **Neg.** early-Abl. work-Dat. even go-Past-1.sg.
'It is not (only) the case that I got up early today, I even went to wrok early'

Note, however, that in such constructions the CP-complement of the negator has to be complete, i.e. it has to have agreement morphology, which the ungrammatical examples in the text do not have, i.e. those examples have verbal complements of the negator, not full CP-complements. This contrast also shows that this negator is not a raising predicate.

Another argument for my analysis of the Turkish so-called simple verbal forms as complex forms involving participles and the inflected copula is based on the placement of the Yes/No question clitic. This clitic shares two behaviors of the copular clitics considered so far: 1. it does not receive word-final stress, but rather causes the preceding syllable to be stressed; 2. it undergoes VH.[9] This clitic can negate a whole proposition or the verb, when it is attached to the verb, while it can also attach to focused constituents. Here, I consider its behavior when it is attached to the verb.

Interestingly, when this clitic attaches to so-called simple verb forms, it treats the tense-aspect suffixes differently. While it is found after the tense-aspect suffixes and before the agreement suffixes in the forms illustrated in (2), it cannot do so in the forms we saw in (1); there, the question clitic must follow the agreement suffixes:

(25) gid-ecék-**mi**-siniz?
go-Fut.-**Q**-2.pl.
'Will you go?'

(26) */??gid-ecék-siniz-**mi**?

(27) git-ti-níz-**mi**?
go-Past-2.pl.-**Q**
'Did you go?'

(28) *git-ti-**mi**-niz?
go-Past-**Q**-2.pl.

While the future tense suffix belongs to the forms we saw in (2), the definite past tense suffix is one of the forms exemplified in (1). This different behavior of the question clitic is not surprising under the analysis advanced in this paper, since I claim that the forms of (2) are actually complex, while those in (1) are genuinely simple. A focusing clitic like the question clitic cannot cliticize by being inserted into a genuinely simple form, as it would be in (28); however, it can cliticize at a sight of general cliticization, as the boundary between the participle and the copula would be, if my analysis is correct, and this is seen in (25).[10] Not surprisingly, the same pattern as in (25) and (26), i.e. attachment of the question focus clitic after the participle and before the copula (in my analysis) can also be seen in constructions whose copular character is more obvious, as in (29) and (30), where the inflected copula has a simple adjectival complement, and in (31) and (32), an instance of a so-called complex verbal form, where the main verb is participial, and the copula is inflected not just for agreement, as in (25)-(26) and (29)-(30), but also for tense-aspect-mood:

(29) hastá-**mı**-sınız?
sick -**Q** -2.pl.
'Are you sick?'

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[9]Turkish orthography treats this clitic as an independent word by writing it separately from the preceding stem with which it harmonizes. Given that copular clitics are written together with the preceding stem, the orthographic convention concerning the Yes/No question clitic is obviously arbitrary; I will therefore treat this form as part of the phonological word.

[10]The ungrammaticality of forms like (26), i.e. the impossibility of affixing the question clitic to the inflected copula in those instances, must be due to a kind of minimality principle, which would state that such clitics must be placed on the smallest *possible* domain, which would be the participle rather than the finite form in these examples, where there is a participle. However, in forms as those in (1), where there is no complexity, i.e. where there is no boundary between participle and finiteness suffixes, the smallest possible domain is the full word, and this is where the clitic attaches.

(30) */??hastá-sınız-**mı**?
sick-2.pl.-**Q**

(31) gid-ecék-**mi**-y-miş-siniz?
go-Fut.-**Q**-Cop.-Rep.Past-2.pl.
'Is it said that you were going to go?'

(32) *gid-ecék-miş-siniz-**mi**?
go-Fut.-Rep.Past-2.pl.-**Q**

Contrasting forms to these verbal agreement affixes are nominal agreement forms, and I now turn to a discussion of those.

5. 3. Nominal agreement forms are not exceptional with respect to stress:

In (1) versus (2), we saw two somewhat similar, but nevertheless distinct verbal agreement paradigms. We saw that the shapes of some of those suffixes are different across paradigms, and we also discussed their different behavior with respect to stress.

Another agreement paradigm, again somewhat similar to the other two, yet distinct, is found with nouns. This is illustrated in the following example set:

(33) kitab-**ím**
book-1.sg. 'my book'
kitab-**ín** 'your book'
kitab-**í** 'her book'
kitab-**ımíz** 'our book'
kitab-**ınız** 'your (pl.) book'
kitap-**ları** 'their book'

We note here that these agreement morphemes are not exceptional with respect to word stress; they all receive word-final stress, which is the regular stress pattern of the language. In this respect, they behave like the forms in (1), which I claimed to be genuinely simple, and not like the forms in (2), which I proposed are actually complex forms. Indeed, there is no reason to claim that there is complexity in these nominal inflected forms; there is no "hidden" copula here, and thus the smallest domain to which word-level stress is assigned is indeed the complete word.

The same facts are observed with "nominalized" verbs, i.e. verb forms which correspond roughly to English gerunds and which typically head subordinate clauses in complex constructions in Turkish; (34) illustrates the so-called factive nominal form, while (35) illustrates the factive nominal for the future tense:

(34) git-tiğ **-ím**
go-FN-1.sg. 'my going'
git-tiğ-**ín** 'your going'
git-tiğ-**í** 'her going'
git-tiğ-**imíz** 'our going'
git-tiğ-**iníz** 'your (pl.) going'
git-tik-**lerí** 'their going'

(35) gid-eceğ **-ím**
go-Fut.FN-1.sg. 'that I will go' or '(the place) that I will go to'
gid-eceğ-**ín** 'that you will go' or '(the place) that you will go to'
gid-eceğ-**í** 'that she will go' or '(the place) that she will go to'
gid-eceğ-**imíz** 'that we will go' or '(the place) that we will go to'
gid-eceğ-**iníz** 'that you(pl.) will go' or '(the place) that you(pl.) will go to'

gid-ecek-**lerí** 'that they will go' or '(the place) that they will go to'

It is especially instructive to compare the last set of examples to the simple future tense in (2). The shape of the simple, "finite" future tense suffix is the same as that of the future factive nominal. However, the agreement suffixes that the future tense suffix takes are different in (2) than in (35), and those agreement suffixes are "exceptional" with respect to stress in (2), but they are regular in this regard in (35). The reason for these differences is simple: the agreement suffixes in (2) are not directly attached to the main verb, but to the copula. The copular agreement paradigm is distinct from other paradigms, whether verbal or nominal, hence the distinctions among the shapes of the agreement morphemes. Furthermore, given that the agreement suffixes are attached to the copula, they do not belong to the stress domain of the main verb, which ends with the tense-aspect-mood suffixes that delimit the participle, which I have posited for those forms. In the nominal forms, just like in the genuinely simple verb forms in (1), there is no participle, nor is there a copula; therefore, there is one large stress domain, which is the whole word; therefore, the agreement suffixes, which are the last elements in that large word, receive regular final stress.

I now turn to the behavior of yet another clitic, which we had briefly seen when introducing copular agreement morphemes: the clitic **-DIr**, which I shall call "epistemological clitic" or "epistemological copula".

5. 4. "Epistemological" copula:

While this element can be used as a "regular" present tense copula for third persons without any particular epistemological impact, it is mostly used to convey the sense of a definitive utterance or of a statement with very high probability:

(36) git-míş **-tir**
go-PastPart.-**Ep.Cop.**
'She has definitely left' or 'It is most probably the case that she has left'

This clitic can attach to just those tense-aspect-mood suffixes which, according to the analysis I have proposed here, delimit participles, but it cannot attach to those suffixes which I claim do not form participles, but rather are part of a genuine finite verb. The example above is a past participle, and it is well-formed. The epistemic copula can also attach after the future tense (participle) suffix and the present progressive (participle) suffix:

(37) gid-ecék **-tir**
go-Fut. **-Ep.Cop.**
'She will definitely leave' or 'It is most probably the case that she will leave'

(38) gid-íyor[11] **-dur**
go-Fut. **-Ep.Cop.**
'She will definitely leave' or 'It is most probably the case that she will leave'

What is important for our purposes is the fact that the epistemic copular clitic cannot attach to the definite past and to the conditional suffixes:

(39) *git-tí **-dir**

[11]It is a matter of controversy whether the present progressive suffix is stressed on its first or second vowel. Lees (1961) marks the first vowel of this suffix as bearing primary stress. This is certainly true in careful, official speech, in poetic readings etc., but the second vowel seems to bear stress in less careful pronunciation. Since this question is peripheral for our purposes, I do not pursue it any further.

go-Past -Ep.Cop.
Intended reading: 'She definitely left' or 'It is most probably the case that she left'

(40) *git-sé -dir
go-Cond. -Ep.Cop.
Intended reading: 'If she definitely leaves' or 'If she most probably leaves'

Since the copula takes only non-verbal complements, it shows up with after those suffixes which forms participles under the analysis advocated in this paper, but it cannot show up with those suffixes that head genuinely finite verbal forms.

It should also be mentioned that there is yet another form which cannot appear with the epistemic copula; this is the aorist:

(41) *gid-ér -dir
go-Aor. -Ep.Cop.
Intended reading: 'She definitely leaves' or 'It is most probably the case that she leaves'

As we saw in (2), the aorist is one of the tense-aspect-mood suffixes that does form, under my analysis, a participle and thus involves an inflected copula. If so, it should also take the epistemic copula, just like the other suffixes in (2), but it doesn't. This fact appears to pose a problem for my analysis. However, the problem is only apparent. The temporal function of the epistemic copula is that of the present tense, or rather of the general, aorist tense, and it adds to that its epistemic function. The aorist suffix cannot be followed by another suffix which has, albeit in part, the same function (for some discussion of a principle against morpheme sequences with the same function, see Kornfilt 1986). The regular present tense copula is null and thus does not violate the principle in question. What is important for the purposes of the present paper is the fact that the ungrammaticality of (41) is due to different reasons than the ungrammaticality of (39) and (40).

5. 5. Suspended affixation:

I now address another set of facts which also argues in favor of the main point in this paper, namely that some of the so-called simple finite tense forms are actually complex. These facts concern a phenomenon which is called "suspended affixation" in Lewis (1975) and is observed in coordinate constructions. The observation concerns the fact that in some coordinate constructions, but not all, some of the suffixes that are expected to show up on both conjuncts may optionally show up only on the last conjunct but have scope over the whole coordinate construction. The following examples illustrate this phenomenon.

(42) a. hasta ve yorgun - **du - m**
sick and tired -**Past-1.sg.**
'I was sick and tired' ('(I was) sick and I was tired')

b. hasta-y -dı -**m** ve yorgun - **du - m**
sick-Cop.-**Past-1.sg.** and tired -**Past-1.sg.**
'I was sick and I was tired'

The example in (42)b. is a coordination where both conjuncts are inflected for tense-aspect-mood and agreement. The example (42)a. illustrates suspended affixation; the tense-aspect-mood and agreement suffixes are overtly expressed on the last conjunct only. Note that we are dealing with a copular construction whose complement is a predicate adjective; the "bare" conjunct in the example with suspended affixation is the predicate adjective.

In the next grammatical examples of suspended affixation, we have, as the "bare" conjunct, apparent simple tensed finite verbs. All of these grammatical examples involve tense-aspect suffixes which we first encountered in (2) and which, as I claimed, actually form participles rather than genuine finite tensed verbs:

(43) gel -miş ve git-miş-**tir**
come-Perf. and go-Perf.-**Ep.Cop.**
'She has definitely/most probably come and gone'

(44) gel -ecek ve gid-ecek-**tir**
come-Fut. and go-Fut.-**Ep.Cop.**
'She will definitely/most probably come and go'

(45) gel -miş ve git-miş-**im**
come-Perf. and go-Perf.-**1.sg.**
'I am said to have come and gone'

(46) (kitab-ı) oku-yacak ve anla -yacak-**sın**
book-Acc. read-Fut. and understand-Fut.-**2.sg.**
'You will read and understand the book'

(47) gel -iyor ve gid-iyor **-um**
come-Pres.Prog. and go-Pres.Prog.-**1.sg.**
'I am coming and going'

Even less surprisingly, we find grammatical examples with suspended affixation that involve so-called complex verbal forms. Here, in a sequence of tense-aspect-mood suffixes, the first such suffix clearly heads a participle and can thus form a bare conjunct in a coordination with suspended affixation:

(48) gel -miş ve **git-miş-ti-m**
come-Perf. and go-Perf.-**Past-1.sg.**
'I had come and gone'

(49) (kitab-ı) oku-yacak ve anla -yacak-**sa-n**
book-Acc. read-Fut. and understand-Fut.-**Cond.-2.sg.**
'If you will read and understand the book'

The examples make clear that it is irrelevant which type of suffix the tense-aspect-mood suffix on the fully inflected last conjunct belongs to, i.e. if that suffix belongs to those illustrated in (1) or (2) (I shall somewhat modify this statement shortly). What is important is the kind of suffix we see on the bare conjunct. If that suffix is of a type that cannot head a participle, but rather is a suffix that forms a genuine finite verb, then suspended affixation cannot take place:

(50) *(kitab-ı) oku-sa ve anla **-sa -n**
book-Acc. read-Cond. and understand-**Cond.-2.sg.**
Intended reading: 'If you read and understand the book'

(51) *(kitab-ı) oku-du ve anla **-dı -n**
book-Acc. read-Past and understand-**Past-2.sg.**
Intended reading: 'You read and understood the book'

Why should there be such a distinction between the two sets of tense-aspect-mood suffixes? Consideration of the next sets of examples will help us formulate the appropriate generalization:

(52) *(kitab-ı) oku ve anla **-sa -n**
book-Acc. read and understand-**Cond.-2.sg.**

Intended reading: 'If you read and understand the book'
(53) *(kitab-ı) oku ve anla -dı -n
book-Acc. read and understand-**Past-2.sg.**
Intended reading: 'You read and understood the book'
(54) *(kitab-ı) oku ve anla **-mış** **-sın**
book-Acc. read and understand-**Rep.Past.-2.sg.**
Intended reading: 'You are said to have read and understand the book'
(55) *(kitab-ı) oku ve anla **-yacak** **-sın**
book-Acc. read and understand-**Past** **-2.sg.**
Intended reading: 'You will read and understand the book'
(56) *(kitab-ı) oku ve anlı **-yor** **-sun**
book-Acc. read and understand-**Pres.Prog.** **-2.sg.**
Intended reading: 'You are reading and understanding the book'
(57) *(kitab-ı) oku ve anla **-r** **-sın**
book-Acc. read and understand-**Aor.** **-2.sg.**
Intended reading: 'You read and understand the book'

In these sets of ungrammatical examples, the first, bare, conjunct is the simple verb root. The inflected last conjunct has the full array of "simple" tense-aspect-mood forms–both of the "genuine" verbal type illustrated in (1) and of the "fake", copular type illustrated in (2). The reason for the ungrammaticality, I suggest, is that suspended affixation is fully grammatical only if the bare conjunct is a "small word", i.e. is a potentially complete form which can be the complement of the copula.[12] The simple verb root is clearly not a complete form in that sense; it cannot function as a participle by itself, and it cannot be the complement of a copula. Likewise, the bare conjuncts which are headed by the genuine tense-aspect suffixes of (1) are also not complete forms in the relevant sense, because they, too, cannot be participles, and they cannot be complements of the copula. All of these forms must receive their inflections directly, and they are not complete without their inflections.

The only forms that can "suspend" their inflections are forms that never receive those inflections directly anyway, because those inflections actually attach to the copula and not to the main verb. Thus, adjectives and participles can show up as bare conjuncts in the relevant coordinate constructions, since they are never *directly* inflected, but only via the intermediary of a copula. I suggest that the grammatical instances of suspended affixation in copular constructions and constructions involving verbal elements that appear to be finite main verbs is a coordination of adjectives or participles, with the inflected copula cliticized to the coordinate structure.[13] In other

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[12]I am considering here only suspended affixation in verbs and in copular constructions. Inflected nouns also exhibit suspended affixation, but I shall not consider such constructions here; thus, the generalization in the text is intended to hold for verbal and copular constructions only. A more general approach to the phenomenon must await further research.

[13]The question might arise here whether such cliticization might not violate the Coordinate Structure Constraint of Ross (1967), given that the inflected copula attaches to the rightmost conjunct only. This question might be answered by confining the CSC to purely syntactic rules only, thus leaving cliticization outside of the realm of genuinely syntactic constraints. Alternatively, if the CSC is taken to govern processes like cliticization, phenomena like suspended affixation can be taken to argue in favor of a derivation whereby full clauses conjoin, and the "missing" inflectional elements on the bare conjunct(s) are deleted by backward gapping, as proposed in Wilder (1994). If the latter approach is adopted, such gapping would have to be confined to

words, suspended affixation is nothing else but the cliticization of the inflected copula to just those complements that it is allowed to cliticize to in general, with the only difference that these complements are conjoined. This analysis allows all of the grammatical instances of suspended affixation that we saw earlier, while it immediately predicts the ungrammaticality of all the unacceptable examples we saw above, because the latter are categories that we have shown independently as not being able to act as complements of a copula.

5. 6. So-called simple tenses used as participial forms elsewhere:

Yet another piece of evidence in favor of claiming that there is a dichotomy among the apparent simple verbal inflected forms just along the lines that I have suggested here comes from the fact that, while some of the so-called simple tenses can be used as modifying participles in DPs, not all can:

(58) yorul-muş çocuk
tire -Part. child
'The tired child' ('The child who has gotten tired')

(59) kitab-ı oku-yacak kız
book-Acc. read-Fut. girl
'The girl who will read the book'

(60) oku-r kişi
read-Aor. person
'A person who reads'

All of these forms exhibit modifying participles that are headed by suffixes that we saw in (2), and which I claimed form participles rather than genuine finite verbs. Those suffixes that we saw in (1) and which do head genuine finite verbs cannot be used in this way, i.e. cannot function as modifying participles:

(61) *oku-du kişi
read-Past person
Intended reading: 'The person who read'

6. Conclusions and further questions:

This paper has proposed that a large area of morphology in Turkish, a canonical agglutinative language, is actually agglutinative only in part. A number of tense-aspect-mood markers as well as predicate-subject agreement markers that have traditionally been thought to be verbal suffixes have been argued to be actually suffixes attached to the copula. I have also argued for the existence of that copula in Turkish, by no means a generally accepted view. The site of cliticization of the inflected copula onto the main verb has been shown to be the site of a variety of morphosyntactic and morphophonological phenomena which cannot take place at sites of true agglutination. If this characterization of Turkish morphology is correct, the language has much more in common with more familiar, non- (or less) agglutinative languages: it has only partially inflected participles of the main verb, it has a copula, and a number of inflection markers that are specifically copular rather than genuinely verbal.

While the inflected copula can, as was illustrated in the paper, occur in free, i.e. unbound, forms, it generally cliticizes to the main verb. I propose, for the time being tentatively, that this process takes place in PR rather than in the syntactic component,

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deleting suffixes on the copula only, leaving "complete" bare conjuncts behind. I shall not take a stand on this issue of the structure of these coordination, since this question is only tangential to my purposes here.

properly speaking. Thus, the syntactic phrase structure trees with their lexical and functional projections of the main verb and of the copula are separate. Morphological inflection which is truly agglutinative is the result of head-to-head movement, while inflection which is due to cliticization is the result of PR-movement of the copular trees down to the main verb trees. Stress is determined within each separate tree. Hence, in homogeniously agglutinative trees, we have regular word-final stress. In composite trees, which are in part the result of cliticizing the copula, we have regular final stress on the last syllable of each agglutinative domain. In phrases in Turkish, the leftmost primary stress "wins", i.e. primary stresses in the words after the first word in the phrase are reduced. The same happens after cliticization, thus explaining the fact that the main verb participle, which is the first agglutinative domain in a composite word, bears domain-final stress, but that stress is not word-final.

There appears to be one problem with this account, posed by phonological observations: why is there non-primary, reduced word-final stress in such composite words? The answer lies in a fact which has been mentioned earlier in passing: when a non-primary stress is too close to the primary stress, it is deleted altogether. How close is "too close"? I leave this question to future research. However, this answer to the apparent problem to the approach in this paper, despite its vagueness, seems to be on the right track, since non-primary word-final stress is, indeed, to be found in composite words that are long.

If stress in a composite word is determined in independent domains, then why is it that VH treats the whole word as one single harmony domain? The answer to this is that it cannot be otherwise. The values for the backness and rounding features of all regular suffixes, irrespective of whether they are derivational or inflectional and irrespective of their category features, are not specified; these two values are determined by VH, depending on the values of the harmony domain which spread from the initial vowel of that domain. In a non-cliticized inflected copula, these values spread from the copula [i]. However, we saw that after cliticization, the [i] becomes a non-syllabic segment, namely the palatal glide [y]. As a non-syllabic element, [y] cannot determine VH-features. Therefore, the features of the vowels in the domain of the host of cliticization, namely of the participle, determine those of the vowels in the domain of the cliticized inflections of the copula by spreading into the copular domain. This spreading is possible, since, as the result of cliticization, the inflected copula has lost its initial word boundary.

Another problem is posed by the observation that certain participles appear to have somewhat different meanings or functions in "simple" forms than they have in composite forms, while my approach predicts that they should have the same meanings and functions in all instances, since they would be participles in all cases. Actually, there is only one form that has this property: main verb predicates which bear the suffix **-mIş** as their only tense-aspect-mood suffix have the meaning of reported past; however, when the main verb with this suffix is in a composite form, the same **V-mIş** sequence is simply a past participle, without the evidential function. This observation has been taken by some to argue that these are two different suffixes (cf. Johanson 1971), or that the latter directly attaches to the main verb, while the former is indeed a copular form (cf. Lewis 1975, Underhill 1976). In my analysis, there is only one such suffix, and it always attaches to a copula, not to a main verb.

While recognizing this problem, I do not think that it should lead us to abandon my analysis, which, as this paper has shown, explains in a motivated and principled way a large variety of phenomena which, at first glance, appear to be unrelated and unmotivated. The approach advocated here does not preclude a satisfying explanation to the problem at hand. The ultimate generalization relevant to this problem is to be found in the order of inflectional suffixes. If we assume that there is a universal order of affixes, and that there are universals governing the relationships between affixes and their syntactic and morphological functions (cf. Cinque 1996), we can express the differences between certain occurrences of given morphemes. In this particular instance, I would propose that the evidential must be an "outer" morpheme, one of the last affixes in a sequence, and close to agreement, if the language has it. This is easy to see if a word has many suffixes. However, if the word has very few suffixes, the evidential will appear to be close to or attached to the stem of the verb, while still actually being an "outer" affix–hence the effect of an evidential suffix in an apparently "simple" finite verb. But when such a suffix is not an "outer" suffix, i.e. when it is followed by a variety of other tense-aspect-mood suffixes, it cannot be an evidential, and it fulfills its other function, namely one of forming participles.

I will conclude with one last question. The analysis proposed here claims that Turkish has only two genuinely verbal forms: the definite past and the conditional–the one a tense marker, and the other a mood marker. Why should just these two forms be singled out by the language? I have no real answer to this question at this point. I would like to suggest, however, that despite appearances to the contrary, this *is* a natural class. It is the definiteness of the definite past which is grouped together here with the conditional. In other words, the two verbal suffixes express two opposite, basic modalities: definite/indicative and conditional.

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Clitic Clusters - A View from Post-syntactic Morphology

This paper discusses some interesting phenomena in clitic cluster formations with emphasis on Standard Spanish and Latin American dialects of Spanish which pose problems for a purely syntactic approach to clitic cluster formation.

There is a model which provides a principled account for these effects, namely Distributed Morphology (Halle&Marantz 1993, 1994). Section 2 provides a short introduction to this model and how it accounts for the relevant phenomena.

Furthermore this account will be taken over for further phenomena which have been previously accounted for in Syntax with additional syntactic assumptions (Lema&Rivero's (1989) Long-Head-Movement-Account for European Portuguese and Old Spanish "infix clitics"). Proposing a DM account for these effects allows assumptions about syntax to be simplified.

1. Properties of clitic clusters - problems for syntactic accounts

There are many phenomena in clitic cluster formation that have not so far found an account. The syntactic discussion is concerned with clitic positioning (movement), the difference between Wackernagel (second-position-) clitics and verbal clitics, triggers for clitic-movement, clitic clustering effects occurring in some languages but not in others, factors that allow clitic climbing and the like.

The unexplained problems include an analysis of opaque forms such as the Spanish Spurious *se* or the Italian *ci*. Apart from those effects, it has always been a problem how to account for the ordering of clitics in clusters and how to account for parametric variation with respect to this ordering. Furthermore, languages with clitic climbing show some (non-syntactic) blocking effects in the cluster which look for an explanation

So there seem to be already enough problems with the positioning of the clitics with respect to each other, but the positioning of the clitics with respect to inflectional morphemes makes the situation even more complicated. As Minkoff (1993) and Harris (1994) and Halle & Marantz (1994) have shown, languages like Carribean Spanish show very interesting phenomena in this positioning, where the clitic pronouns appear inside the verb itself, between the stem and some of its inflectional elements or between inflectional elements of that verb. To look for a syntactic account of those phenomena would put into question the assumption that words are islands and thus the whole autonomy of morphology.

In the following sections, I look in detail at these problems for a syntactic account.

1.1. Opaque forms

Opaque forms arise when the outputs of clitic combinations do not coincide with the output forms of those clitics in isolation. Two well-known examples are the 'spurious *se*' rule of Spanish (Perlmutter 1971) and the *ci-si*-effect in Italian.

1.1.1. Spurious *se* in Spanish

This phenomenon occurs in Spanish when a third person dative clitic appears in combination with a third person accusative clitic. (1a, b) show accusative and dative clitics in isolation, when they appear in combination as in (1c) the third person dative *le* appears as a *se*, which corresponds to the spell-out of a reflexive clitic.

(1) a. *El premio,* ***lo*** *dieron a Pedro ayer* (Bonet1995:632)
the prize 3acc gave(3pl) to Pedro yesterday

b. *A Pedro,* ***le*** *dieron el premio ayer*
to Pedro 3dat gave(3pl)the prize yesterday

c. *A Pedro, el premio,* ***se lo*** *dieron (*****le lo*** *dieron)*
to Pedro the prize se 3acc gave(3pl)
'they gave the prize to Pedro yesterday'

1.1.2. Italian si si → ci si

A similar effect occurs in Italian. When the impersonal *si* and the third person reflexive *si* appear in combination, then one of them gets spelled out as *ci*.

(2) a. *Lo* ***si*** *sveglia* (Bonet1995:609)
3rdacc impers. wake-up3rd
'one wakes him up'

b. ***Ci si*** *lava (*****si si*** *lava)*
'one washes oneself'

1.2. Order of clitics in the cluster

It is still a matter of discussion how fixed the order of clitics is in clitic-clustering-languages. Apart from this problem, it is still unclear how the different orderings in various languages can be explained by parametrization of syntactic head-adjunctions.

Languages with a fixed ordering in clitic clusters include French and Spanish. In those languages it is clear that various factors play a role: there is a fixed position for reflexives and negative heads, but otherwise person and Case features play different roles, suggesting a purely morphological, rather than a syntactic account (cf. Perlmutter 1971:57).

(3) a. Nom ne me/ nous/ te/vous/se IIIacc IIIdat y en
nom - Neg - I/II/Refl - IIIAcc - III Dat - Gen - Loc (French)

(b) no se te/os, me/nos le lo/la
Neg Refl II I IIIdat IIIacc (Spanish)

First and second person clitics, which do not show Case distinctions (dative or accusative) are placed before third person clitics. First and second person clitics are ordered according to person features, whereas third person clitics are ordered with respect to Case features. The variation between French and Spanish alone is significant, the order of first and second person clitics differ (I- II in contrast to II -I) and also the Case ordering of the third person clitics differ (acc-dat in contrast to dat- acc).

The maximal number of personal pronouns in the cluster seems to be three: Two dative pronouns can occur when one of them is either an inherent reflexive or an ethical dative (as in 4b,c):

(4) a. ***Se me lo*** *permitió*
se-imp me it allowed 3Sg

b. *Pedro* ***se me lo*** *ha quedado*
Pedro se-inh. me it has kept

c. ***Se me le*** *perdió el pasaporte al niño* (Perlmutter 1971:28)
se-imp me him lost3Sg the passport to the child
My child's passport got lost on me

If this ordering shall be explained in terms of head adjunction structures, just the comparison of two related languages shows that we have to count with massive variation that would complicate the triggering of the order of the adjunctions, if possible at all. The fact that individual feature values are involved suggests that the conditions are morphological, not syntactic.

1.3. Some blocking effects in cluster formation

It is well known that in some languages clitics can climb out of infinitival complements. (5) shows how climbing works in Spanish. The example involves two embedded infinitival complements with one clitic object associated with each infinitive verb. The clitics can move up independently of each other, all landing sites are possible apart from (5e) which results from crossing movements.

(5) a. *Querían hacer****me*** *firmar****lo***
wanted3Pl make-me sign-it
They wanted to make me sign it

b. *Querían hacer****melo*** *firmar*
c. ***Me*** *querían hacer****lo*** *firmar*
d. ***Me lo*** *querían hacer firmar*

e. ****Lo*** *querían hacer****me*** *firmar*

This process underlies a number of different constraints: first a purely lexical condition as to which matrix verbs allow climbing at all, and then a number of syntactic conditions: no crossing movements of clitics and no crossing of intervening heads (like negation (6)) and phrases like adverbs in (7).

(6) *a.* *quiero poder* ***no*** *seguir gritándo****lo***
want_{1pSg} can not continue shouting-it

b. *quiero poder* ***no*** *seguir****lo*** *gritando*
c. **quiero poder****lo*** ***no*** *seguir gritando*
d. ****lo*** *quiero poder* ***no*** *seguir gritando*

(7) a. *Intenté decírselo*
b. ***Se lo*** *intenté decir*

c. *Intenté* ***repetidamente/ en aquel momento*** *decír****selo***
Intend1pSgPast repeatedly/at this moment say-him-it
d. ****Se lo*** *intenté repetidamente/en aquel momento decir*

But there are additional blocking effects that are not conditioned by the above mentioned criteria. In (8.b,c) and (9.b,c) there is no syntactic effect that could block the

climbing, but the output forms are still ungrammatical. Obviously these data could be covered by morphological well-formedness conditions on the spell-out of the cluster combinations.

(8) a. ***Me** permitió **darle** el libro*
Me allowed3Sg give-him the book
'He allowed me to give him the book'
b. ****Le me** permitió dar el libro*
c. ****Me le** permitió dar el libro*

(9) a. ***Me** ordenó miraros*
Me ordered3Sg look-at-you2Pl
'He ordered me to look at you'
b. ****Me os** ordenó mirar*
c. ****Os me** ordenó mirar*

1.4. Clitics and inflectional morphology of their verbal hosts

1.4.1. Carribean Spanish - plural effects

Apart from the problems for a syntactic account of clitic positioning discussed in the preceding sections, some languages display an intricate interaction between clitic pronouns and the realization of inflection (or features of inflection).

As first noted by Minkoff (1993) and taken up by Halle & Marantz (1994), Carribean Spanish displays interesting properties with respect to the realization of plural markings of the verbal inflection as well as the realization of the plural marking of the clitic pronouns in a clitic cluster. The former phenomenon arises with imperatives inflected for 2nd person plural (the imperative is the only case where pronouns encliticize, rather than procliticize to a finite verb form).

This is illustrated in (10) and (11). The difference between Castilian (here called Normal Spanish (NSp)) and Carribean Spanish (CSp) following Minkoff lies in the fact that in CSp the plural verbal inflectional marking is realized not adjacent to the verb but after the clitic pronouns.

NSp

(10)a.	*d-e-n*	b.	*d-e-n-**me***	c.	*d-e-n-**me-lo***	(Minkoff 1993)
	give-IMP.2PL		give.IMP.2PL-me		give.IMP.2PL.me.it.	

CSp

(11)a.	*d-e-n*	b.	*d-e-**me**-n*	c.	*d-e-**me-lo**-n*
	give-IMP.2PL		give.IMP.me.2PL		give.IMP.me.it.2PL
	'Y'all give!		'Y'all give me!		'Y'all give me it!

A further difference manifests itself in preverbal clitic clusters containing a plural clitic. In CSp, the plural marking of one of the clitics is not realized on the pronoun to which it belongs but on the rightmost pronominal clitic.

(12) ***Nos lo** traerán* (NSp) (Minkoff 1993)
us it bring-fut3PL

(13) ***No los** (*nos lo) traerán* (CSp)
They will bring it to us

1.4.2. Similar phenomena in other languages

This is not a marginal or "exotic" property of some dialects of Spanish. One does not have to search for long to discover that similar phenomena can be found in a variety of languages.

Brandi and Cordin (1989:131) describe a similar phenomenon in Fiorentino Italian. This language has subject clitics that procliticize to the finite verb. There exist cases - namely third person plural - where the observed linear order is such that the subject clitic appears between the verb stem and the inflected verb ending.

(14) a. *Icché **gl'hanno** fatto?*
b. *Icché ha-**gli-no** fatto?*
What have-they-3Pl done
'What have they done?'

Kayne (1994:135) mentions examples from French, where the clitic *lui* gets positioned inside the verb *donnez* (the /z/ corresponds to the 2nd person plural inflection).

(15) *Donne lui - /z/ -en*
give him/her $_{Dat}$ of it
'Give him/her (some) of it'

KATAMBA (1993: 230) describes reflexive pronoun positioning in Luganda, where the reflexive pronoun prefix *-ee-* is placed between the tense prefix and the verb stem. This also seems to be a case where a clitic tucks in between the verb and its inflection, this time as a "prefixal" element.

(16) a. *Abakinjaagi ba-li-sala ennyama*
Butchers they-fut-cut meat
'The butchers will cut the meat'

b. *Abakinjaagi ba-li-**ee**-sala*
butchers they-fut-themselves-cut
'The butchers will cut themselves'

Another case has been described by Nevis & Joseph (1992) and Stolz (1989) for Lithuanian, where clitics are reported to be 'word-second', i.e. they are placed either after a prefix to the verb or after the inflected verb if the verb has no prefix. But there are cases in some Lithuanian dialects where the reflexive clitic appears after the verb stem and before the inflectional ending. In (17.a) *si* is positioned after the root *sùka*, but before the person marker *-m* (cf. Standard Lithuanian in (17.b)).

(17) a. *sùka-**si**-m* (Stolz 1989:18)
we spin

b. *sùka-me-**s***

Given that similar phenomena appear in a number of different languages, a general account of it should be looked for. The positioning of clitics inside verbs makes a syntactic account very difficult because this would mean abandoning the assumption that words are islands and thus the whole autonomy of morphology. Instead, it seems that there are better prospects in seeking an account of these phenomena in terms of morphological operations that apply to the output of syntax.

There is a model which provides the basis for a principled account for these effects, namely Distributed Morphology. Before we come to the analysis, I introduce the basic features of this model.

2. The Model of Distributed Morphology (Halle & Marantz)

According to Halle&Marantz (1994:273ff) there are three properties of Vocabulary Items that distinguish DM from other approaches.

i. Late Insertion

The terminal nodes in hierarchical syntactic structures are complexes of semantic and syntactic features but lack all phonological features. Phonological features are supplied --after syntax-- by insertion of Vocabulary items into terminal nodes. Vocabulary insertion adds phonological features to terminal nodes, but does not add semantic/syntactic features.

ii. Underspecification

Insertion is only possible if the identifying features of the Vocabulary Item are a subset of the features at the terminal node. The item need not match every feature specified in the node. Vocabulary Items are usually underspecified with respect to the features of the nodes into which they are inserted. If several Vocabulary Items are available for insertion into a given terminal node, the most highly specified item whose identifying features are a subset of the features of the terminal node wins the competition

iii. Syntactic Hierarchical Structure All the Way Down...

The terminal nodes into which Vocabulary Items are inserted are organized into hierarchical structures determined by the principles and operations of the syntax. Hierarchical structures from the syntax may be further modified in the PF component by morphological operations

The following sets out some of the properties of morphological operations in DM (Halle&Marantz (1994:276)).

Morphological operations are constrained by strict locality conditions. The interacting constituents must stand in a government relation with respect to each other or be structurally adjacent.

DM includes a number of operations some of which resemble familiar syntactic operations (showing a parallel between word-internal and word-external syntax):

- syntactic head-to-head movement (Baker 1985)
- merger under adjacency (Marantz 1988)

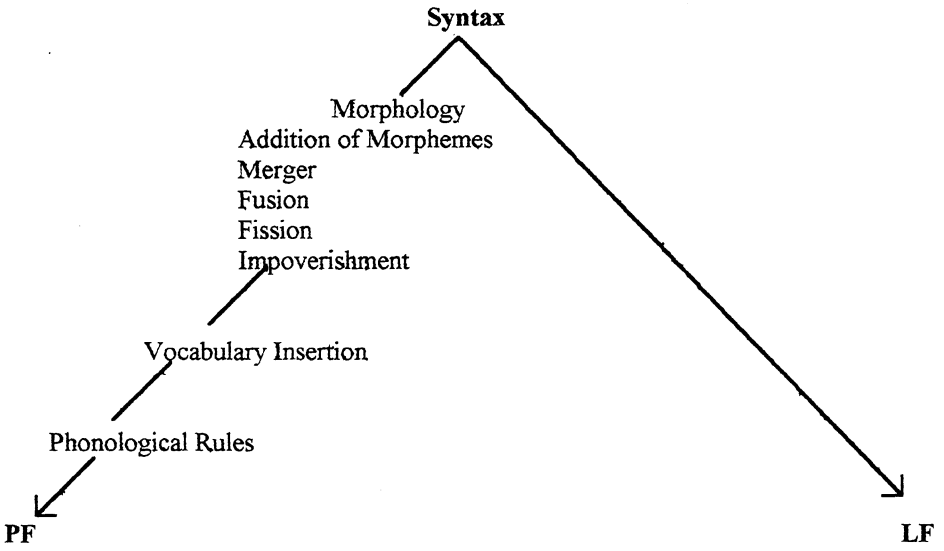
(Merger and X°-Movement are both available in Syntax and Morphology)

Furthermore various changes on the feature bundles of the terminal nodes can be brought about by morphology. These include fusion (i.e features of several nodes can be fused into one node), fission (i.e.features of one node can be fissioned into a sequence of nodes), addition and deletion of features.

Thus it becomes clear that "because these operations are strictly local and respect syntactic hierarchical principles, the hierarchical structure into which Vocabulary Items are inserted deviates only to a limited extent from the one that is syntactically motivated." Halle & Marantz (1994:276).

Vocabulary insertion takes place after these postsyntactic morphological operations. Thus the following schema of the grammar arises (Halle &Marantz 1994:277(2)):

(18)



As a matter of illustration it will be shown how some of these operations work.

Unlike syntactic operations, the morphological component has the power to impoverish feature bundles of terminal nodes. This simply means that one of the features in a bundle can be deleted, an operation which as we will later see is widely used in morphological systems, where usually not all semantic features are overtly realized by a morpheme.

(19) Impoverishment (Harris 1994:324(7a))

[X, Y]
↓
Ø

Another more intricate operation is the fissioning of features of one node into a sequence of nodes.

(20) Fission (Harris 1994:325(7d))

⌈X⌉ → [X] ^[Y]
⌊Y⌋

This operation is used to account for the realization of reflexive features in Catalan (Harris 1994:348). Here a reflexive feature is realized not as one element, but as a default reflexive element in 3rd person together with another pronoun that just realizes the person feature of this reflexive element. This is illustrated in (21):

(21) ***Se***$_r$ *te*$_d$ ***m***$_r$ *'escapar-é*
REFL 2PSg 1PRefl escape-fut1Sg
'I will escape from you'

In this case we have semantically two pronouns - a dative 2ndPPl and a reflexive 1stP pronoun - and not three. The feature bundle of the reflexive gets fissioned, resulting in a pure person feature node and a reflexive node. (^ means adjacent but linearly unordered).

(22)

$$[\alpha \text{per}] \ \hat{} \ \begin{bmatrix} \text{ref} \\ \beta \text{ per} \end{bmatrix} \rightarrow [\alpha \text{per}] \ \hat{} \ [\beta \text{ per}] \ \hat{} \ [\text{ref}]$$

In addition to this operation, language-specific principles that sequence the elements of the clusters are needed. For Catalan these are as in (23):

(23) a. *[cl]-[s]
b. *[1per]-[2per]

So the concrete feature realization for (21) is (24), resulting after the application of the ordering constraints in (25):

(24)
[2per] ^ [1per] ^ [ref]
↓ ↓ ↓
t m s

(25)
[ref]-[2per]-[1per]
↓ ↓ ↓
s t m

3. The Spanish Pronominal Clitic System

In this section, we come to the DM-analysis of spurious *se* and to the pattern defining the impoverishments in the Latin American clitic system. The properties of Carribean Spanish are dealt with in section 4.

First, we need to look briefly at the Spanish clitic paradigm and at the morphological structure of Spanish nominals.

There are 40 morphologically distinct feature complexes for Spanish pronouns; these are realized as 11 distinct clitics for Iberian Spanish (Harris 1994:326). In other dialects there are even fewer distinct clitics.

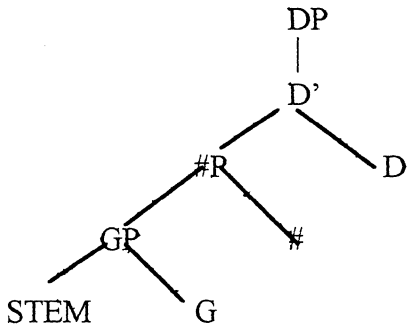
(26)

	3P		**2P**		**1P**	
	m	**f**	**m**	**f**	**m**	**f**
ACC Sg	lo	la	te		me	
Pl	los	las	os		nos	
DAT Sg	le					
Pl	les					
REF Sg	se					
Pl						

The table in (26) reveals that in Standard Spanish a variety of feature impoverishments have taken place. First and second person pronouns lack the features of Case and Gender altogether in their feature matrices. Furthermore third person dative pronouns lack Gender features.

DM presupposes a detailed feature analysis of the inflectional elements of the terminal nodes. So the "hierarchical structure all the way down" mentioned above would look as follows (as proposed for Spanish by Harris (1994:329)).

(27)



man	*o*	*(s)*	'hands'	noun
sol	*a*	*(s)*	'alone'	adj/fem(pl)
l	*a*	*(s)*	'the'	Art/Objpron-fem-(pl)
sol	*o*	*(s)*	'alone'	adj/masc (pl)
l	*o*	*(s)*	'the'	Art/Objpron-masc(pl)
n	*o*	*s*	'us'	1PPl-pronoun
s	*e*			Refl-pronoun

(27) shows the morphological structure in the DM-model assumed for Spanish [+N]-elements (nouns, adjectives and pronouns). Below the syntactic head-level we find hierarchically ordered functional phrases like NumberPhrase (#P) and GenderPhrase.

We need these assumptions about the detailed morphological structure (feature realization) to see what a well-formed morphological structure is and why in complex head structures certain reorderings take place. The effect is that the final structure of complex heads corresponds in the feature realizations to the pattern defining 'simplex' morphological objects.

3.1. The account for Spurious *se* in DM (Bonet 1995)

As already mentioned in 1.1.1., all dialects of Spanish display the property that when a 3rdPdative pronoun (*le*) appears in combination with a 3rdPaccusative pronoun (*lo*), the third person dative *le* appears as a *se*, which corresponds to the spell-out of a reflexive clitic, cf. (1.c) here repeated as (28):

(28) *A Pedro, el premio,* ***se lo*** *dieron (*****le lo*** *dieron)* (Bonet1995:632)
to Pedro the prize se 3acc gave(3pl)
'they gave the prize to Pedro yesterday'

Bonet analyzes this in two stages. First an impoverishment rule deletes Dative Case when it appears in combination with an accusative clitic:

(29) [acc]^[dat]
↓
Ø

After this impoverishment, the resulting feature slot for the dative pronoun only contains a person feature [3per]. The only element being able only to realize this feature is *se* - cf.(26). Recall that the insertion of a vocabulary item is only possible if the features of the item either match the features of the node or contain a subset of the feature of that node. '*Le*' cannot be inserted because it is overspecified.

Under this account, 'spurious *se*' is less of an arbitrary phenomenon than it may appear to be. Bonet (1995:612) notices that where there is an 'opaque' form in a clitic cluster, it is always the form of an independently existing clitic. There could not be an arbitrary phonetic sequence, e.g. /ba/ or /gu/, which does not act as a transparent clitic elsewhere:

(30) Generalization (Bonet 1995:612)
Opaque output forms in clitic combinations always result in another clitic form, indicating a closed system.

So it follows from Bonet's account that the spell-out of an impoverished slot always converges with another existing morpheme.

Compare this with Perlmutter's Filter-based account:

(31) Spanish Spurious *se* Rule (Perlmutter 1971)

[Pro]	[Pro]		
[III]	[III]		
[dat]	[acc]		
1	2	→	se, 2

This Filter provides no explanation why the dative pronoun in this case is spelled out as *se*, (we could easily replace *se* with *ba* in (31)) whereas the DM-rules and the competition of underspecified elements to match with the feature matrix of the respective node can give an account.

3.2. Further impoverishments of clitic pronouns in LA dialects

We now look at the differences between the Standard Spanish pronoun paradigm and the paradigms in some Latin American (LA) dialects. The impoverishments in the pronoun system have gone much further in LA dialects. Impoverishment of Case, which takes place in 1st and 2nd person pronouns in all dialects of Spanish, also takes place in the 3rd person pronoun system. There are three different manifestations of this, traditionally known as 'leísmo', laísmo' and 'loísmo'.

'Leísmo' dialects have an impoverishment of Case and Gender, resulting in the use of *le* for all 3rd person clitics - accusative as well as dative.

In 'Loísmo 'and 'Laísmo' dialects, gender is preserved in the acc-paradigm but one member of the acc-paradigm takes over the Dat-paradigm, resulting in the use of *lo* for dative in Loísmo and the use of *la* for dative in Laísmo.

The relevant data are given in (32) to (34) (Data are taken from de Bruyne 1993:157)

Leísmo **le - instead of -** **la**

(32) a. *Vamos a llamar**le*** *¿A la camarera?*
Are-going-to call-her to the waitress

les - instead of - **los**

b. *Vaya, **les** dejo*
Well, them leave1Sg
'Well, I leave them'

les - instead of - las

c. *El tiempo se **les** va comiendo*
The weather refl them is eating
'The weather is getting them down'

Laísmo **la - instead of - le**

(33) a. *Él la sonreía, **la** tomaba una mano y **la** decía...*
He her smiled-at, her took one hand and her said
He smiled at her, took her by the hand and told her...

las - instead of - les

b. *Si se encontrase la manera de abordar**las** sin dar**las** miedo*
If se find the way to adress-them.fem without give.them.fem fear
'If we could find a way to speak to them without frightening them'

loísmo **lo - instead of - le**

(34) a. ***Lo** pegaron una bofetada*
Him hit3Pl a smack
'They boxed his ears'

los - instead of - les

b. *Llaman y no **los** hacen caso*
Call3Pl and not them make case
'They call and noone pays any attention to them'

Thus the following picture of the use of third person clitics in various dialects of Spanish arises:

(35)

	Cast. Span		**leísmo**		**laísmo**		**loísmo**	
	3Pmasc	3Pfem	3Pmasc	3Pfem	3Pmasc	3Pfem	3Pmasc	3Pfem
Dat	le(s)		**le(s)**		**la(s)**		**lo(s)**	
Akk	lo(s)	la(s)	**le(s)**		lo(s)	**la(s)**	**lo(s)**	la(s)

4. Caribbean Spanish

4.1. Pronominal Clitics and Plural-Marking

As already mentioned in 1.4.1., Carribean Spanish displays the interesting property of 'stranding' the plural marking of the verb, realizing it after the enclitic pronouns (see Minkoff (1993), from whom the data are taken).

NSp			CSp		
(36)a.	*agarr-e-n*	(37)	a.	*agarr-e-n*	
	grab.IMP.2PL			grab.IMP.2PL	'Y'all grab!'
b.	*agarr-e-n-**se***		b.	*agarr-e-**se**-n*	
	grab.IMP.2PL.2PL			grab.IMP.2PL.2PL	'Grab yourselves!'

c.	*agarr-e-n-**se-la***	c.	*agarr-e-**se-la**-n*
	grab.IMP.2PL.2PL.3		grab.IMP.2PL.3.2PL 'Grab yourselves/(them)it!'

That this is not a pure phonological process is demonstrated by the data in (38)c. Where the verb stem ends on *-n-*, no disposition of *-n-* takes place.

	NSp		CSp		
(38)a.	*pon-**me-(-lo)***	b.	*pon-**me-(-lo)***	c.	**po-**me-(lo)**-n*
	put.1.(3)				
	'put it (for me)				

This phenomenon ist not only observed with the *-n*-plural above but also with the *-s*-plural for 1PPl.

	NSp/CSp	NSp		CSp	
(39)a.	*d-e-mos*	b.	*d-e-**mos-le***	c.	*d-e-**mo-le**-s*
	give.IMP.1PL		give.IMP.1PL.3		give.IMP.?3?
	'Let's give		Let's give her/him sth.		Let's give her/him sth.

However, it is not just the plural endings of verbs get 'displaced'. As (40) shows, the plural ending of the clitic *nos* can also strand in CSp.

(40)a.	*d-e-nos*	b.	*d-e-**nos-lo***	c.	*d-e-**no-lo**-s*
	give.IMPSg.1PL		give.IMPSg.1PL.3		give.IMP.?3?
	give him!		Give him it!		

Again, (41) proves that this it not merely a phonological process.

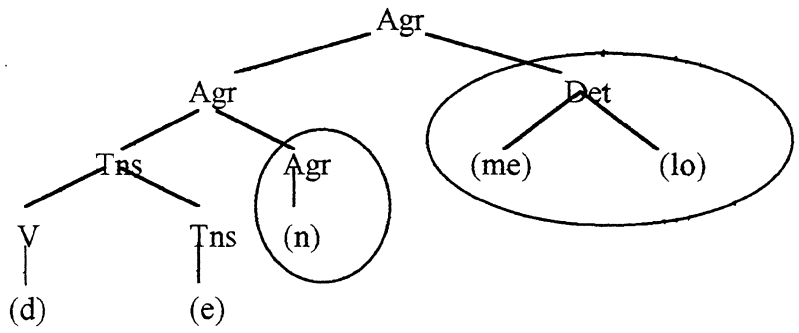
(41)a.	*haz-**me-(lo)***	b.	**ha-**me-(lo)**z*
	make.1.(3)		ma.1.(3).ke
	Make(it) for me		

How can these 'dispositions' of clitics in CSp be analyzed in the DM-model?

First, notice that the *-s*-plural is the default plural in Spanish. The *-n*-plural occurs only in second and third person plural subject agreement. Everywhere else plural is realized by *-s-* (cf. the Spanish nominal and adjectival inflections in (27)).

The basic assumption in the DM analysis of the behaviour of the clitics in CSp is (Halle&Marantz 1994:287) that the positioning of clitics is driven by the need for the terminal nodes carrying person and case features to appear to the left of plural (cf the morphological structure trees from Harris. The NumberPhrase is assumed to be the highest functional category below the X°-level).

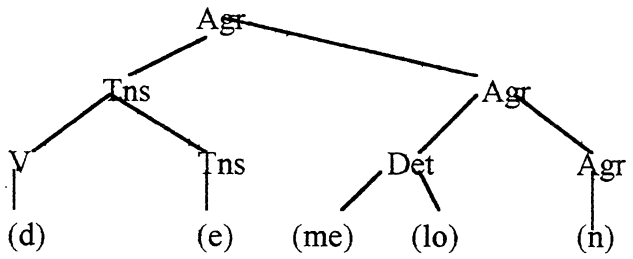
(42)



(42) is the structure provided by syntax, which puts the clitic-cluster and the inflected verb into adjacent positions (Halle&Marantz 1994:286(14)).

Now in postsyntactic morphology, the clitic cluster, a Det node, left-adjoins to the terminal Agr node with which it is already structurally adjacent. This movement recreates the usual affix order in inflected words (with the plural suffix to the right of other feature complexes).

(43)



These movements exemplify the assumed parallel between word-internal and word-external syntax that DM predicts.

However only "clitics that themselves lack a plural suffix will tuck into the imperative verb between the imperative inflection and the plural suffix" (Halle & Marantz 1994:285). This is demonstrated by (44) and (45) where we have already a plural-clitic (3rdPPl and 1PPl respectively) and the resulting tucking-in is ungrammatical (data from Halle&Marantz 1994:287(16)).

(44) a. de-n- l-o -s
b. *de-lo-n-s
c. *de-los-n

(45) a. de-n- no-s
b. *de-no-n-s
c. *de-no-s-n

4.2. Parasitic plural effect

CSp clitic clusters display another interesting property. Whereas in the enclitization patterns the plural of the verb was realized to the right of the clitic cluster, in 'parasitic' plurals (which appear in proclitic contexts) the plural marking of one of the clitics is not realized on the pronoun itself but on the rightmost pronominal clitic. (46.a) can have the interpretation in (46.b) in CSp, but it can also be interpreted as in (46.c) (which is the only interpretation in Standard Spanish). In (46.b), the plural marking of the dative pronoun is realized on the right of the clitic cluster as an ending to the accusative pronoun, i.e. the plural of the dative is formally realized on the following Acc-pronoun. Thus, in CSp, there are three possible interpretations for one overt plural on the Acc-clitic, either the Dat-clitic or the Acc-clitic are plural, or both of them are (46.d) (Harris1994:334).

(46) a. ***Se*** $_{d}$ ***los*** $_{ac}$ *traerán*
3PDat - 3PAccmasc-Pl bring-fut3PPl
b. They will bring it to them
c. They will bring them to him/her
d. They will bring them to them

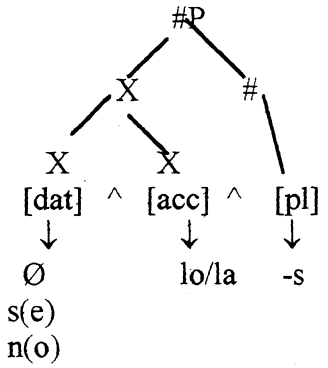
4.3. Parasitic *nos*-plural

The shift of the plural morpheme from one clitic to another can also happen with the 1PPl-clitic *no-s* (even leading to a homophony with the negation marker *no*) (Harris1994:334):

		NSp		CSp
(47)	a.	***No-s-lo*** *d-a-n*	b.	***No-lo-s*** *d-a-n*
		1Pl.3. give.Th.Pl		1.3.Pl give.Th.Pl
		'They give it to us		

The pronominal clitics are in an adjunction structure in which they are dominated by a superordinate constituent of the same category. Then morphological reordering takes place, yielding the normal constituent structure of (pro)nominals including a dominating #P. The sequence 3Pdat-Pl + 3Pacc is reordered into 3Pdat-3Pacc-Pl (Harris 1994:335).

(48)



Note that in contrast to the encliticization cases where the plural marker of the verb was realized on the right of the whole verb-clitic-complex, in parasitic plurals the plural of one clitic pronoun goes to the rightmost position of the clitic cluster, but not to the rightmost position of the whole verb-clitic complex, as is seen in (46) and (47). This seems to show that in proclitic contexts, the clitic cluster and the inflected verb do not form a complex constituent.

The difference between Standard Spanish and Carribean Spanish seems to lie in the analysis of the clitic cluster and the clitic-verb-complex as one morphological object (CSp) or just as independent heads following each other, each being an independent morphological object (NSp).

5. Future and Conditional Verbforms in European Portuguese and Old Spanish

In this section, I examine similar phenomena which previously received a syntactic account. I suggest that the DM approach can be applied to these, too.

In European Portuguese (EP), pronominal clitics in enclitic position are placed between the verb stem and the inflectional endings for future and conditional .

(49)	a.	*levar.ei*	*b.*	*levar.ia*	(Spencer 1991:366)
		raise.fut1Sg		raise.cond1Sg	
(50)	a.	*levá-**lo**-ei*	b.	*levá-**lo**-ia*	
		raise-it-fut1PSg		raise-it-cond1PSg	

This is also the case when there is more than one pronominal clitic:

(51) *Mostra-**no-los**-á*
show-us-them-fut3PSg

Enclitization takes place in root sentences as in (52), (53) (All data taken from Lema&Rivero (1989) and (1990)):

(52) *Seguir-**te**-ei por toda a parte* EP
Follow-you-will-1Sg by all the part
'I will follow you everywhere'

(53) *Dir-**se**-ia um povo predestinado*
Tell-se-imp-had a people predestined
'One would say it is a predestined people'

The same phenomenon was found in Old Spanish (OSp) as shown by LEMA &RIVERO (1989, 1990), as the following examples show:

(54) *Dar-**te**-he un exemplo*
give-you-will1Sg an example
'I will give you an example'

(55) *Si yo vivo, Doblar-**vos**-he la soldada*
If I live, Double-you-I-have the wages
'If I live, I will double your pay'

As in Carribean Spanish, this effect only occurs with enclitic pronouns (the conditions for encliticization are different in EP/OSP in contrast to Modern Spanish; enclisis is found on finite verb forms in EP/OSp whereas MSp allows enclitization on tensed forms only in imperatives)

In embedded sentences the pronominal clitics in EP/OSp always precede the verb:

(56) *Uma historia... onde **me** referir**ei** de espaço a elle* EP
a history... where me refer-will+1Sg of space to her
'A history... where I will refer to it at length'

(57) *Semejame que **vos** excusar**iedes** bien* OSp
Seems-me that yourself excuse-would+2Pl well
'It seems to me that you would excuse yourself well'

The formation of 'V + CL + INFL' sequences in EP and OSp were analyzed by Lema&Rivero as the result of syntactic processes. Their account is briefly described here (see Lema&Rivero (1989, 1990) for details).

The 'INFL-endings' in EP/OSp are analyzed as independent auxiliaries, i.e. independent heads in syntax. (Notice that this assumption is not made for the number agreement in CSp in the account given above). The EP/OSp future and conditionals are therefore treated as underlyingly periphrastic. The surface order for examples (e.g. (56), (57)) with preverbal clitics is analyzed as the result of verb-raising to AUX (X°-movement) (58.a.).

In the enclitic examples (52)- (55), it is assumed that the verb raises past the AUX in Infl and past the clitic. This verb-movement is analyzed as Last-Resort-movement, in order to

provide the enclitic pronoun with a suitable host, to avoid clitic-first-sequences (Tobler-Mussafia-Law) (58.b).

(58) a. ... cl ... V + Aux ... [$_{VP}$ t_V ...]

b. V + cl [Aux ... [$_{VP}$ t_V ...]]

This analysis explains why V+CL+AUX sequences only arise in some root sentences - in other contexts, the enclitic pronoun is preceded by other material which may act as host for the clitic. However, the verb-movement in (58.b) skips the Aux-head in Infl, thereby violating the Head-Movement-Constraint (HMC).

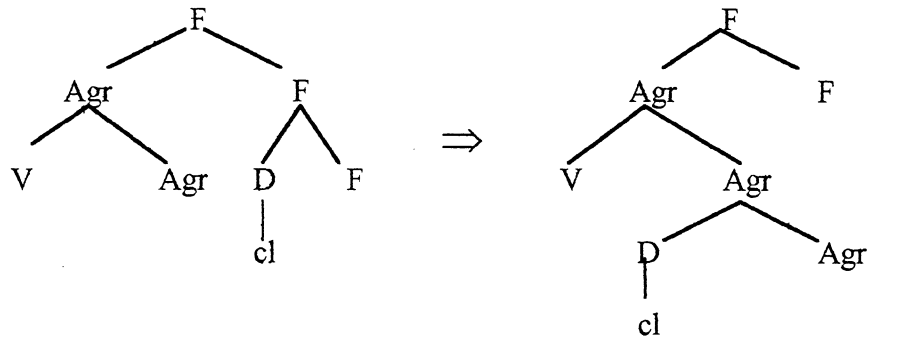
The abandonment of HMC is a costly conclusion for syntactic theory. An alternative analysis which avoids this price would be desirable. A DM account of how the pronoun intervenes between V and INFL allows HMC to be preserved. Also, such an account is supported by the CSp cases discussed above (for which no syntactic account exists).

A DM-account would run as follows. In the sentences with preverbal clitics (56), (57), Lema&Rivero's account would be maintained. (Alternatively, these forms could be treated simply as inflected verb forms, rather than periphrastic constructions with V-raising to Aux. Notice that the order 'Aux ... V' is never found with these forms.)

In the sentences with enclitic i.e. postverbal pronouns (52)-(55), we need to assume only that the inflected verb raises in syntax to adjoin to the clitic pronoun (or the functional head which contains the clitic pronoun) (59.a).

(59) a. [V + INFL] + CL [$_{VP}$ ...t_V ...]

b.



This creates local adjacency under one X°-node. Then the reordering of INFL and CL takes place in morphology, by rule (59.b) similar to the one involved in CSp.

5. Consequences

If we indeed need this (powerful) system of morphological rules (postsyntactic operations that rearrange adjacent constituents) which further research in this approach should prove, then this should have consequences for the range of phenomena that we account for in syntax. With DM it is no longer necessary to seek syntactic explanations for certain facts - especially concerning the order of morphemes.

It should then be possible to have a restricted syntactic structure building with a finite set of functional categories with fixed ordering in syntax (which is desirable). Any deviations from this should then be accounted for by morphological operations (reorderings).

That would also put the discussion about the Mirror Principle (Baker 1985) on the agenda, which stated that the order of morphological operations, as revealed by the order of affixation, is always identical to that of syntactic operations. This was a desirable concept but as is well known there are many counterexamples to the idea that the order of the affixes corresponds to the order of functional categories (cf. recent literature on Basque - Laka 1993, Navajo - Speas 1991, or Quechua - Muysken 1988). In the DM line of reasoning we expect either the Mirror Principle to hold (i.e. tranparent morphology) or only deviations from the Mirror Principle permitted by operations of DM (which has still to be shown to hold).

Further research will show how DM can adequately account for other morphological problems and should compare morphological conceptions like DM (i.e. underspecification by impoverishment, late insertion and morphological operations of the above mentioned kinds) with alternative approaches involving underspecification in syntax and early insertion. It has become clear from the above discussion that especially the phenomena related to the positioning of clitics and inflectional elements exemplified from various languages, pose problems for 'early insertion'-theories. In such theories these displacements are left to syntax, which only manages the task with various additional (construction-specific) assumptions only motivated by those types of morphological processes.

Last but not least an interesting similarity of the DM conception to a conception of the Lexicon in a production model should be mentioned, which potentially provides psycholinguistic evidence for this kind of morphological model. This is Levelt's (1989) Speech production model. His proposal includes a model of the Mental Lexicon which assumes a separation between lemma and form lexicon, whereby form items are inserted only after grammatical encoding in the process of phonological encoding (i.e. postsyntactically).

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Lack of iteration: a problem for Accusative Clitic Doubling*

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Introduction

In this paper I show that accusative clitic doubling in Spanish affects the aspectual interpretation of the VP in that it blocks iterative readings of eventive predicates. The addition of the aspectual problem to the more traditional problems (how can there be two DPs and only one thematic role; why not all DPs can be doubled; and what is the role of the preposition *a* that appears with the doubled DP) reduces to a large extent the space of possible solutions to the clitic doubling problem. More specifically, solutions that treat accusative clitic doubling as simply a case of object agreement will have to be discarded, since they are unable to account for the aspectual effect. Instead, I will argue that accusative clitic doubling is best analysed as an identificational small clause in which the clitic occupies the position of a pleonastic subject. This structure will provide a unified account for the traditional problems of accusative clitic doubling in Spanish and will shed some light on the iteration problem.

(\$N1) a. Toqué la sonata. (Cordoba Spanish)
(I) played the sonata
'I played the sonata'

b. La toqué.
(I) it played
'I played it'

c. La$_i$ toqué [a la sonata]$_i$
(I) it$_i$ played [*a* the sonata]$_i$
'I played the sonata'

(\$1a) illustrates a regular transitive construction with a DP object; (\$1b) illustrates the clitic version of the simple transitive construction; and (\$1c) illustrates what has been called accusative clitic doubling. Besides the DP argument, we also have a clitic that is interpreted as being "the same" as the phrase *a la sonata.*

In the remainder of this introduction I will describe the "aspectual problem" and sketch the argument I will try to develop. Consider first the following:

(\$N72) John played the sonata for 3 hours
John played sonatas for 3 hours

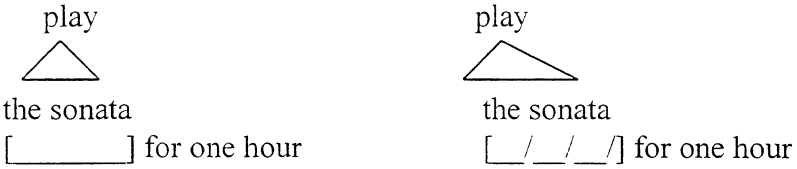
The predicate *play the sonatas* is said to be terminative or bounded since the definite determiner imposes an upper bound on the amount of sonatas. The predicate *played sonatas,*

* A longer version of this paper which extends the analysis to participial absolutes and *have*+agreeing participle constructions will appear as Schmitt (forthcoming). I wish to thank here Elena Anagnostopoulou, Anna Cardinaletti, Chris Piñon, Michael Stark and Ilse Zimmermann for discussion, questions and comments. I would also like to thank Alan Munn for commenting on a draft.

on the other hand, is said to be durative or unbounded since we do not have information about the amount of sonatas that are played.

Adverbials such as *for x time* or *until x time* can do two things to a terminative VP predicate: either they stretch the event so that the duration of the event can cover the period described by the adverbial (as illustrated schematically in ($4a)) or they force the mapping of subevents of the event described onto the stretch of time covered by the adverbial ($4b). In the first case, we play a sonata in slow motion and, in the second case, we repeatedly play the sonata so that it fills the duration of the adverbial (let's say three times, as in the drawing):

($N4)



If such an adverbial is added to an accusative clitic doubling construction, however, the only possible reading is the one in which a single event has been artificially stretched to the point of covering the duration of the modifying adverbial.

Thus we cannot get subevent readings of the event described by the VP if the direct object is doubled, as the contrast in ($5) demonstrates. Without the clitic, it is possible to play the sonata ten times; with the clitic, this reading is impossible. The only possible reading of ($5b) is the stretched reading.

($N5) a. Toqué la sonata hasta las 12, de hecho la toqué 10 veces.(Cordoba Spanish)
(I) played the sonata until 12, in fact (I) played it 10 times.

b. #La$_i$ toqué [a la sonata]$_i$ hasta las 12, de hecho la toqué 10 veces.
(I) it$_i$ played [*a* the sonata]$_i$ until 12, in fact (I) played it 10 times
'I played the sonata until 12, in fact I played it 10 times.'

It should be noted that the lack of iteration is not to be related merely to the presence of the clitic or to the presence of the clitic and a full DP associated with it. Iteration is possible when just the clitic is present, as in ($78a); and also in clitic-left dislocated structures, illustrated in ($78b).

($N78) a. La toqué hasta las 12. (Cordoba Spanish)
(I) it played until 12. (iterative reading)
'I played it until 12.'

b. A la sonata, la toqué hasta las 12.[1] (Cordoba Spanish)
The sonata, I played it frequently

If the clitic were purely an agreement marker, we would need two different agreement markers to account for the lack of iteration in ($5b) and its availability in ($78). If the lack of iteration were to be associated with the presence of a clitic and a coindexed DP, both accusative clitic doubling and clitic left dislocation should behave identically; we should expect iteration to be bloccked in both cases or allowed in both cases.

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[1] The variation in the use of the preposition *a* is these constructions is outside the scope of this work.

The question is what distinguishes (§5b) from (§78b). I will argue that there is a structural difference between clitic-left-dislocation and clitic doubling accusative complements and that aspectual interpretations are crucially dependent on the internal structure of the DP complements. As for (§78), following Cinque (1990), I will assume that the DP in clitic left dislocated constructions is base-generated in a pre-sentential position and is not part of a small clause. In the complement position we only have the clitic. Thus the behaviour is the same in (§78a) and (§78b). In accusative clitic doubling, on the other hand, the structure is more complex, i.e., an identificational small clause.

Before we move to section 1, however, an observation about the data I will be discussing is necessary. There is a lot of variation among Spanish dialects. Many dialects of Spanish allow accusative clitic doubling of pronouns and animate objects only. This is true, for instance, for many dialects of Spanish spoken in Spain and in some dialects spoken in Uruguay. The dialect I am going to be discussing here is the Spanish spoken in the central part of Argentina (Cordoba more specifically) where accusative clitic doubling is equally possible with both animate and inanimate objects. I will not have anything to say here as to why an animacy restriction should be crucial to license accusative clitic doubling in other dialects, and know of no current treatment of these matters.

It should be noted that the main distinction between dialects that allow doubling of animates only versus the dialects that allow doubling of inanimates and animates does not affect what I have to say about the aspectual properties of accusative clitic doubling in Spanish. Lack of iteration holds equally well in the animate only dialects.

The variation, however, does not stop there. In the dialects that double animates and inanimates, as, for example, one of the dialects of River Plate Spanish, the status of *a* is very unclear. It is apparently optional for some speakers, and can also appear where the Cordoba dialect does not allow it (as in *have*+agreeing participles). Specific indefinites are also acceptable, as pointed out by Suñer (1988) (see also Everett 1992 for a careful discussion of the dialectal variation in River Plate Spanish). The optionality of *a* and the possibility of specific indefinites are both completely unacceptable in Cordoba Spanish in accusative clitic doubling. What accounts for this variation is unclear, and only a much more in-depth analysis of the subtle syntactic and semantic differences between the determiners and the preposition *a* across dialects may be able to tease them apart.

For the purposes of this paper, however, I will concentrate on the Cordoba dialect for accusative clitic doubling, since in this case there is no variation: (i) the *a* is obligatory; (ii) doubling is possible with animates and inanimates as illustrated in (§2) and (§3); and (iii) indefinites are not acceptable.

(§N2) a. Lo_i vi [[al/a este/a su] hombre]$_i$ (Cordoba Spanish)
(I) it_i saw [*a* [the/this/ his] man]$_i$
'I saw the/this/his man.'

b. Lo_i vi [[al/ a esto/ a su] libro]$_i$
(I) it_i saw [*a* [the/this/his] book]$_i$
'I saw the/this/his book.'

(\$N3) a. *Los$_i$ vi [a hombres/ a libros]$_i$
(I) them$_i$ saw [*a* men/*a* books]$_i$
'I saw men/books.'

b. *Los$_i$ vi [a muchos hombres/pocos hombres]
(I) them saw [*a* many men/few men]
'I saw many/few men.'

The paper is divided as follows: in section 1 I propose an analysis of accusative clitic doubling, and in section 2 I discuss the lack of interation in view of the small-clause analysis and an independently motivated analysis of aspect.

2. Accusative Clitic Doubling as an Identificational Small Clause

In this section I will develop a parallel between Identificational Small Clauses and Accusative Clitic doubling.[2] Based on the similarities between the two cases I will argue for a treatment of accusative clitic doubling as an instance of identificational small clauses. Such a proposal will account for the three traditional problems posed by the construction.

First we face the problem of having two DPs apparently competing for the same thematic role. I will call this the *thematic role problem.* Why don't we interpret (1c) as *I played it$_j$ and [the sonata]$_i$*? Given that this is not the interpretation we get, the picture is similar to constructions with pleonastic elements, i.e., constructions in which one of the DPs does not have a thematic role and is just present for predication reasons. If the intuition that one of the elements in accusative clitic doubling is pleonastic is in the right track, then the questions are the following: which of the elements is the dummy element, and how can the pleonastic element appear in object position?

I would like to argue here that the clitic is the non-thematic subject of a small clause (i.e. a pleonastic element), in the same way that certain pronominal elements can be thematic or non-thematic, as the examples below (from Rothstein 1995) show:

(\$N27) a. It is obvious that John will arrive late.
b. It is obvious.

In the first case *it* is not an argument but in the second case *it* is definitely an argument, for while we can ask *what is obvious?*, we cannot ask *what is obvious that John will arrive late*. Pleonastics are the canonical case of pronominal non-arguments in case positions, and it is standardly assumed that pleonastics can only appear in subject position.[3]

Besides the canonical cases of pleonastic elements *there* and *it,* Vergnaud and Zubizarreta (1992), in their discussion of inalienable possession in French, have argued that definite determiners in certain languages can be pleonastic in the sense that they do not provide reference for a noun phrase (i.e. they do not bind the <R> position of nominals in

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[2] Due to lack of space, I will not review the literature nor compare my proposal with previous analyses of Accusative clitic doubling in Spanish. See (Torrego ms.; Jaeggli (1986); Suñer (1988); Sportiche (1993); Uriagereka (1995)). For a review and comparison see Schmitt (forthcoming).

[3] The standard assumption that expletives always appear in subject position has been challenged by Pullum and Postal (1988). However, Rothstein (1995) argues convincingly that the cases discussed by Pullum and Postal can be divided in two groups and that the pleonastic elements are in fact subjects of small clauses. In the other cases, the *it* element is argumental.

Higginbotham's (1985) sense) and therefore have no semantic role.[4] They have only a syntactic role, being licensed by the agreement with the NP. The NP gets its <R> element by being bound by another element (see Vergnaud and Zubizarreta 1992, and Schmitt 1996). Thus although the determiner shows agreement with the noun (unlike *it/there* which seem to be invariable) it is still treated as a pleonastic element by Vergnaud and Zubizarreta.

There is yet another class of constructions in which the pronominal element in subject position could also be taken as pleonastic. It is this type of construction that I will concentrate on because it is this particular type of small clause that I want to associate with accusative clitic doubling in Spanish.This construction, exemplified in ($28) for English and ($29) for Spanish, has been grouped by Higgins (1985) under the heading of Identificational sentences and are typically used for teaching the names of people.

($N28) a. This is John.
b. It is John.
c. These are the Smiths.
d. This is John and Mary.
d. It is the Windsors.

($N29) a. Es Juan. (Spanish)
pro is Juan
b. Son los Vilas.
pro are the Vilas
c. Es Pedro y Maria.
pro is Pedro and Maria

In ($N31) we have a pronominal element in subject position followed by a proper name or a definite description. As in regular expletive constructions, the pronoun cannot appear after the copula, without inducing a radically different interpretation. This is illustrated in ($31c,d) for English and in ($31e-f) for Spanish:

($N31) Who is this/that/it?
a. This/that/it is John.
b. This/that/it is the Mayor.
c. *John is this/that/it.
d. *The Mayor is this/that/it.[5]
e. Es el Prefecto. (Spanish)
pro is the Mayor
f. *El prefecto es (pro) (Spanish)
the Mayor is (pro)

[4] For example, in inalienable constructions a singular definite article does not imply a semantic singular. In the following example the doctor didn't examine a single stomach. The reference of*estomac* is given by *leur* and not by the definite singular determiner.
(i) Le docteur leurs a examiné l'estomac.
the doctor them examined the stomach
'The doctor examined their stomachs'

[5] The only way to accept *this* in the complement of *be* is by adding *one* in English. In this case, however, we have a different construction (an equative) because the demonstrative followed by *one* can appear as the complement of *be* with the same meaning.

Moreover, we cannot naturally question the pronoun in the cases above: *who is John* cannot be answered by *it* or *that*. Higgins notes yet another property of the pronominal element in these constructions. The pronominal element has what he calls "common gender". To illustrate this, consider (\$32a) and (\$32b).

(\$N32) a. That woman is the Mayor of Cambridge.
b. That woman is Mayor of Cambridge.
c. That is the Mayor of Cambridge.
d. *That is Mayor of Cambridge.
e. It is the Mayor of Cambridge.
f. *It is Mayor of Cambridge.

In (\$32a) we can establish and equivalence between two DPs in which they either have the same extension or we can establish an intensional equivalence by assigning a property to *that woman*. In (\$32b) we have only the latter possibility. In other words, in (\$32a) the definite description after *be* can be interpreted either as an argument of *be*, in which case it is not a predicate, or as a predicate that selects for an argument, in this case the subject *that woman*. In (\$32b) the indefinite can only be interpreted as a predicate. Thus *that woman* functions as its subject.

Higgins has noted that, if *that woman* is substituted for *that* or *it* in (\$32a), the result is acceptable, as we can see in (\$32c). However, if we substitute *that woman* for *that* in (\$32b), the sentence is unacceptable as shown in (\$32d), since *Mayor of Cambridge* is a predicate that requires a [+human] subject. *That* does not satisfy this requirement and consequently the sentence is unacceptable.

Higgins' observation can be reinterpreted in the following way: *that/it* can appear in (\$32c) because in this case it need not be an argument of *the Mayor of Cambridge*. In fact, I would like to argue that *the Mayor of Cambridge* is an argument of *be* and the pronominal element is an expletive in that it does not receive a theta role from the predicate *is the Mayor of Cambridge*. Thus it will not have to obey selectional restrictions from *the Mayor of Cambridge*. It is there to satisfy the predication relation as in other constructions with pleonastic elements.

The contrast between (\$32c) and (\$33a) again illustrates the distinction between the so called common gender pronoun and the regular pronoun. (\$33a) can appear in the reversed order, as illustrated in (\$33b). The ability to be reversed means that the personal pronoun is not playing the role of an expletive, since expletives can only appear in subject position.[6]

(\$N33) a. He is John.
b. John is him.
c. Mayor Barry is the Mayor for life.
d. The Mayor for life is Mayor Barry.

In fact we should consider sentences in (\$33a,b) as comparable to sentences in (\$33c,d), where identity of reference is being established. (\$32c) differs from (\$33) in that in (\$32c) we are not establishing identity of reference; instead, we are identifying a referent: we are not

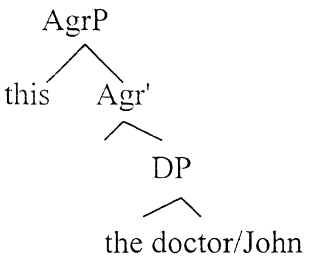
[6] Treating *this* as an expletive will also account for the inability of it to appear in other object positions as the following example due to Greg Carlson, whithout adding an odd interpretation:
(i) #I'd like to introduce you to this. This is John.

asserting existence. The pleonastic pronominal element *it* has no reference, and *that* has only the locative information that is in the demonstrative part of the DP (which can vary).[7]

In sum, the pronominal element in subject position of the sentence *It's John* bears case but no thematic role and is related to an element that it c-commands.[8] The schematic structure for such identificational small clauses is given in ($34).

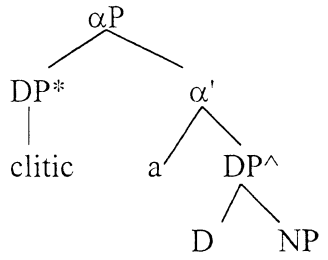
($N34) a. This is the doctor/John.

b.



The structure for accusative clitic doubling I am proposing is given in ($42a):

($N42) a.



The DP marked DP^ in ($42) corresponds to the doubled phrase and the DP marked DP* corresponds to the clitic, which, being a pleonastic element has to be licensed as the non-thematic subject of a predicate. The *a* element corresponds to the copula in the identificational small clause and has DP^ as its complement. I will call the small clause projection αP for expository purposes.

In the following I present evidence that justify the parallel between identificational small clauses and accusative clitic doubling.

2.1 DP restrictions

Consider the DPs that can appear in the complement position of *be* in identificational sentences and the types of DPs that can appear in accusative clitic doubling constructions. As we can see in ($35) and ($13), the same noun phrases that can appear in identificational small

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[7] What I have in mind here is an analysis of demonstratives constituted of two parts: a location and a nominal element. Thus the real expletive part of the demonstrative is the nominal element and not the locative part.*This is John* means basically *here it is John.* The pleonastic part is the *it.* Semantic support for an analysis of demonstratives in such a way comes from Bennett (1978) and for syntactic evidence see Schmitt (1996).

[8] A thorough discussion of the ways that have been proposed for interpreting pleonastics (e.g. Chomsky 1993) is beyond the scope of this paper. The technical problems of implementation are irrelevant for the discussion. Overtly, the DP with the demonstrative has checked its strong morphological phi-features by Spell-Out. I will come back to the issue of expletive replacement when I deal with the aspectual properties of accusative clitic doubling and case.

clauses are exactly those that can appear in accusative clitic doubling: definites, proper names and pronouns.

($N35) a. This is the mayor.
b. These are all the prisoners.
c. This is John.
d. This is him.

($N13) a. Lo$_i$ vi [[al hombre]$_i$ (Cordoba Spanish)
(I) it$_i$ saw [*a* the man]$_i$
'I saw the man.'

b. Los$_i$ vi [[a todos los libros]$_i$
(I) it$_i$ saw [*a* [all thebooks]$_i$
'I saw all the books.'

c. Lo$_i$ vi [a Juan/ a el]$_i$
I him$_i$ saw [*a* Juan/ *a* el]$_i$
'I say Juan / him.'

The DPs that are banned in accusative clitic doubling are also banned in identificational small clauses. ($36) shows that non D-determiners can only give rise to predicational interpretations. The same determiners are unacceptable in accusative clitic doubling:

($N36) a. *These are friends.
b. *This is every friend.[9]
c. *These are all friends.[10]

($N74) a. *Los$_i$ vi [a hombres/ a libros]$_i$
(I) them$_i$ saw [*a* men/*a* books]$_i$
'I saw men/books.'
b. *Lo$_i$ vi [a todo hombre]$_i$[11]
(I) him$_i$ saw [*a* every man]$_i$

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[9] Norbert Hörnstein (p.c.) has pointed out that the following sentence is perfectly acceptable:
(i) This is every prisoner
In fact, I believe this is correct but only with a group reading, which we have seen to be impossible for *todo*:
(i) *É todo prisioneiro
(It) is every prisoner

[10] Alan Munn (p.c.) notes that this sentence is grammatical with a predicative interpretation with*all* modifying the predicate similar to *They all left*. I am concerned here with the identificational reading in which*all* would be modifying just *friend*. This is perhaps more clearly shown with the example **This is all milk*, in which the predicative reading is much harder to obtain.

[11] Notice that while *todos los* 'all the'is acceptable in accusative clitic doubling, *todo* 'every' is not. In both cases we have a universal quantifier, which in both Milsark (1977) and de Hoop (1992) would count as strong quantifiers.The inability of *todo* to appear in accusative clitic doubling rules out the hypothesis that specificity (Suñer 1988); Sportiche (1993) is what is at stake to guarantee a well-formed clitic doubling constructions. For a detailed discussion see Schmitt (1995) and (forthcoming).

I will call the determiners that can appear in the complement position of *be* in identificational sentences D-determiners. Given that the restrictions are the same for accusative clitic doubling, I will assume that DP^ must be headed by a D-determiner.

2.2 Case

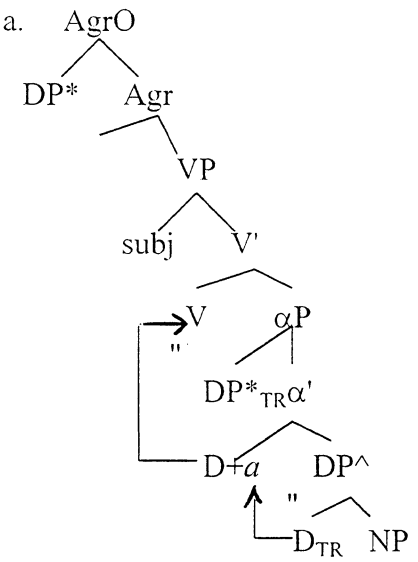
Being a D-determiner is undoubtedly a semantic property. However, it seems that the DP with a D-determiner also has to fullfill a syntactic requirement in that it requires its Case to be checked. The need for a D-determiner to have its Case checked encounters empirical support from the following contrast, adapted from Higginbotham (1987):

($N37) a. *I consider [that [the man]
b. I consider [that [to be[the man]]

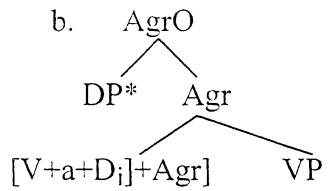
When a copula is not present, a definite description in a complement clause such as ($37a) must have a predicate reading rather than an argument interpretation. *That* is then the argument of the property *the man*, and we get an odd reading that roughly corresponds to *that thing is the man*. In ($37b) the copula is present. In this case, the D-determiner can check case in the specifier of AgrO of *be*. Thus *the man* can be interpreted as the argument of *be*, and *that* can be interpreted as a pleonastic element.

If accusative clitic doubling is an instance of an identificational small clause, then DP^ also needs to check Case features. DP^ will check case by incorporating into *a*, as illustrated below. This explains the presence of the preposition *a*.. I will assume that *a* can only be a Case checker if it is incorporated into the verb (see Baker 1988). The verb will check the Case of the pleonastic clitic that moves overtly to AgrO and from there the its PF position. The structure at LF is given in ($59b).

($N59) a.



b.



So far we have a way to account for the three basic problems of accusative clitic doubling: the clitic is the pleonastic subject of a small clause, i.e., it does not receive a thematic role. The thematic role is assigned to the *a*-phrase. The determiner restrictions follow from the semantic property of identificational small clauses. The *a* is a Case marker, since in identificational small clauses both DPs need to have their Case checked.

2.3 Agreement

However, we still have an apparent important difference between the two small clauses that has to be addressed. The pleonastic element in the accusative clitic doubling displays agreement, unlike most expletive pronouns. In the following I will show that this agreement is purely syntactic agreement and has the characteristics of agreement under government. The evidence will come from conjoined noun phrases.

A conjoined noun phrase in the canonical subject position triggers plural agreement on the verb and masculine plural agreement on the adjective, as illustrated in (\$44) and (\$45) for Spanish and English. This is taken to be the canonical specifier-head agreement relation.

(\$N44) a. Juan y María son médicos. (Spanish)
b. John and Mary are doctors.

(\$N45) Ellos son la médica y el médico que se graduaron el año pasado. (Spanish)
They-M.PL are the doctor-F.SG and the doctor-M.SG that graduated last year
'They are the female and the male doctor that graduated last year.

There is another pattern of agreement found cross-linguistically, which descriptively takes place under government rather than the spec-head relation: this type of agreement has been widely discussed in the literature (see McCloskey (1986) for Irish; Bahlouhl and Harbert (1992) for Arabic; Munn (1993) for English and Munn (1996) for a minimalist account of these facts). One of the most distinguishing factors of agreement under government is that it gives rise to first conjunct agreement with conjoined DPs. Thus, in [V [DP_1 and DP_2]] order, agreement will be with DP_1. In [[DP_1 and DP_2] V], agreement cannot be with the first conjunct. A clear case of agreement under government arises in English *there* constructions as in (\$46) from Munn (1993):

(\$N46) a. There is a man and a woman in the garden.
b. *There are a man and a woman in the garden.
c. There are two men and a woman in the garden.
d. *A man and a woman is in the garden.

Here, the verb agrees with the post-verbal subject, and first conjunct agreement is obligatory. If the subject is pre-verbal, first conjunct agreement is impossible.

The same pattern arises in the identificational small clauses discussed above, in English and Spanish, as exemplified below:

(\$N47) a. This is John and Mary.
b. These are the Windsors and the Smiths.
c. *These are John and Mary.

($N48) a. Es Juan y María. (Spanish)
'(pro) is J. and M.'

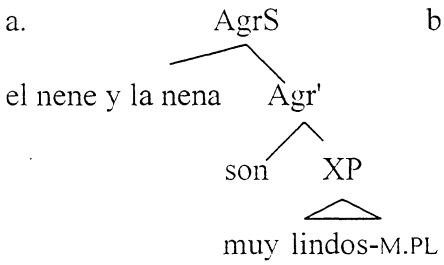
b. *Son Juan y María. (Spanish)
'(pro) are J. and M.'

c. Son los Clintons. (Spanish)
'(pro) are the Clintons'

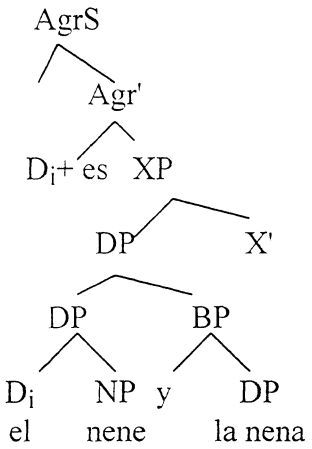
If the identificational small clause has a conjoined noun phrase as its complement, first conjunct agreement is obligatory, as ($47) and ($48) show. Note that both the demonstrative and the copula show agreement with the first conjunct and not agreement with both conjuncts.

Munn (1992, 1993) proposes that conjoined structures are adjunction structures in which a Boolean phrase (BP) headed by a conjunction is adjoined to the first conjunct which is the head of the whole construction. According to Munn (1996), a way to deal first conjunct agreement in Minimalist terms is to assume that in ($44) and ($45), the agreement with the verb obtains in a specifier head relation as in ($49a) and the agreement with the first conjunct obtains by incorporation of the head of the first conjunct onto the verb, as in ($49b):

($N49) a.



b.



c. El nene y la nena son muy lindos.
The boy and the girl are very pretty.

d. Es el nene y la nena.
(It) is the boy and the girl. (Cordoba Spanish)

Spec-head configurations only allow agreement with both conjuncts. Agreement under government, on the other hand, allows agreement with the first conjunct. In identificational small clauses what we find is agreement under government, in which agreement with the first conjunct is possible, although not always obligatory.[12] If accusative clitic doubling has the

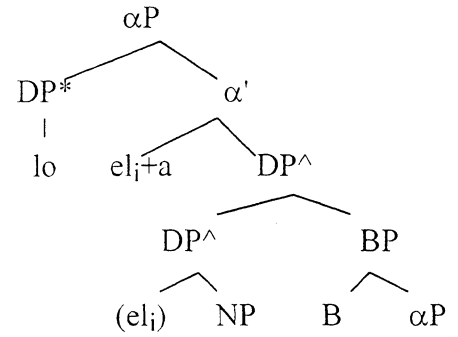
[12] What is important here is that agreement under government can trigger first conjunct agreement but spec-head agreement cannot not. Judgments on agreement under government are not always clear cut. Prescriptive rules seem to get in the way and somehow plural agreement (i.e. agreement with both conjuncts) in government configurations is also accepted by some speakers, even when the first conjunct is singular. This phenomenon is attested in various languages, Arabic being one of them (see Munn 1996). One of the speakers I consulted for the Spanish identificational small clauses and for the clitic coubling coordinated objects told me (of first conjunct agreement) "it makes no sense, but this is fine." The others accepted the facts in ($50) without question, although

same structure as identificational small clauses, as we proposed above, the prediction is that the clitic would allow agreement with the first conjunct. This follows from the fact that the head of the DP, which is incorporated into the *a*, is the D of the first conjunct. The clitic in the specifier of Agr will have to agree with it. In fact this is exactly what we find, as illustrated in (\$50):

(\$N50) Lo vi al profesor y las alumnas.
(I) him-M.SG saw *a* the-M.SG teacher.M.SG and *a* the-F.PL student-F.PL
'I saw the professor and the female students.'

A partial structure is given in (\$51):

(\$N51)



First conjunct agreement in clitic doubling thus provides independent motivation for both the small clause analysis and the incorporation of the doubled DP's determiner into *a*. Now we need to address the aspectual problem.

3. The Aspectual Properties of Accusative Clitic Doubling

There are at least two routes one can take in attempting to explain the lack of iteration in accusative clitic doubling, given the analysis proposed above. One could argue that the lack of iteration in accusative clitic doubling and its possibility in regular cltic complements and left dislocated structures is to be related to the fact that the thematic role from the verb is assigned to different complements: a small clause in one case and a simple DP in the regular verb complement or in the clitic left dislocated construction. Alternatively we the route that aspectual interpretations are (like scope) semantic properties that depend on particular syntactic configurations.

Recent work on possessives, relative clauses and partitive objects has shown that these structures are complex, in the sense that they are not simple DPs, but rather CPs or small clauses (see Szabolsci 1983; 1994; Uriagereka 1993; Schmitt 1996). In spite of the complexity of the structure, when possessives, relative clauses and partitive complements appear in complement position of eventive verbs, iteration is not blocked. Thus, to associate

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they do not accept first conjunct agreement when the coordinated DP is a subject of a clause in its canonical specifier of AgrS position.

Variation exists with respect to whether the *a* has to be repeated in the second conjunct. Some speakers accept (i) but others only accept (ii). I will leave this matter open (for a discussion of how the second conjunct would get case in (i) see Munn (1993)).

(i) a. Lo vi al muchacho y la chica
b. La toqué a la sonata y el adagio
(ii) a. Lo vi al muchacho y a la chica
b. La toqué a la sonata y a el adagio

lack of iteration to the fact that more than a simple DP is in the complement position does not seem to be a promising solution. Given this, I will pursue the hypothesis that iteration is dependent on syntactic configuration. First, though, I need to clarify my assumptions about aspect.

The first assumption is that aspect is compositional. Since Verkuyl (1972) it has been well known that properties of the determiner system affect the interpretation of the VP aspect, as illustrated in (§52). In (§52a) the bare plural renders the VP with an eventive verb durative and, therefore, compatible with adverbs such as *for an hour*, but incompatible with adverbs such as *in an hour* which are only compatible with terminative predicates. The indefinite, the definite and the numeral render the predicate terminative since the cardinality of the head noun in the object position is specified.

(§N52) a. John ate sandwiches for an hour/ #in an hour.
b. John ate a sandwich/ three sandwiches in an hour / #for an hour.

Terminative aspect is then the result of a combination of a verbal and a nominal feature mediated by a theta role. Stative verbs and verbs like *push* will be indifferent to the information provided by the object. Depending on the verbal feature and on the nominal feature, the interpretation will be that of a durative or a terminative predicate.

Following Schmitt (1996) I will assume that aspectual interpretations, like scope, are dependent on structural configurations. Specifically, the checking domain of the verb (AgrO in Chomsky 1995) is the locus for terminative interpretations of the VP:

(55) A VP is terminative if an eventive verb is adjoined to AgrO and quantity information is specified at AgrO.

There are both conceptual and empirical advantages of making AgrO the locus for VP aspect interpretation.[13] In the Minimalist program we cannot motivate raising to a certain position in order to derive a certain interpretation. The motivation for movement has to be syntactic. Given that the internal argument have to move to AgrO for Case reasons, there is then independent syntactic motivation for the raising to this position.

Moreover, empirically the proposal to calculate aspect at AgrO allows us to unifiy the treatment of terminativity in English and Finnish. Consider (§56) from De Hoop (1989) (see also Heinämäki 1984):

(§N56) a. Tuula rakensi taloa. (Finnish)
Tuula built house-PART
'Tuula was building a/the house.'
b. Tuula rakensi talon.
Tuula built house-ACC
'Tuula built a/the house.'

In Finnish, a partitive case-marked object can never receive a terminative interpretation and, according to Heinämäki (1984), the VP does not receive an iterative interpretation either. If we assume that the verb is the same, and accusative is an intrinsic feature of verbs, then it is possible to assume that the partitive complement does not move to the specifier of AgrO,

[13] Note that since durative is the default interpretation, if there is no internal argument or there is null incorporated argument, the reading will be durative as is the case of *run, yawn* etc.

since it has another way of checking its Case. I assume (see Schmitt 1996) that partitive is checked in situ by a null preposition.

If terminative aspect is calculated at AgrO, the partitive complement will not be in a configuration that will allow terminative readings. Consequently durative readings will always obtain. Accusative objects, on the other hand, will give rise to terminative readings, provided the verb is eventive. If the verb is not eventive the result will be durative.

What is important from the Finnish case is that the different cases are not encodings of different semantic aspectual features per se. Instead, different cases will force, for syntactic reasons, different configurations and, therefore, different interpretations. Note that by assuming this hypothesis we don't need to treat English aspectual interpretations differently from Finnish and we can associate different aspectual interpretations to different configurations. (For a more detailed exposition of the use of AgrO as the locus of Aspect interpretations see Schmitt (1996).

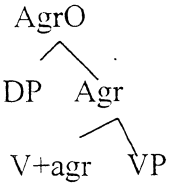
Following this line of reasoning, i.e., that terminative/durative aspect is dependent partially on syntactic configurations, let's suppose that iteration is also dependent on structural configurations. In other words, let's suppose that the difference between accusative clitic doubling constructions and regular DP complements is a structural difference. And it is this structural difference that blocks iteration.

First we should note that iteration is senstitive to the type of complement. Thus while we can have an iterative reading in ($89a) but not in ($89b), since the mass noun disallows subevent partition into discrete subevents.

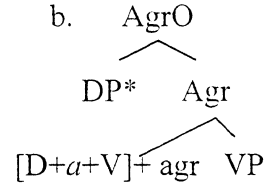
($N89) a. John played the sonata for 3 hours
b. John played music for 3 hours

Let's suppose then that iteration of the VP is dependent on configurations at AgrO.($88) schematically illustrates the AgrO of a regular DP complement and of accusative clitic doubling. Terminativity (i.e., boundedness) is certainly not a problem to obtain in accusative clitic doubling since a definite determiner is at AgrO by the time aspect is calculated. The question is what allows/ disallows iteration.

($N88) a.



b.



By comparing the two structures we can see two major differences: while in the regular DP complement the DP is in the specifier of AgrO, in the accusative clitic doublling we have a pleonastic element in the specifier of AgrO and in Agr we have V and an incorporated D.

The pleonastic element has no content and therefore has to be eliminated at LF since it is uninterpretable at the interface. The raising of the complex [D+*a* +V] to Agr will allow the pleonastic element DP* to be eliminated.[14] Thus the presence of the pleonastic element is not what is relevant for the aspectual interpretation.[15]

[14] Munn (1996) argues on independent grounds that expletive replacement configurations are head-head rather than spec-head configurations.

[15] In other words, we cannot associate the overt position of the clitic in accusative clitic doubling to a particular semantic interpretation (contra Sportiche 1993 and others). The final position of a clitic is a PF phenomenon.

If we compare ($88a) and ($88b) we can see that in regular complement constructions the DP is in a specifier head relation with the verb and this relation is mediated by Agr. In ($88b), on the other hand, this is not the case. Instead, the D element that carries the information that the cardinality of the object is specified is not in the specifier of AgrO. It is incorporated into the verb.

Although it is unclear how exactly determiner incorporation blocks iteration, some evidence for the correlation between determiner incorporation and lack of iteration comes from Galician. Although Galician disallows clitic doubling, it allows overt determiner incorporation (see Uriagereka 1988). When the determiner incorporates to the verb, the result is the same as in accusative clitic doubling, as the unacceptability of ($72) exemplifies below:

($N72) *?Deude que tiñas dezeoito anos, (ti) chocachelos coches.
since you were eighteen years old, you crashed-the cars

Here the result of the determiner incorporation is pragmatically odd, since a single crashing that lasted 10 or more years is quite implausible.

Tentatively I would like to suggest that the determiner, when incorporated cannot be used to combine with the verb in a way that will allow partition of the event into subevents that are discretely identifiable. Notice that it is crucial for this hypothesis that iteration is partition of the event into subevents, and my suggestion here is that it has to be mediated by the spec-head relation. Otherwise, the relation between the VP and the adverbial that will allow iteration does not obtain.

Needless to say that more research in the area of the appropriate semantics for iteration is necessary, but the point of this discussion is to show that the appropriate analysis of Spanish accusative clitic doubling cannot simply treat the clitic as an agreement marker. Even if the agreement is made to be agreement in specificity (as Suñer 1988 proposes), it still cannot account for the lack of iteration, since specific complements do allow iteration. We also cannot subsume clitic left dislocated structures to accusative clitic doubling (contra Kayne 1994). They involve different interpretations and different agreement properties (no first conjunct agreement).

3 Final remarks

The proposal that accusative clitic doubling is an instance of an identificational structure allows us to account for the three classical problems:

(i) *the thematic role problem:* the clitic is an expletive kind of element of an identificational small clause, thus it does not have a thematic role assigned by the predicate.

(ii) *the 'a' problem: be* in identificational small clauses is a case assigner. The *a* in accusative clitic doubling structures plays the same role as a case assigner to its complement, checking eh Case of the D-determiner.

(iii) *the NP-restrictions problem:* identificational small clauses require D-determiners as their complements. Thus we can associate the determiner constraints to the identificational properties of the small clause.

As for the aspectual problem, we showed its addition to realm of problems posed by the Spanish accusative clitic doubling allows us to separate clitic left dislocated structures from accusative clitic doubling and allows us to establish a correlation between determiner incorporation and lack of iteration. What is left open waiting for further research is the proper treatment of iteration and cross-linguistic variation in accusative clitic doubling.

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THE AFFIX-CLITIC DISTINCTION AND RUSSIAN SJA*

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Introduction

The properties of the reflexive element SJA in Russian are a problem for theories of clitics as well as affixes. SJA is problematic as a clitic, since it attaches to the main verb, it doesn't climb, and it is the only pronominal clitic in the language. SJA is problematic as an affix: it is peripheral on the verb, and thereby violates the Mirror principle. In this paper, I argue that the problems raised by treating SJA as a clitic are insurmountable, and force it to be rejected. I propose solutions to the problems raised by an affix analysis.

I will outline a model of the relation between syntax and morphology that allows a solution to some of the problems that occur when SJA is treated as affix. I will argue that Syntax and Morphology operate side by side, where Syntax creates visible input to Morphology but not vice versa. Affixes are spellouts of syntactic features, clitics are lexical elements present in the syntax which can also be operated on by morphological rules. I will argue that this model allows an account for the specific properties of SJA.

The paper is organized as follows. In section 1 I present the body of facts relevant to the decision whether SJA is a clitic or an affix, and argue that an analysis as an affix creates fewer and less substantial problems. Section 2 argues that morphological arguments do not bear on this decision, since affixes and clitics alike are subject to morphological processes. In section 3 I introduce the Parallel Model of morphology and discuss a crucial distinction between it and Halle & Marantz's model of Distributive Morphology. Section 4 presents my approach to the word-final position of SJA within this model. The remaining problem, how SJA can occur on nominalized and adjectivized active participles, is discussed in section 5. Section 6 contains a summary of the conclusions.

1 Outlining the Problem and the Solution

Some examples of the circumstances under which SJA occurs are given in (1).[1] The examples involve passive SJA, lexical SJA, reciprocal SJA and inchoative SJA.

(1) a. Vo vremja vojny, polja obrabatyvalis' soldatami
in time of-war fields-NOM work-PAST-PL-SJA soldiers-INSTR
'During the war the fields were worked by soldiers'

b. Vasja sobiralsja v dorogu
V. collected-SJA for journey
'Vasja was getting ready for a journey'

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[1] I will not be concerned with the different semantic effects of SJA (but see Gerritsen 1990, Rappaport 1994 and Schoorlemmer 1995).

c. Vasja vstretilsja so svoim drugom pered restoranom
V. met-SJA with his friend in-front-of restaurant

d. Ot razryva bomby razbilis' vse okna
from explosion of-bom broke-SJA all windows

SJA always occurs in right-peripheral position on the verb. When there is an auxiliary, SJA remains on the main verb (see (2)a), and no other form of clitic climbing is observed (see (2)b). The verb carrying SJA may be finite or infinitival, but also a gerund or an active participle, as in (2)c and d.

(2) a. Vasja budet myt'sja
V. will wash-SJA: 'Vasja will wash (himself)'

a'. *Vasja budetsja myt'

b. Deti nacinali myt'sja
children started wash-SJA: 'The children started to wash'

b'. *Deti načinalis' myt'(sja)

c. Vozvraščajas' s raboty, Vasja vstretil svoego druga
returning from work, V. met his friend-ACC

d. Ja nenavižu sobirajuščixsja v dorogu ljudej
I hate gather-ACT.PRT.-ACC/PL-SJA to road people
'I hate people who are getting ready for a journey'

SJA verbs are often related to transitive verbs taking accusative objects. However, the SJA verb does not generally retain the accusative object. Compare the examples in (3) and (1).

(3) a. Vo vremja vojny, polja obrabatyvali soldaty
in time of-war fields-ACC work-PAST-PL soldiers-NOM
'During the war the fields were worked by soldiers'

b. Vasja sobiral vešči v čemodan
V. collected things into suitcase

c. Vozvraščajas' s raboty, Vasja vstretil svoego druga
returning from work, V. met his friend-ACC

d. Vanja razbil vse okna
V. broke all windows

If SJA is treated as a clitic these facts could be explained in the following way: SJA is assigned accusative case, and it cliticizes to the verb outside inflectional affixes. A clitic analysis also seems to be in line with the facts of older stages of Russian. However, it also leads to substantial problems.

1.1 Analogy to Older Russian and Polish

First, the analogy to older Russian breaks down, precisely because the system has changed and SJA is now no longer a clitic. In older Russian, there were other pronominal clitics, SJA had different case

forms, and SJA was not restricted to verb-final position (examples from the 13/14th centuries).[2]

(4) a. ...ne vsi *sja* esmy sovkupili nynie (Ivanov 99)
not all SJA we-are gathered today
'We have not all gathered here today'

b. ...*si* tvorjaxu obyčaja (Ivanov:83)
SJA-DAT created-3pl customs
'They created customs for themselves'

(5) a. ...prijal" mja est' bog" (Ivanov:99)
taken me-ACC is god
'God has taken me'

b. ...luče bo mi bylo (Ivanov:105)
better for me-DAT was
'Because it was better for me'

c. ...vědě bo sja s ni(m) čto molviv (Ivanov:49)
know-1SG because SJA with him what/that said/talked-MSG
'Because one knows that he talked to him'

Observe that Modern Russian does have some non-pronominal clitics; and that SJA behaves very differently from these clitic elements. Examples with the focus clitic *že* and the conditional clitic *by* are given in (6) and (7).

(6) a. Ty že ne znaeš', počemu on ėto delal
you FOC not know, why he this did
'You don't even know why he did that'

b. On priedet segodnja že
he arrives today FOC
'He's arriving (precisely) today'

(7) a. Esli by ne ėtogo, on nikogda (by) ne prišel (by)
if COND not this, he never COND not came COND
'If it weren't for this, he would never have come'

b. Ty (by) lučše ne vmešivalas' (by), a to tebja vygonjat
you COND better not interfere COND, or else youACC chase-off-3PL
'You had better not interfere, or you'll be sacked'

These clitics may occur in different positions in the sentence, as opposed to SJA (see also (8)).[3] A

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[2] Example (5)c is only interpretable if the form *molviv* is taken to be a misspelling of *molvil*, and is glossed accordingly.

[3] It could be argued that this difference is due to the fact that *by* and *že* perform different tasks in their different positions, and that SJA is limited to one position due to a lack of polyfunctionality. First of all, of course, SJA seems to be able to derive different verbs from the same stem, and could therefore be called polyfunctional itself. Observe, furthermore, that the opposite reasoning can also be put forward: *by* and *že* allow different positions, therefore, different scope relations
(continued...)

particularly telling example in this respect is (7)b, which contains both *by* and SJA, but in different positions. So, Russian has syntactic mechanisms to place clitics in positions where they can be morphologically or prosodically licensed. If SJA is clitic a special mechanism for pronominal clitic placement must be assumed to place SJA. However, if Russian had such a mechanism the question arises why SJA should be the only element subject to it, and not also weak pronouns, which do exist in Russian.[4]

Note also that some languages force clitics to occur immediately adjacent to the verb, but never only on the right. If SJA were a clitic in modern Russian, you would expect it to behave in the same way, but it doesn't, as illustrated in (8).

(8) **S'/sja* ne obidela Maša (Ne obidelas' Masa)
SJA not hurt Masa: 'Masa didn't feel hurt'

The comparative evidence adduced in this section strongly suggests that Russian simply lacks pronominal clitics altogether: SJA differs systematically from clitics in languages with a set of pronominal clitics.

1.2 Syntactic Position

In this subsection, I will discuss language-internal reasons against a treatment of SJA as a clitic. All these derive from the idea that if SJA were a clitic it would be an element connected to a particular syntactic position, preferably the same position in all cases. I will argue that there is no underlying syntactic position that can account for the properties of SJA, and that there is no evidence to show that it might arise in different positions.

1.2.1 Argument positions

If SJA is assumed to be the head of an argument of the verb, the problem is that there is no way to come up with a unitary position. One option would be to say it is the head of an external argument, but some SJA-verbs evidently have external arguments, as in (9) or (1)b/c (see also (13) below).

(9) a. Vasja zapravil mašinu (benzinom)
V. filled-up car (fuel-INSTR)

b. Vasja zapravilsja
V. filled-up-SJA: 'Vasja refuelled'

Since many SJA-verbs are unaccusatives[5] the only alternative would be to allow SJA to be base-

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[3](...continued)
can be expressed by different positions of these elements. However, if different positions are not allowed the element stays put and may still perform different tasks. This is observed with negation in English, which does not move around to express constituent negation as freely as it does in Russian.

[4] Different mechanisms to place different types of clitics can be seen in Polish, where pronominal clitics are placed differently from, and often do not cluster with auxiliary clitics. However, Polish has a full set of pronominal clitics, not just the reflexive.

[5] Fowler 1993 argues that SJA should occupy an object position on the basis of data like those in (i).

(i) *plesti* *s-plesti* weave weave together

(continued...)

generated in different positions. Direct evidence for this hypothesis would be the occurrence of two instances of SJA where it is doubly motivated.

(10)	a.	*čitat'*	*načitat'sja*		
		read	read one's fill		
	b.	**smejat'*	*smejat'sja*		
			laugh		
	c.	*smejat'sja*	*nasmejat'sja*	c'.	**nasmejat'sjas'/sja*
		laugh	laugh one's fill, laugh enough		

The special semantics of 'one's fill' are connected to the addition of the prefix *na-* as well as adding *sja*, as can be seen in (10)a. An inherently reflexive verb like *smejat'sja* can be prefixed with *na-* to derive this same semantics, but in this case it does not lead to an extra instance of SJA. If cases like the double occurrence of SJA in (10)c existed they would constitute direct evidence for SJA as an independent syntactic element originating in different positions. However, this type of evidence is not available, as illustrated by (10)c'.[6]

1.2.2 Functional Head

Yet another alternative position for SJA to originate in is in a functional head. In combination with a checking theory of syntactic features this would mean that SJA is not a lexically added affix and ends up on the periphery of the verb. There are three problems with such an approach.

The first one is that it combines a system that requires inflectional features to be present on verbs at insertion (and then perform checking operations), and a system that allows morphological spellout of features 'after' syntax. Also, if the latter where the way to deal with clitics in general the problem is how to deal with the differences between SJA and other clitics discussed in section 1, and how to account for the lack of morphological distinctions between affixes and clitics (see section 2). The second problem is that SJA occurs on adjectivized active participles, and the third problem is that some SJA verbs take accusative objects. I will now deal with each of these in some more detail.

Active participles derived from reflexive verbs retain SJA, as illustrated in (2)d. Some of these participles are adjectivized, as illustrated in (11).

(11)	a.	*vydajuščijsja*
		stand-out-ACT.PRT-NOM.M-SJA: 'outstanding, excellent'
	b.	*stirajučijsja*
		wash-ACT.PRT-NOM.M-SJA: 'washable'

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[5](...continued)

merznut'	*s-merznut'-sja*	freeze	freeze together

The idea would be that this *s-* prefixation requires an object, in the absence of which SJA is inserted. The problem is that the SJA insertion only seems to take place with unaccusative verbs. I have no explanation for this fact, but it seems problematic for an analysis of SJA as a syntactic object.

[6] The argument cannot be reversed, so we cannot conclude from (10)c' alone that SJA is necessarily a clitic with a unique underlying position.

Such adjectives lack all verbal functional projections, which results in their lacking any verbal properties (see Schoorlemmer 1995). Evidence for the absence of verbal functional structure is derived from the absence in predicative position of active participles, but not adjectivized participles.

(12) a. Vse doma stojali rovno, a odin vydavalsja vpered
all houses stood in-line, but one stood-out-SJA in-front

b. *Ėtot dom byl vydajuščimsja
this house was outstand-ACT.PRT-INSTR-SJA

c. Ego sposobnosti byli vydajuščimisja
his talents were excellent-INSTR

Active participles are morphologically marked for and express present or past tense, which I take as evidence that they contain TP. The ungrammaticality of (12)b can then be attributed to the occurrence of the participial TP inside the matrix TP without an intermediate lexical head. Since the adjectival participle *can* occur in this position I conclude that it lacks the TP, and probably other verbal FPs, like AgrOP and AspP, as well. Adjectivized participles derived from reflexive verbs retain SJA. If SJA is situated on a verbal functional head the question is how it can occur on these adjectives.[7]

Observe that facts like (11) and (12)c are a problem for any theory of SJA that involves cliticization, because SJA must be assumed to cliticize to a non-verbal head, which it can do only in this type of adjective. See section 4 for further discussion.

An analysis of SJA as an F^0 clitic has an attractive ring to it, because the placment of SJA in $AgrO^0$ could be a first step in accounting for the lack of accusative objects with almost all SJA-verbs. However, there are exceptions to this generalization, as illustrated in (13).

(13) a. Slušajsja mamu!
obey mother-ACC

b. Ženu Igor' Savvovič ne bojalsja (Ickovic p. 36)
wife I.S. not feared
'Igor Savvič wasn't afraid of his wife'

c. Maše xotelos' kuklu
M-DAT wanted-SJA doll-ACC
'Maša would like a doll'

Assuming that SJA is connected to $AgrO^0$ and that its presence blocks accusative case assignment makes it impossible to account for the cooccurrence of SJA and accusative objects in these cases.[8]

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[7] One might argue, as is in fact done by Junghanns (this volume), that the retention of SJA on such adjectives is due to the fact that they are stored as idioms. Observe, however, that there is no evidence that all these adjectives are in fact stored in the lexicon. There is a productive process of deriving this type of adjective from middle verbs (see (11)b), productive and semantically equivalent to deriving *-able* adjectives in English, and for neither process is there a need to assume the products to be lexically stored (see Di Sciullo and Williams 1987).

[8] There is no evidence that inherent accusative case occurs in Russian at all. There are no Russian verbs that take two accusative arguments, and even the accusative case that occurs with some non-verbal predicates alternates with genitive of negation, which is generally assumed to be a sign of structural case.

1.3 Stress

A final problem with an analysis of SJA as a clitic leads to a problem of lexical phonology. In Russian, stress in underived or prefixed words is entirely lexical. Crucially, SJA may affect this stress (a double stress-mark indicates variable stress).

(14)

zvál	called-M	*zválsja*	called-M-SJA
zvalá	called-F	*zvalás'*	called-F-SJA
zválo	called-N	*zválós'*	called-N-SJA
zváli	called-PL	*zválís'*	called-PL-SJA

It is clear that SJA must in some way be visible to whatever mechanism determines lexical stress. This is an unusual property for a clitic to have, but let us assume it is possible to formulate a stress rule that is sensitive to the lexical feature that marks the verb as reflexive.[9] We would then still have the problem that SJA can act as a passive morpheme (see (1)a), in which case it is presumably motivated entirely syntactically (thereby accounting for the syntactic activity of the passive verb's external θ-role). Under a clitic analysis, in order to derive the combination of passive SJA and irregular stress induced by it we would need a rule of lexical stress that is sensitive to the presence of a particular syntactic element, which is a contradiction in terms. In any event, it is telling that nothing like these effects occurs with any of the other clitic elements present in Russian.

We have seen that a clitic analysis of SJA has three types of problems: It incorrectly predict SJA to behave like clitics in languages like Polish, it cannot be connected to any particular argument or functional position in the clause and it is not predicted to be able to affect or carry stress. In the next section, I will argue that clitics, SJA and affixes show morphological properties, and therefore that it is impossible to determine the status of SJA on the basis of its morphological behaviour.

2 Clitics and Affixes as Products of Morphological Operations

I will now show that there is no distinction between clitics and SJA with respect to allomorphy, zero morphemes and the presence of phenomena of lexical phonology. The argumentation presented in this section is based on Zwicky (1977), Spencer (1991) and Anderson (1995).

Like affixes, SJA shows allomorphy. It displays the pattern in (15), which is illustrated with the forms in (16).

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[9] And let us assume also that it is not problematic that the clitic carry the stress.
The paradigm of *zaperet'* 'lock' is like the one in (14), but has an additional syllable to distribute the stresses over. Observe that here SJA is allowed to actually carry stress in the masculine singular form.

(i)

záper	locked-M	*zápersjá*	locked-M-SJA
zaperlá	locked-F	*zaperlás'*	locked-F-SJA
záperlo	locked-N	*záperlós'*	locked-N-SJA
záperli	locked-PL	*záperlís'*	locked-PL-SJA

(15) When SJA attaches to a verb it takes the form /s'a/ when following a consonant, and /s'/ when following a vowel.

(16) a. *oni mojut-sja* — *ja moju-s'*
they wash-SJA — I wash-SJA

b. *ja myl-sja* — *ja myla-s'*
I washed-M-SJA — I washed-F-SJA

Further allomorphy of the /sja/-variant is observed when it attaches to a word-final /t/ which is part of an inflectional ending, as in (17). The phonetic realization of SJA here has the expected reduced vowel, but also an unexpected non-palatal [s].

(17) /radujets'a/ [ts@]

However, showing allomorphy does not qualify SJA as an affix, since this is also a property of the clitic pronoun *je* 'her' in Serbo-Croatian:

(18) a. Mi *je* smo vidjeli
we *her* are seen: 'we saw her'

b. Mladen *ju* je vidio
M. *her* is seen: 'Mladen saw her'

b'. *Mladen *je* je vidio
idem

A second morphological property that SJA shares with affixes is that it *induces* allomorphy on the element it attaches to. Perfective gerunds of reflexive and non-reflexive verbs have the forms in (19).

(19) a. pomyv 'having washed'
b. pomyv-ši-*s'* 'having washed (self)'

This should probably be analyzed as truncation of the *-ši-* formative in the absence of SJA, but what is crucial is that the presence or absence of SJA determines the choice of allomorph of the gerund-forming affix.[10]

To stress this point, observe that the operation illustrated in (17) also induces allomorphy on the verb it attaches to: when SJA follows a palatal /t/ then this palatalization is lost *as well as* the palatalization on the /s/ in SJA.

(20) /radovat's'a/ [ts@]

Again, inducing allomorphy is found with clitics as well, as illustrated for Serbo-Croatian in (21). In this example, a future auxiliary clitic following the infinitive induces truncation of the final vowel of the ending. This is not a phonologically driven phenomenon: it fails to apply when the final vowel does not belong to an infinitive (see (21)b).

(21) a. Ja ću čitati
I will read-INF

a'. Čitat-ću
read-INF will

[10] In older Russian, forms like *pomyv-ši* (cf (19)) could be found, but they are no longer acceptable in modern Russian. The allomorphy must therefore be attributed solely to the presence of SJA.

b. Sati ću biti teški b' *Sat-ću biti teški
hours will be-INF hard: 'The hours will be hard'

Another property shared by affixes and clitics is the occurrence of zero forms. In Serbo-Croation, in a cluster containing both *se* and *je*, *je* does not surface in many dialects (see (22)a); in Polish one instantiation of *się* may serve two reflexive verbs, as in (22)b.[11]

(22) a. Izgubila se (je)
lost-way refl. is: 'She lost her way'.

b. Boję się zgubić (after Fowler 1993)
fear-1SG REF lose-way: 'I'm afraid I might lose my way'

We have already seen that SJA may lexical phonological affects, see my discussion of (14) above. It turns out that Serbo-Croatian clitics may have effects pertaining to the domain of lexical phonology too, when they induce palatalization of the consonant preceding the clitic (after truncation of the type illustrated in (21)a).

(23) a. Ja ću rasti Rašću ja
I will grow-INF grow-will I

b. očis*t*iti očišćen
clean-INF cleaned

c. Most ću/ *Mošću zgraditi
bridge will-1sg build 'I'll build a bridge'

Example (23)c again shows that this palatalization is morphological, not phonological, since it can be triggered only on a verb stem.

The properties discussed indicate that, like affixed words, clitic clusters and word-clitic combinations are processed by morphology just like affixed words are.[12] So, we cannot use morphology to define the clitic-affix distinction. Instead, I want to spell out the distinction in syntactic terms, in the way I think it is implicitly and explicitly adhered to by many researchers. In languages with clitics the cluster itself, i.e. the syntactic position of the clitics, is derived by syntactic mechanisms. For instance, it would be rules of syntax putting clitics in a second position in Serbo-Croatian. The actual format of the cluster would be the result of a morphological operation. As a result, the cluster shows a lot of properties of a morphological word, i.e. of a bunch of affixes joined together (see Zwicky 1977): it shows and induces allomorphy including zero forms, and is involved in processes of lexical phonology.

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[11] Fowler 1993 treats facts like Russian (10)c as support for the hypothesis that SJA is not an affix, the point being that affixes do sometimes double. Again, the argument cannot be reversed (see fn. 6). Notice also that following this reasoning the contrast with Polish (22)b could then be taken to indicate that if the latter is a clitic, Russian SJA is not.

[12] Anderson 1995 argues on the basis of similar evidence that clitics are in fact phrasal affixes, an approach that is compatible with the one I will propose. However, I think there are systematic morphological differences between clitics and affixes that contradict this conclusion, in particular pertaining to direction of attachment. See Schoorlemmer 1995b.

In the remainder of the paper, I will argue that SJA should be treated as an affix. I will propose a model of the way syntax and morphology interact that allows clitics and affixes alike to be input to morphology, deriving the morphological properties illustrated in this section.

3 *Parallel Morphology and the Affix-Clitic Distinction*

I assume a model of morphology along the lines of Borer (1993) and Baker (1988) where morphology is a module of grammar which may operate and be accessed at any time in the derivation of a sentence: Before syntax, in parallell with it and afterwards. I will follow Borer's terminology for such a system as Parallel Morphology; I will refer to the module of grammar involved as Morphological Form (MF).

It is irrelevant for the present discussion whether the input to MF consists of head-adjoined structures of the Lieber type or feature annotated stems. Both of these are assumed to trigger rules adding morphological elements to the stem, either presyntactically or in the course of a syntactic derivation. The output of MF will project syntactically (presyntactic morphology) or be reinserted into syntax (morphology operating alongside syntax).

A restriction on morphology operating during or after syntax is that it must not affect the verb's argument structure in a way that violates the Projection Principle. I will refer to this type of operation as syntactic morphology, which includes inflection and the morphological phenomena involved in clitic clustering. The properties of this 'spellout' (Morphological Match) are given in (24) and (25) (see Schoorlemmer 1995 ch. 3 for discussion).

(24) A Morphological Match displays each of the following properties:
   a. The features on the syntactically derived structure and the morphological construct are non-distinct;
   b. There is no other form that has feature identity for more features.

(25) a. A listed form always takes precedence;
   b. If there are two competing forms where one needs fewer morphemes then this one will be a match;
   c. No match obtains if the morphology spells out *additional* features not present in the syntactic form.

In many languages, the morphological rule used to derive participles can also be used as presyntactic morphology to derive adjectival participles. This double use of the same morphology was one of the main reasons for Borer to come up with the idea of Parallel Morphology, which allows the derivation of both types of elements without the need to postulate two separate rules or the need to invoke a null-affix. The operation that adds the paricipial morphology can operate before syntax (deriving adjectivized participles without verbal properties) or during/after syntax, deriving true participles on the basis of a verbal structure.[13]

[13] Since this eliminates the need of postulating a rule that derives these adjectives from participles it also avoids the problem of having to posit a large number of non-existing imperfective participles as a morphological base for this derivation in Russian.

I assume that MF has some of the properties of Distributed Morphology as argued by Halle & Marantz (1993, H&M). It includes operations that redistribute features into different terminal elements, make morphemes swop places, it may invoke templates. I follow H&M in adhering to a model that is non-lexicalist, but unlike them I assume that lexical insertion and rules of morphology don't have to wait until after syntax. The reason for this is the following.

H&M argue that all morphology should be treated as post-syntactic morphology, but the fact is that they discuss only cases of canonical inflection. Under the system they propose, including derivation would predict that derivational morphology takes part in the various redistribution operations found in inflection and cliticization. As a result, we expect to find not only violations of the MP, but also inflectional elements occurring closer to stems than derivational ones. Apart from SJA, which could be treated as such a case, this doesn't seem to be an option in languages.[14] I therefore stick to the Parallel Morphology model, which directly accounts for the fact that inflectional morphology is more peripheral in words than derivational morphology across languages.

In order to restict the power of the system in the way intended by Strong Lexicalist Hypothesis, the MF operations must not be visible to syntax. This means that syntax is unaware of the fact that a morpheme has been inserted to match a certain feature, of the nature of the match involved (i.e. whether all features were spelled out or just a subset), or whether a listed element may have been inserted. Crucially, I assume that the result of the MF operation may be that an element of a different category is reinserted, resulting in a mismatch between syntactic and morphological category. I will return to the latter property of the system in section 5.

The assumption is now that if MF operates on a clitic cluster (or a single clitic) syntax does 'see' this, because the MF operation affects two lexical elements, visible to syntax and syntactically independent. What is visible to syntax is that an operation takes place which determines the order of the clitics (or the host and the clitic) independently of an ordering that would have been licensed syntactically. Whether or not the ordering has in fact been affected is not relevant, because that is precisely what syntax cannot see: all it 'knows' is that something has been done to its units that it cannot control or account for. In order to avoid this situation, MF operations involving clitics must wait till overt syntax is entirely finished, so that there is no reinsertion of the morphological material and syntax remains oblivious to this interference with its order of things.

Clitics are lexical elements with an independent syntactic status whose properties are visible to syntax. I have argued that as a result, the morphological operations involved must take place after syntax. Affixes differ from clitics in lacking any independent syntactic status, and so there is no syntactic reason for postponing their processing by morphology until after syntax. Let me now return to the problematic properties of SJA.

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[14] Haspelmath 1993 shows that wherever we find phenomena of this type they are part of unstable systems where morpheme ordering changes from *stem-infl-deriv* to *stem-deriv-infl* through an intermediate stage where the inflectional affix is doubled: *stem-infl-deriv-infl.* The consequence of H&M's assumptions is, however, that there is no reason why the original ordering should be unstable.

Observe that SJA does not seem to be such a case, since it follows *all* inflectional morphology, not just one morpheme.

4 *SJA is [word final]*

Treating SJA as an affix and giving up on the clitic analysis solves the following problems encountered with a clitic analysis: 1. The fact that it differs from SJA in older Russian: it shows no climbing, and a fixed word-final position; 2. The absence in Russian of a system of pronominal clitics; 3. The lack of a unitary underlying position for clitic SJA, either a lexical or functional position; 4. The fact that SJA may be stressed.

However, there are some problems left. Treating SJA as an affix does not by itself account for the occurrence of SJA on adjectival participles nor its position following adjectival inflection; it also leaves the common absence of accusative objects with SJA verbs to be accounted for. A new problem arises with this assumption, which is that SJA as a word-final affix violates the Mirror Principle. If it is a lexically conditioned affix we would expect it to occur inside the verb in a position adjacent to the stem, if it is syntactically conditioned (e.g. in a passive), it should be in the same position in the word as the other passive morpheme, viz. the one deriving passive participles. This section provides a step-by-step account of the problem of its position in the word; the problem of attaching SJA to adjectives is discussed in section 5. I will leave the very limited occurrence of accusatives with SJA verbs as a topic for further research.

Regardless of whether SJA is treated as an affix or a clitic, we have to assume that a verb may have a lexical feature [+SJA].[15] I assume that there is a passive feature which is equivalent to [+SJA], in order words it triggers the same affixation at MF (or the same clitic to appear).

As observed by H&M, morphological elements may have properties that are not an immediate result of the fact that they spell out certain syntactic features, like declension class, or whether they are pre- or suffixes. This is the sort of property that Aronoff (1994) argues to be indicative of the existence of morphology as a separate module of grammar. My proposal to account for the properties of SJA is that it has a special marking not only as a suffix, but also [+word final]. Due to this feature, as soon as SJA is added to a verb no other features can be spelled out. The result is that the spelling out of the [SJA] feature must wait until after any overt syntax that leads to verbal inflection.

Some consequences of this proposal are the following. If SJA occurs word-finally on the basis of a morphological property, doubling it (see (10)c') is predicted never to be possible, because the non-final SJA would not be occurring word-finally as required by the feature. The [+word final] feature on SJA forces SJA to occur at the end of the word as it is formed by MF. Phonological attachment to their hosts of other weak elements (like *ze* and *by*, see section 1) must then be assumed to be governed not by rules or operations of MF, but of the phonological/prosodic domain.[16]

All we need to account for the properties of SJA is a special type of suffix. The clitic-like properties of SJA are accounted for by the fact that the application of the MF rule takes place at roughly the same point in the derivation where the morphological properties of clitic clusters are derived: SJA after all other syntactic morphology, clitics in post-syntactic morphology. The difference between SJA and clitics is accounted for by the fact that SJA is not an independent element in syntax.

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[15] My assumption is that this feature is the automatic lexical consequence of any operation that degrades a verb's argument structure with respect to its base, see Schoorlemmer 1995a and Gerritsen 1990 for clarification.

[16] This includes the imperative modal element *-ka*, which always follows SJA.

(i) *Ulybnis'-ka*
smile(sja)-ka: 'Give us a smile!'

Obviously, [+word final] is a very powerful mechanism of morpheme ordering. Invoking such an enrichment of the system can be motivated in two ways. First of all, the word-final behaviour of SJA is unique within the Russian system and probably across languages; I know of no other cases of obligatorily peripheral derivational morphology (but see fn. 14). This means that deriving its properties from more usual morphological principles would predict the phenomenon to be more widespread. Secondly, it means that the way this mechanism is integrated into the grammar represents an option that languages are extremely reluctant to develop, so that we need strong evidence from diachrony that developing a system including this feature really was the only way out of a reanalysis situation. I will now briefly sketch the development that led to reanalysis of SJA as an affix, leaving details and an in-depth analysis for future research.

In the course of the history of Russian, pronominal clitics disappeared, possibly as a result of the parameter resetting that induced the loss of pro-drop. So, the system lost the means to place clitics in positions where they could be licensed and presumably thereby lost the clitics. The pronominal clitics could be reanalyzed as weak pronouns, so for instance clitic *mja* ('me') was reanalyzed as a weak variant of *menja* which surfaces under particular discourse environments. However, SJA could not be reanalyzed as a variant of *sebja* ('oneself'), because there are a large number of instances where SJA can simply not be replaced by *sebja*: either SJA is inherent, or it would need to be replaced by a reciprocal. Notice also that *sebja* is not embedded in the pronominal system the way reflexive and non-reflexive pronouns are in Germanic, as in the Dutch examples in (26).

(26) a. Ik was me/*zich
I wash me/self: 'I am washing, I wash'

b. Jan wast zich
J. washes self: 'Jan is washing, Jan washes'

Older Russian did not have the option of replacing *sja/si* by a personal 1st or 2nd person pronoun. I conjecture that the combined effects of lack of appropriate replacement by the full form (or its weak variant) of the reflexive and the absence of non-reflexive weak pronoun insertion led to *sja* being retained and reanalyzed as an affix.

5 SJA on Nouns and Adjectives

We now have one problem left to solve, which concerns the presence of SJA on adjectivized active participles (see (11)). So far, this type of fact was used as an argument against a clitic analysis, because the functional structure that might account for the presence of SJA in sentences is absent in adjectivized elements. The account I will give provides additional avidence for the properties of the system of morphology I've been assuming.

In section 3, I mentioned the fact that Parallel Morphology allows a situation where the output of MF is of a different morphological category than the syntactic category of the input. This accounts for the properties of passive participles in many languages, which behave entirely like verbs in passive sentences, but morphologically look like adjectives. The idea to account for this is that MF has a form to spell out the relevant verbal features, but it is of the morphological category A. If the A category

where derived in a presyntactic model of morphology it is unclear how syntax could treat it as a verb, or how the morphologically adjectival behaviour could arise in the first place.

The first step in accounting for the presence of SJA on a (non-adjectivized) participle is the assumption under PM that it is possible for one and the same morphological operation to apply presyntactically or postsyntactically; active participles are derived from a verbal syntactic structure, adjectivized participles are derived presyntactically and project as adjectives (see section 3). Secondly, as just discussed for passive participles, it is possible to assume that the participle is only an adjective at MF, and a verb in syntax. Syntax doesn't see its morphological category, and continues to treat the element as a verb even after the participial morphology has been reinserted.

The following generalization now seems to hold:

(27) SJA can be attached in exactly those *morphological* environments that are possible with syntactic verbs.

A morphological operation that does not also operate on a syntactic verb never allows SJA. Those that do are: finite inflection, infinitivals, imperatives, gerunds, and, finally, active participles. The morphological operation that derives the latter also derives adjectives, and precisely these adjectives retain SJA in the course of their derivation. There are two pieces of evidence that this is the correct generalization and that morphology is the place to look in order to define the distribution of SJA.

The first comes from another type of formation with SJA: nouns morphologically identical to active participles.

(28) a. Vse učaščiesja/trudjaščiesja nedovol'ny
all students/workers (are) unhappy

b. Vse učeniki nedovol'ny
all pupils (are) unhappy

Even though the structure in (28)a is syntactically entirely nominal, the porte-manteau morpheme expressing case and number is adjectival. Again, the morphology used can also be found on syntactic verbs, and in these cases SJA is retained.

Observe that if these nouns were assumed to be derived from an active participle by zero derivation we would have no way of accounting for the fact that SJA is not retained when other morphemes are used to derive Ns from Vs. Compare the nouns in (28)a and b. In *učenik* an overt morpheme never used as inflection is adjoined to a stem, and SJA is impossible. The same is true in complex event nominals: the verb occurs inside a nominal whose morphology is never used in the context of a syntactic verb, and SJA cannot be retained.

Secondly, the allomorphy rule for SJA based on phonological shape of the verb (see (15)) is overruled by (29), which concerns the shape of SJA in active participles.

(29) When SJA follows adjectival inflection it takes the form /s'a/.

So, depending on the morphological category of the verb the allomorphy rule does or does not apply. Crucially, whether the participle is (syntactically) adjectival or syntactic is irrelevant. This is direct evidence that at least one rule determining the affixation of SJA is sensitive to morphological category

and morphological category only. For reasons of economy it can then be assumed that all relevant rules are morphological in nature, as expressed in (27).

Further evidence that in Russian morphological category is the only relevant factor for the distribution of SJA can be given on the basis of a difference with Polish. In Polish, the reflexive clitic is a true clitic, and it can only occur in *syntactically* verbal contexts. Polish Verbal Nouns are syntactic verbs, witness their ability to be modified by adverbs and accusative time adverbials, but they are morphological nouns, evidenced by their ability to inflect for case.

(30) a. Pływanie szybko godzinę może być wyczerpujące
swim-PVN-NOM quickly hour-ACC may be exhausting
'Swimming quickly for an hour may be exhausing'

b. Ocenianie go trwa już cały miesiąc
judge-PVN-NOM it-GEN/ACC lasts already whole month
'Judging it has lasted for a month already'

Polish Verbal Nouns occur with pronominal clitics, as shown in (30)b. The affix used in deriving these nouns can also be used in the derivation of complex event nominals or result nominals, at least the latter of which is syntactically entirely nominal (Borer 1993, Schoorlemmer 1995). This results in a situation parallel to the active participle case in Russian: Non-verbal morphology that occurs on syntactic verbs as well as non-verbs, which we saw in Russian is a situation that allows SJA to occur in both cases. If Polish clitics were like SJA, you would predict the reflexive clitic to be equally possible in both formations. However, it is not. The Polish reflexive occurs in verbal nouns (see (31)a), but not result nominals ((31)b).

(31) a. Ostateczne [spotkanie się] przyjaciół zaskoczyło nas
eventual meet-PF-VN REFL friends-GEN surprised us
'We were suprised by the friends' eventual meeting'

b. [Przyglądam się] spotkaniu starych przyjaciół
watch-1SG REFL meeting-DAT old friends-GEN
'I watch the meeting of the old friends'

I conclude that Russian SJA is an affix whose presence is sensitive only to the morphological environment it occurs in, whereas Polish pronominal clitics are syntactic elements licensed in syntax, whose presence is sensitive to the syntactic, and crucially not the morphological context.

7 Conclusion

The conclusions of this paper are the following. Evidence that SJA in Russian is of an affixal, not clitic nature has been reviewed in the context of a specific theory about the relation between syntax and morphology. I have argued that treating SJA as a clitic creates numerous problems with the syntactic representation of SJA as well as clitics in general, and that those that arise when SJA is treated as an affix are generally solvable under a Parallel model of MF. In particular, by the way visibility of morphological operations to syntax was defined, this model allows a discrepancy between

syntactic and adjectival category and correctly predicts the post-syntactic morphological treatment of clitics.

Having identified the generalization concerning the distribution of SJA the next question is of course why it works like this and what the special property is of morphology *used* as verbal inflection that allows the SJA-rule to make reference to it. Observe, however, that we have now arrived at an interesting question concerning the nature of verbal inflectional morphology and its properties in other environments, rather than attributing the occurrence of SJA in adjectivized and nominalized participles to freakish idiomatization.

I have indicated a line of research to solve the problem of the historical reanalysis of SJA, details of which remain to be explored. A final problem to be solved for any theory of SJA is the occurrence (or lack thereof) of accusative objects with SJA verbs.

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English finite auxiliaries in syntax and phonology

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1. Introduction

The behaviour of the English finite auxiliary (aux) contractions has engendered much debate over their status in syntax and phonology:

(1) a. John's probably just left.
b. [a picture of John]'s lying on the table

Most authors claim these forms are 'clitics' under some conception of the term. Some have claimed that 'cliticization' takes place in syntax (Bresnan 1971, Kaisse 1985), others, that cliticization is exclusively phonological (e.g. Nespor 1994). All these authors conceive of cliticization as restructuring of a hierarchical representation. For Bresnan, contracted aux procliticizes in syntax (2); for Kaisse, contracted aux encliticizes in syntax (3). Nespor also proposes enclisis (3), but claims that the representations are not syntactic but prosodic:

(2) [*John*] [*s*] [$_{VP}$ [*left*]] → [*John*] [$_{VP}$ [*s* + *left*]]

(3) [*John*] [*s*] [*left*] → [*John* + *s*] [*left*]

Considering either of these transformations to be syntactic is extremely problematic from the standpoint of current theory. As far as syntax is concerned, displacement of a category is an instance of move-α. Assuming (i) that moved α leaves a trace, and (ii) that a trace must be c-commanded by its moved antecedent, movement can only be to a c-commanding position. Neither transformation meets this requirement. (2) represents 'downward' movement of aux, i.e. movement to a *c-commanded* position. (3) represents 'sideways' movement: neither the landing site nor the launching site c-commands the other. This is clearer when complex cases like (1b) are considered:

(4) [$_{IP}$ [$_{DP}$ *a picture of* [*John*+aux]] [$_{I'}$ t_{aux} *lying* ...]]

Cliticization in syntax is generally conceived of as an instance of move-α, specifically of head movement (cf. e.g. Kayne 1991, Ouhalla 1991, Cardinaletti & Starke 1995 on clitic pronouns). If aux contractions are syntactic clitics, they are simply heads that move to a head-position higher in the clause—schematically (5):

(5) [*John* [X° [aux [$_{VP}$ *left*]]]] → [*John* [aux+X° [t_{aux} [$_{VP}$ *left*]]]]

Within recent approaches to phonology (prosody), restructuring transfomations of both types (2) and (3) are well-motivated. Indeed, central cases that motivate prosodic representations that are non-isomorphic to syntactic (S-structure) representations involve the outputs of such operations. It is certain that in the output (PF), at least one contracted aux—*'s* (= *is*, *has*)—is tautosyllabic with final segments of the word preceding it. Hence any analysis will have to assume (3) for this form at least. Given the c-command argument, (3) cannot be a syntactic transformation.

The question arises of whether prosodic encliticization is sufficient to account for the distribution of contracted aux, as claimed by Nespor (1994). I claim that it isn't. In the following, I propose a three-stage account, which involves both a syntactic stage 'head movement' (5) and a prosodic stage 'proclisis' corresponding to (2), prior to prosodic encliticization (3). Thus the account proposed here utilizes ingredients of previous approaches; however, contractions are argued to be special in both syntax and phonology in ways that differ from previous proposals.

English finite auxiliary verbs (including copula 'be') show similar properties to their counterparts in Serbian/Croatian (S/C)—in both languages, we find one weak (contracted/enclitic) form and two strong forms (positive/negative):

(6)	sam	jesam	nisam (= be.1SG)	/	cu	hocu	necu (= want.1SG)
	've	have	haven't	/	'll	will	won't

(7) a. Ja sam išao / Ja cu ici
b. I've left / I'll go

It has previously been proposed that the English contracted finite aux is a 'second position special clitic', i.e. a clitic (or weak element) with special syntactic properties, like the weak aux in S/C (Kaisse 1985, Cavar & Wilder 1995). This claim is substantiated in section 2. Support for the special syntactic status of contractions comes from their restricted distribution. The restrictions concern (i) word order, and (ii) distribution over clause-types. The same facts hold for the S/C weak auxiliaries, indicating that the auxiliary systems in the two languages share basic syntactic properties. The restrictions on the occurrence of weak forms are argued to reflect their being singled out for special treatment in syntax. In particular, contracted/clitic forms are only permitted to occur in certain clause types, and are subject to an obligatory movement transformation, corresponding to Baker's (1971) "Aux Shift" rule. Section 2 ends with a proposal to account for the distribution of weak and strong auxiliaries in terms of the presence or absence of a functional element Σ° in the clause structure.

The account in terms of Σ° only partially accounts for the distribution of English contractions: while the presence of Σ° is sufficient to exclude a contracted aux, the absence of Σ° is not sufficient to render contracted forms legitimate. There are many contexts where it is not reasonable to postulate Σ°, but where contracted aux is blocked (section 3). These contexts turn out to be the same ones that motivated Bresnan (1971) to postulate that contracted aux is a proclitic.

The claim that contracted aux is a proclitic seems to conflict with the fact that contractions are clearly enclitic on the surface. Nevertheless, I argue that Bresnan's idea is essentially correct. Contracted aux imposes requirements on its righthand context which must be expressed in phonological terms. Section 3 explores these (phonological) determinants of the distribution of contracted aux, within a model of the syntax-prosody mapping as outlined in Inkelas & Zec (1993). The conclusion is reached that the requirements on the righthand context are to be accounted for in terms of general properties of the syntax-prosody mapping, which feeds encliticization.

2. The syntax of finite aux

In this section, I review the arguments for treating contractions as morphologically distinct entities from non-contracted forms. Then I proceed to show that the distribution of contractions is restricted in a syntactically significant ways. Finally, a proposal is made to account for the syntax-form correlation in which the possibility for spelling out aux with a contracted form is controlled by a syntactic property.

2.1 Contraction vs. reduction

Like all monosyllabic function words, auxiliary verbs are capable of surfacing as unstressed elements or as phonological words, i.e. elements bearing word stress (the former possibility differentiates functional elements from lexical, i.e. open class, elements—cf. section 3 below). That is, for all English finite auxiliaries, it is possible to distinguish accented from accentless (phonologically reduced) forms. However, some of the finite auxiliaries have three distinct realizations, i.e. they have a contracted form that is distinct from the deaccented full form (cf. Kaisse 1985, Inkelas & Zec 1993, Nespor 1994). The three-way contrast can be be thought of in terms of two oppositions, as in (8), with contracted forms inherently unable to bear accent:

(8)

	accent	*contraction*
IS	+	–
is	–	–
's	–	+
(*)	+	+

Examples are shown in (9) (following Inkelas & Zec 1993:207). The contractions in (9a) are to be treated as morphologically distinct entities from their non-contracted counterparts, in contrast to the weak forms in (9a.) and (9b.). [1] As Inkelas & Zec point out, "full and reduced forms can be related by an independently motivated rule of vowel reduction in unstressed syllables", while "full and clitic forms cannot be related by .. any set of rules known to operate in the English lexicon" (cf. also Kaisse 1985).

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[1] The contracted forms for *have*, *would* and *had* lack schwa when preceded by a nominative pronoun or *who*, whereby the pronoun itself may be reduced or not: you've = [juwv], [jʊv]; he'd = [hijd], [hɪd]; etc. Cf. Kaisse (1985) for discussion.

(9)

		full (=stressed)	**reduced** (=unstressed)	**contraction**
a.	*is*	Iz	Iz	z
	am	ɛm,æm	əm	m
	are	ar	ər	r
	has	hæz	həz	z
	have	hæv	həv	əv
	will	wIl	wəl	əl
	would	wUd	wUd	əd
	had	hæd	həd	əd
b.	*was*	wɔz	wəz	--
	do	duw	də	--
	does	dʌz	dəz	--
	did	dId	dId	--
	must	mʌst	məst	--
	can	kæn	kən, kn	--
	could	kUd	kUd	--

Vowel reduction reduces nonhigh vowels to schwa. Schwa can then disappear from schwa+sonorant syllables, cf. [ajkn] for *I can ... / icon*. Some dialects have initial h-deletion (*hat* → *'at*) that might account for *have* → *'ave*, but no dialect permits schwa to be removed from schwa+obstruent, to give *'ave* → *'ve*, or deletion of initial [w], as would be needed for *would* → *'d*.

This means that whereas reduced forms need not be listed separately from full forms, both full and clitic forms must be listed independently of one another. In other words, we are dealing with allomorphy.

It is also significant that distinctions among full forms are selectively neutralized in the 'contraction' column: [z] spells out *has* and *is* (but not *was* or *does*), and [d] spells out *had* and *would* (but not *did*, *could* or *should*). [2] Such neutralization also characterizes the relation between paradigms of clitic and full pronouns: cf. English *them / him* → *'m* [əm], French *moi* (Acc.) / *à moi* (Dat.) → *me* (Acc/Dat) (Cardinaletti & Starke 1995).

On the surface, nonsyllabic contracted forms (i.e. those lacking schwa) are enclitic, being integrated into the (coda of) the preceding syllable in the string. The clearest indicator for enclitic status is provided by [z] (*is*, *has*), which undergoes voicing assimilation with the preceding segment (i.e. [z] → [s], if preceded by a voiceless consonant): [3]

(10) a. Mary [z] left. b. Pete [s] left.

Voicing assimilation is used below to distinguish contractions from reduced full forms in otherwise unclear cases.

The evidence that that the contraction-full form opposition is relevant in syntax takes the following form:

(11) a. contractions can be used only in a subset of tensed aux positions.
b. the distribution of contractions is not coextensive with that of unstressed (reduced) full forms (the latter occur in positions forbidden to contractions)
c. the subset of positions (a.) forms a 'natural class' in syntactic terms

(11a) could in principle have a nonsyntactic (e.g. phonological) account. But the restrictions on contractions are not reducible to possibilities for deaccenting finite aux (11b), which rules out the most plausible phonological account; while (11c) points to a syntactic account.

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[2] Precisely these two contractions—[z] and [d]—are also homophonous with the finite affixes that attach to main verbs. This observation makes it tempting to seek a unified analysis of these contractions and finite affixation. However, to attempt this would require consideration of *do*-support, lack of agreement on modals, and other phenomena, which put it beyond the scope of this paper.

[3] More accurately, auxiliary /z/ behaves phonologically exactly like the verbal agreement suffix and the nominal plural suffix. Each surfaces as [Iz] following a strident—cf. [bɔksIz] in: *the box's over there = the boxes over there*, and in: *he boxes professionally*—and undergoes voicing assimilation elsewhere.

2.2 Word order

The first piece of evidence comes from word order facts first discussed in Baker (1971) (cf. also Bresnan 1971, Kaisse 1985). In simple declaratives contractions must appear to left of aspectual adverbs (*often, never*, etc.):

(12)	a.	Peter	d	never		read that	(d = would / had)
	b.	* Peter		never	d	read that	
	c.	Mary	s	often		(been) in London	(s = is / has)
	d.	* Mary		often	s	(been) in London	

This placement restriction singles out contractions from both stressed and destressed full forms. With full forms, the most natural orders are aux+adv, if aux is destressed, and adv+aux, if aux is stressed. However, both orders are possible for both variants (13)-(14), although contexts in which 'marked' orders are usable can be hard to access.

(13) a. (?) John IS often in his office (ok in context: "John isn't often in his office")
b. John is OFTEN in his office

A stressed aux can precede the adverb; (13a) is felicitous in a 'denial of the negation' reading, e.g. when used to deny the validity of a previous utterance, as indicated. [4]

While the order adv+aux is most natural for the stressed form (14a), it is also possible for the destressed full form (14b). The latter is most felicitous with stress placement on the adverbial, i.e. when the adverb bears a degree of focus: [5]

(14) a. John often IS in his office
b. ? John OFTEN is in his office.

(14b) contrasts with (15a): post-adverb placement for the contraction yields unacceptability in any context. There is no independent reason why *'s* may not encliticize to *often*, cf. (15b):

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[4] Contrary to the claim made in Baker (1971), repeated in Baker (1989:210). While many of the examples he cites are indeed infelicitous at first sight, this turns out to result from the lack of an appropriate or plausible context. In many cases, I do not share Baker's judgements. Baker (1971:171,note 8) himself notes counterexamples to his claim, involving 'epistemic' *may*:

i) You MAY never need that revolver.
ii) * You never MAY need that revolver.

As indicated, the reverse (otherwise unmarked) order seems to be ungrammatical in this case. There seem to be two independent factors at work here. Firstly, the surface order of adverb and aux determines relative scope in many cases, regardless of whether aux is stressed (cf. Baker 1989:):

iii) John often hasn't called us
iv) John hasn't often called us

Certain orderings may be filtered out by this factor; e.g. it seems that epistemics cannot fall into the scope of quantificational adverbs, as in (ii) or (v) :

v) * It often must rain here
vi) It must often rain here

Secondly, when aux is focussed, the clause implicates a 'denial of the negation' of its proposition, in additon to asserting that proposition. This reading is also associated with emphatic *do*-support (cf. section 2.8).

[5] The factors at play here are murky. Some such examples, e.g. (i)-(ii) seem downright impossible, but this may have to do with the length of the VP, as the contrast with (iii)-(vi) suggests. See also discussion in Baker (1971).

i) * John NEVER has swum. (ok: John never HAS swum)
ii) *? John ALWAYS is smiling. (ok: John always IS smiling)
iii) John NEVER has swum as well that before. [həz]
iv) John ALWAYS is smiling when I arrive.
v) John NEVER would have done that.
vi) There ALWAYS will have to be someone in the office. [wəl]

(15) a. * John often's in his office
b. How often's he here?

A suitable adverb for the 'voicing assimilation' test is *just*. In (16), the contrast between the destressed aux and the contraction is absolute:

(16) a. Jack's (only) just left [s]
b. ? Jack (only) just has left [həz]
c. * Jack (only) just's left [s]

The selective nature of this placement restriction makes a phonological account implausible; there is no obvious reason why contractions should not be possible where destressed aux is. On the other hand, it can be handled straightforwardly in syntax in terms of movement. This necessitates the assumption of two syntactically distinct variants of finite aux—call them aux_{weak} and aux_{strong}—related to the allomorphs as in (17). [6]

(17) a. contracted forms only realize the syntactic element aux_{weak}
b. aux_{strong} is only realized by full forms (unstressed, stressed)

(18) a. aux_{weak} must move in overt syntax to an Infl-head above the adverbial.
b. aux_{strong} may but need not raise.

Pollock (1989) has proposed that all finite auxiliaries raise out of VP to an Infl head (T°) in English. The aux-raising proposed in (18) is independent of Pollock's aux-raising rule. The operation (18a) targets only a subset of finite aux (aux_{weak}), which thus undergoes an obligatory raising rule in addition to Pollock's rule. The remaining finite auxiliaries undergo additional raising optionally (18b).

The question of landing site for the rule (18) depends on assumptions concerning (i) clause structure; and (ii) adverb positions. Pollock proposed the clause structure (19), with finite aux in the higher Infl-head (T°) at S-structure, Spec,TP the canonical subject position. The post-aux and pre-aux adverb positions correspond to adjunction to VP and adjunction to T' respectively:

(19) $[_{TP}$ SU $([_{T'}$ Adv$)$ $[_{T'}$ aux+T° $([_{NegP}$ Neg°$)$ $[_{AgrP}$ Agr° $([_{VP}$ Adv$)$ $[_{VP}$ .. V

If both Pollock's movement analysis (finite aux always raises to T°), and the proposal (18) to treat contraction placement as aux-raising are correct, then the clause must contain one Infl-head more than in (19), to serve as landing site for aux_{weak}. [7] In recent proposals (e.g. Chomsky 1991, 1993), TP is dominated by a second agreement projection. Its head (AgrS) is the obvious candidate for the higher landing site for aux: [8]

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6 Baker (1971) proposed a movement solution, in terms of an 'Aux-shift' rule, which preposes unstressed finite aux before an adverb, and an 'Aux-reduction' rule. The ungrammaticality of (15a) etc. was derived by making both the 'Aux-shift' and 'Aux-reduction' sensitive to stress properties of aux. The solution proposed here is to posit an independent weak-strong distinction in the syntax and to make both movement and selection of the contracted form sensitive to that distinction.

Baker identifies three degrees of stress, independent of contraction: low, nonhigh, and high. Nonhigh is distinguished from low according to whether vowel reduction has occurred; only low may undergo contraction:

(i)	hæz	həz	Aux-Shift	contraction
high	√	*	*	*
nonhigh	√	*	*	*
low	*	√	√	√

(ii)	Bill has always handed in on time.	([hæz] ; [həz])	low
(iii)	John has never handed in on time, but Bill ALWAYS has _.	([hæz] ; *[həz])	nonlow
(iv)	Bill ALWAYS has handed in on time.	([hæz] ; [həz])	

An aux is "nonhigh" when it precedes a VP-ellipsis and is preceded by a stressed adverb (iii). Vowel reduction is impossible in this case. However in the corresponding case with no VP-ellipsis, aux can reduce (iv), i.e. has low stress in Baker's terms. Thus Baker fails to capture the fact that aux cannot contract in examples like (iv).

7 The question of adverb placement with respect to contractions was not addressed by Pollock.

(20) a. $[_{AgrP}$ SU Agr° $[_{TP}$ aux+T° ... $[_{VP}$ t_{aux} $[_{VP}$ .. V
b. $[_{AgrP}$ SU [aux+T°]+Agr° $[_{TP}$ $t_{T°}$ ... $[_{VP}$ t_{aux} $[_{VP}$ .. V

In declaratives, aux_{weak} always directly follows the subject, preceding all preverbal adverbs. English thus displays an 'aux-second' effect in IP resembling more familiar 'V2-effects' found in English root *wh*-questions (finite aux second in CP), root clauses generally in Germanic V2 languages (finite verb second in CP), and finite declaratives in French (finite verb second in IP, directly following the subject). The proposal (17)-(18) has the 'second position' placement of aux_{weak} determined by syntax, just as in standard account of V2-effects. The canonical subject position is the highest specifier 'in IP', and the landing site for aux_{weak} is the head of that highest functional projection.

The syntactic account of 'second' effects depends on the specifier being adjacent to the head of its host projection, which in turn requires the assumption that adverbs do not adjoin to the relevant intermediate projections. This may reflect a general ban on adjunction to intermediate projections deriving from (whatever underlies) X'-theory. If Kayne (1994) is correct, each adverb must be adjoined to its own specifier-less host phrase. Alternatively, adverbs are permitted to adjoin to maximal projections containing specifier positions, but not to intermediate projections. Either way, once it is established that adverbs may not adjoin to intermediate projections, adverbs must follow weak aux, since aux has raised across all post-subject, preverbal X^{max} adjunction sites. [9]

2.3 Sentential adverbs and parentheticals

The above analysis predicts that an adverb may never intervene between aux_{weak} and the subject in simple declaratives. So far, it has only been shown that aux_{weak} must precede aspectual adverbs (cf. (12)). Sentence adverbs, which canonically precede aspectual adverbs, may precede or follow the subject+aux_{weak} nexus, as expected:

(21) a. Apparently, John's on drugs.
b. John's apparently on drugs.

But examples like (22) are also possible. In (22a), [z] syllabifies with the final vowel of *apparently*, indicating a contraction rather than a reduced full form: [10]

(22) a. John apparently's on drugs. [z]
c. John probably'll leave later. [əl]
d. John actually'd be a good candidate. [əd]

It can be shown that these are not ordinary sentential adverbs, but parentheticals; given this, the examples do not threaten the 'aux-second' proposal. Parenthetical expressions intervene easily between specifiers and heads in 'X-second' environments, e.g. between a preposed *wh*-phrase or neg-phrase and an inverted aux, positions which are are barred to genuine adverbials:

(23) a. Who, in your opinion, did Mary suspect?
b. Never, in my opinion, was so much owed by so many ...

---

[8] I assume that each auxiliary heads its own VP, the lowest aux governing the VP of the main verb, the highest being the finite aux that raises.

[9] The present account is incompatible with Chomsky (1995:Ch.4), where it is proposed that adverbs may end up adjoined to intermediate projections, and furthermore, that 'second' effects of the type at issue are to be handled in the phonological component. Further questions arise in connection with adverb placement. More than one adverb may intervene between the subject and VP, and as is well known, different classes of preverbal adverbials underly strict relative sequencing constraints; sentential adverbs precede aspectual adverbs, which in turn precede 'completive' adverbs. Under Kayne's (1994) approach to adjunction, it becomes necessary to recognize more functional heads 'in IP' than indicated in (20). See Alexiadou (1994), Cinque (1995), for approaches in which the functional overlay of VP provides single dedicated specifier positions for different classes of adverbs.

[10] It is not possible to apply the voicing assimilation test, since all S-adverbs are vowel-final, ending on *-ly*.

Such data raise questions about specifier-head adjacency and the ban on adjunction to intermediate projections needed to derive it. But parentheticals are 'everyone's problem' in the wider sense that an account is lacking of how (if at all) they are integrated into syntactic structure. For present purposes, it is enough to show that the intervening adverbs in (22) must be analyzed as parenthetical expressions; then, they pose no problem specific to the 'second position' analysis of contractions.

Bresnan (1971) already pointed out that contractions may follow (but not precede) parentheticals (her examples (24a,b)). Here, the voicing assimilation test is conclusive (24c,e):

(24)	a.	John, my dear, 's a bastard	[z]
	b.	* John's, my dear, a bastard	(ok: John is, my dear, a bastard)
	c.	This one, dammit, 's gonna to make me rich.	[s]
	d.	* This one's, dammit, gonna make me rich	
	e.	This one, you idiot, 's in the wrong box!	[s]
	f.	* This one's, you idiot, in the wrong box!	

Thus the sequences in (25) are to be distinguished. The pre-aux sentence adverb gets there by virtue of being a parenthetical. The post-aux adverb cannot be a parenthetical, since contractions cannot precede parentheticals; hence, it is a sentence adverb in a canonical adverbial position:

(25)	a.	This one, apparently, 's in the wrong box.	← *parenthetical position*
	b.	This one's apparently in the wrong box.	← *adverb position*

Aspectual adverbs make bad parentheticals (cf. 26), hence (27) (=12b,d) are excluded.

(26)	a.	*Who, often, did you see?
	b.	*Only John, usually, did I see.

(27)	a.	* Peter, never, 'd read that	(would, had)
	b.	* Mary, often, 's (been) in London	(is, has)

Further evidence for the parenthetical analysis of (22) comes from the special behaviour of weak pronominals such as English *it*, German *es* (cf. Cardinaletti & Starke 1995). Just like 'aux-second' in IP, the V2 effect in German root CP gets obscured by post-subject parentheticals:

(28)	Er, {	wie es scheint /	jedoch /	anscheinend },	ist ein Idiot
	he,	as it seems	however	apparently	is an idiot

However, when the preverbal subject is *es*, the position between subject and finite verb is barred to parentheticals:

(29)	* Es, {	wie es scheint /	jedoch / ... },	war ein guter Kauf	
	it	as it seems	however	was a good buy	

Exactly the same effect is observed with English *it*:

(30)	a.	It's apparently in the wrong box	← *adverb position*
	b.	*It apparently 's in the wrong box	← *parenthetical*
	c.	*It, you idiot, 's in the wrong box	← *parenthetical*

In view of these shared properties, the second-effect with English contractions and V2 in German should have a common analysis. If V2 is syntactic, then so is 'aux-second'.

2.4 Serbian/Croatian clitic auxiliaries

With regard to placement, English contractions look remarkably similar to the weak (clitic) forms of finite auxiliaries in Serbian/Croatian. The S/C clitic aux must appear at the left edge of IP following the first constituent. As in English, this represents a subset of the positions available to the full forms of aux:[11]

(31) a. Ja **(sam)** c esto **(*sam)** citao knjigu
I be-1sg-cl often be-1sg-cl read book

b. Ja **(nisam)** cesto **(nisam)** citao knjigu
NEG-be-1sg

Several authors have argued for a syntactic account of the placement of clitic aux (cf. Wilder & Cavar 1994, Rivero 19xx, Roberts 1994), according to which a clitic aux undergoes head movement to a functional head high in clause (e.g. C°), independently of phonological properties, while a full aux may but need not move to that position.

While they may differ in detail (e.g. specific landing site for weak aux movement), the two cases are similar enough to warrant a common analysis. So arguments for a syntactic treatment of clitic aux placement in S/C also indirectly support the syntactic approach to weak aux placement in English.[12]

This point is reinforced by the observation that weak aux distributes in the same way across finite clause types within each language. Both languages

(i) express sentential negation in finite clauses with a negated finite aux, which is a strong form (cf. (6) above),
(ii) must use a strong form in emphatic assertions,
(iii) permit the weak form to be used in root wh-questions,
(iv) allow only the strong form in root yes-no questions.

These restrictions are discussed in the following sections.

2.5 Optionality

There is one respect in which English contractions appear to differ from S/C enclitic forms. The possibility to use an enclitic aux in a simple declarative (32) blocks use of the full form (33), with the result that the latter is only possible in an emphatic assertion (34)—aux must be focussed. The S/C paradigm thus patterns with the *do*-support paradigm which translates it. In English, on the other hand, the possibility to use a contracted form apparently does not lead to the exclusion of the full form:

(32) a. išali su
come-ptc be-3pl-cl
b. they came
c. they've arrived

(33) a. * jesu išali
be.3pl come-ptc
b. *they did come
c. they have arrived [həv]

(34) c. JESU išali
b. they DID come
c. they HAVE arrived

---

[11] S/C is a pro-drop language with more freedom of constituent order than English. Even with noncanonical constituent orders (i)-(iii) , the weak aux is generally restricted to second position, while full forms are not so restricted (iv):

(i) knjigu (**sam / nisam)** cesto citao
(ii) često (**sam / nisam**) citao knjigu
(iii) * knjigu cesto **sam** citao
(iv) knjigu cesto **nisam** citao

On the contrast (v)-(vi), see Wilder & Cavar (1994):

(v) citao **sam** cesto knjigu
(vi) * citao **nisam** cesto knjigu

[12] Cf. Kaisse (1985:106), who claims that English contractions are 2P 'special clitics', like S/C clitic aux, taking 2nd position in S (IP) rather than S' (CP). The difference with respect to the present proposal concerns the nature of syntactic cliticization.. For Kaisse, it involves adjunction to (a word inside) a phrase in a c-commanding specifier, rather than head-movement to a c-commanding functional head (assumed here).

This contrast may simply reflect register-specific options. While the S/C enclitic and Engl. *do*-support paradigms are invariant across registers, formal (e.g. written) registers of English forbid the use of contractions. Conceivably, within the informal register permitting contractions, full forms (*I have arrived, he is out*) are restricted to emphatic assertions. Then apparent optionality of contractions reduces to optionality in choice of register. If this is so, then the paradigm divides into two:

(35)	*informal:*	they came	they've arrived
		* they did come	* they have arrived [həv]
		they DID come	they HAVE arrived
(36)	*formal:*	they came	---
		* they did come	they have arrived [həv]
		they DID come	they HAVE arrived

We have already seen one case where an unstressed full form is possible in simple declaratives, namely, where aux appears post-adverbially (37). Although aux is not focussed (the adverb is), the full form is used, as is expected since the contraction is independently excluded in this position:

(37) John NEVER is in his office.

Apart from these cases, there are two main environments that exclude contractions: negation and yes-no questions. We look at these before returning to the focussing effect in section 2.8.

2.6 Negation

Sentence negation is expressed in S/C by means of a prefix on the finite verb. In periphrastic constructions, it is the finite auxiliary that carries the neg prefix; the negation morpheme may not be realized on the main verb (38c). As indicated above, the negated form of the verb is a strong form, not a weak form. Weak forms of the finite aux are barred from negated sentences:

(38) a. Oni **ne**=kupuju knijgu
they neg buy-3pl book
b. Oni **ni**=su kupili knjigu
they neg-be.3pl buy.3pl book
c. * Oni su **ne**=kupili knigu

Similarly in English, sentence negation is realized by an morpheme attached to the finite verb (the suffix *n't*). The negative form is a strong form (can follow an aspectual adverb). As in S/C, the weak form may not cooccur with negation (39b):

(39) a. They (usually) have**n't** bought the book
b. * They've**n't** bought the book

In both languages, negated aux shows morphological peculiarities. While in English, the neg morpheme attaches to the strong form (cf. (39)), in S/C, the neg morpheme prefixes to the weak form of aux, never the strong form (e.g. *ni=su* vs. **ni=jesu*); though the result is not a weak form. Most combinations are morphologically transparent, formed with the prefix *ne-* that also attaches to main verbs. The negated forms of *biti* ('be'), however, contain an exceptional form of the prefix (*ni-*). In English, several neg-aux forms are opaque: *won't*, *shan't*, *aren't* for *am*+neg in inversion, dialectal *ain't*, etc.—cf. Zwicky & Pullum (1982).

The facts suggest that weak aux is barred from negative sentences. This is true of S/C; but for English, the picture is complicated by the possibility for weak aux to cooccur with the non-affixed negation particle *not* (I return to this difference below):

(40) I 've not bought the book

2.7 No contractions in yes-no questions

Bresnan (1971) claims that contractions can occur in initial position in yes-no questions, giving examples like (41):

(41) a. 's that so? [z] / * [s]
b. 'm I going with you?
c. 'd he go? (= Did he go?)

This is incorrect—the forms in (41) are not contracted aux. Rather, these reductions are the product of a different process—perhaps a 'fast speech rule'—which I call Left Edge Reduction. Further examples are given in (42)-(43):

(42) a. 's not true [s] / *[z] b. ~~it~~ [s] not true

(43) a. A: where's Pete? B: 's not here. [z] / * [s]
b. ~~he~~ [z] not here

In (41a), the initial reduced aux is obligatorily voiced. This fact is neutral with respect to the status of the aux (contraction or not). It does however indicate that devoicing is not available to aux in the absence of a potential host ending in a voiceless segment.

The voiceless initial segment of (42a.) shows that initial aux here *is* a contraction. It follows that phonological enclisis of contracted aux can precede Left Edge Reduction—the final [t] of *it* must be present at some stage in the derivation, in order for the segment spelling out aux to assimilate to it.

(42a) also tells us more about Left Edge Reduction. Contracted aux is the target of enclisis, i.e. 'prosodic restructuring'. For voicing assimilation to apply, encliticized [z] must follow a voiceless segment in the coda of the host syllable. The late deletion in (42) thus targets *part* of a syllable.

The impossibility of [s] in (43) is explained, if the response to the question must involve the pronoun *he*—which is deleted (as the initial part of its syllable) following enclisis of the contracted aux.

The data in (41) are thus amenable to analysis as late deletion of initial parts of unstressed syllables in string-initial position, stranding a consonant of the coda:

(44) a. ~~i~~[z] that so?
b. ~~a~~[m] I going with you?
c. ~~di~~[d] he go?

The preceding shows that there is an analysis for the reductions in (41) compatible with the claim that contractions are barred from yes-no questions. An argument for that claim can be obtained by looking at environments where there is a potential host for enclisis and devoicing of a putative contraction. Such an environment is provided by coordination with *but*. A contraction initial in its declarative clause (45a) can encliticize to *but* and surface as [s]. In the same context, devoicing of *is* in a yes-no question is not possible (45b)—as expected, if contracted aux is independently barred:[13]

(45) a. a man who was here earlier, but's left again... [s]
b. John was here earlier, but's he left again? [z] / * [s]

Turning to S/C, we find that weak aux is barred in yes-no-questions in this language also (cf. Rivero 1992). The paradigm (46) illustrating this requires some explanation. Yes-no questions are formed using the particle *li*, which forms a part of the second position clitic cluster. Descriptively, when no other constituent precedes a clitic cluster (which can contain *li* and clitic pronouns, along with weak aux) the highest nonclitic verb precedes the cluster. Thus in the declarative containing a weak aux, the nonfinite main verb precedes the aux (46a). This is the 'Long Head Movement' construction (cf. Rivero 1991, 1993, Wilder & Cavar 1994). The exclamative construction illustrated in (21b) shows that nonfinite verb preposing is possible with *li*. No other constituent precedes *li* in yes-no questions. Hence if the weak aux were permitted, the expected pattern would be (46c). However, the only possibility is to use the full form of the auxiliary, which then preposes before *li* (46d.):

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13 The *'s*-orthography is meant only to indicate an unstressed form. Kaisse (1985:107) claims encliticization to conjunctions to be impossible, citing conjoined main clauses like (i). I do not understand why (i) is bad.:
(i) * Sandy left and's never coming back.

(46) a. Pio sam pivo.
drunk aux_{CL} beer "I drunk beer"
b. Pio li je pivo! "Did he drink beer!"
c. * Pio li sam pivo?
drunk Q aux_{CL} beer
d. Jesam li pio pivo ?
aux Q drunk beer "Did I drink beer?"

The ungrammaticality of (46c) can be attributed to the incompatibility of weak aux with the clause-type of yes-no questions.[14]

2.8 Weak aux and focus

This leaves two major root clause types that permit the use of weak aux—neutral declaratives and *wh*-questions:

(47) a. Oni su kupili knjigu b. They've bought the book
(48) a. Šta su kupili? b. What've they bought?

Where the weak form is possible, the use of the strong form is only possible if it is stressed (49)-(52). Given the problem with idealization to one register (sect. 2.5), this is illustrated for English with *do*-support for declaratives and *wh*-questions with a questioned root subject:

(49) a. * Oni jesu kupili knjigu
b. (*) They have bought the book
c. * They did buy the book

(50) a. * Šta jesu kupili?
b. (*) What have they bought?
c. * Who did buy the book?

(51) a. Oni JESU kupili knjigu
b. They HAVE bought the book
c. They DID buy the book

(52) a. Šta JESU kupili?
b. What HAVE they bought?
c. Who DID buy the book?

The use of the strong form in (51)-(52) brings with it a special contextual effect, which is due to the fact the finite aux is focussed (the facts described here for English hold equally for S/C). An assertion with focussed aux presupposes that the negation of the proposition it expresses is contextually salient. The use of (53a) is only felicitous in a context which the proposition expressed by (53b) is salient (e.g. (53b) may just have been uttered by another speaker). Hence (53a) appears to express the denial of (53b):

(53) a. They haven't bought the book
b. They HAVE bought the book (=51b)

The effect of focussing a constituent is to open up a set of propositions (the 'focus-set') defined by the meaning of the sentence containing the focus, and including the proposition expressed by the sentence (cf. Rooth 1985). The alternative propositions (i.e. those other than the proposition asserted) in the focus-set are then

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[14] This claim should be qualified; there is a form for yes-no questions which permits clitic aux to appear:
(i) dali sam pio pivo?
whether aux.cl drunk beer "Did I drink beer?"
This type is introduced by the non-clitic form *dali*, and does not involve raising of a full verb form. *Dali* functions otherwise as a complementizer introducing embedded *whether*-interrogatives. Weak aux is generally possible in embedded interrogstives.

implied to be false. When a finite aux is focussed in a declarative, the focus-set seems to contain merely the proposition expressed by the declarative and its negation:[15]

(54) {they've bought the book; they haven't bought the book}

The only alternative proposition is the negation of the proposition asserted—hence the effect described.

For *wh*-questions, the effect is more subtle. With focussed aux, a *wh*-question seems to require that a proposition of a certain type is salient in the context; (55b) for example is only felicitous if some proposition to the effect of (55c) is salient; (56b) similarly requires (56c). Without stressed aux, the question is 'neutral', in that it imposes no such demand on the context:

(55) a. What's he bought?
b. What HAS he bought?
c. "There is one (or more) relevant thing which he hasn't bought"

(56) a. Who bought the book?
b. Who DID buy the book?
c. "There is one (or more) relevant person who didn't buy the book."

The relation of the (b)-examples to the (c)-examples can be explicated with reference to the meaning of the questions. A *wh*-question does not assert a proposition—rather, its meaning can be thought of in terms of a set of alternative propositions, its 'answer set' (the set of potentially true answers to that question). Thus (56a) defines a set such as (57), and asks the hearer to identify the member(s) of the set that are true:

(57) { John bought the book; Mary bought the book; Bill bought the book; ...}

Focussing aux in a wh-question generates a second set (the 'focus-set'), which contains the negations of the propositions from the 'answer set' (58). The preceding context must then contain the *negation* of one or more of these propositions. (56b) would be felicitous, e.g., if (59) had just been uttered:

(58) { John didn't buy the book; Mary didn't buy the book; Bill didn't buy the book; ...}

(59) John didn't buy the book. (..nor did Mary, nor did Bill...)

The requirement imposed by focus is that at least one of the propositions in the focus-set be contained in the preceding context. (59) satisfies that requirement for (56b). Thus the effect of focussing finite aux in a wh-question is essentially the same as in a declarative.

The forced 'focussing' that accompanies the use of finite aux in simple declaratives and in wh-questions can be attributed to blocking. Suppose that the weak aux (or form without do-support) is 'in competition' with the strong aux; and that it is 'cheaper' than the strong form. Then, in (neutral) contexts in which the weak form is licensed, it will block the strong form. Only in contexts in which the weak form is not licensed (focus on aux) is the strong form licensed.

In other constructions (negation, yes-no questions), focussing aux brings similar contextual effects. Thus focus on negated aux brings requirement that the negation of the negation (i.e. the non-negated proposition) is present in the context, cf. (60):

(60) A: they've read the book. B: they HAVEn't read the book.

What is important here is that focussing is not an automatic consequence of using the full form in these constructions, and that this is bound up with the fact that use of the full form is the only option anyway.

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[15] This is a simplification. B's utterance in (i) is felicitous, indicating that the focus set may also contain modalized alternatives (thanks to J. Ouhalla for discussion on this point):
(i) A: they must have read the book B: they HAVE read the book
The truly infelicitous case is where the previous utterance realizes the same proposition as the sentence with focussed aux.
(ii) A: they've read the book B: # they HAVE read the book

2.9 The role of Σ

Appeal to focus might account for the occurrence of strong forms in neutral declaratives and wh-questions, but not the presence of strong forms in yes-no questions and negation. Rather, there is a grammatical determinant for the impossibility of the weak form in those cases. I propose that the same factor also excludes the weak form when aux is focussed.

The account involves Pollock's (1989) negation head. I assume that this head does not only host sentential negation; rather, that negation is paired with an affirmative element, with both instantiating a functional category 'Σ' (cf. Laka 1990). Thus negation is a feature value of a functional category Σ which projects in clause structure. While negation is realized as an overt morpheme, the affirmative morpheme is abstract:[16]

(61) a. Σ [+Neg] = *n't* b. Σ [−Neg] = ∅

The latter surfaces in non-negated declaratives when aux is focussed, as in *John DID come / Ivan JE došao*; and in non-negated yes-no questions. However, in neutral non-negated declaratives and *wh*-questions, I claim that Σ is absent. This forms the core of the analysis: the contexts requiring strong aux in S/C and English are clause-types in which Σ is projected; conversely, weak aux is limited to clause-types in which Σ is not projected.[17] The proposal involves a nonstandard view of negation, outlined briefly in the following.

The semantic function of Σ can be thought of in terms of sets of alternative propositions, in the sense just discussed in connection with focus and questions. Suppose that Σ triggers the association of the sentence with an 'alternative set'. This set contains propositions that differ with regard to their polarity; i.e. the proposition expressed by IP (without Σ), and the negation of that proposition.[18] Thus, both when Σ is [−Neg], and [+Neg], the clause is associated with a set containing the proposition expressed and its negation, which may enter into interpretation in various ways.

As discussed above, both questions and focus feed off such alternative propositions in interpretation. Consider (62):

(62) a. {John's arrived; John hasn't arrived}
b. John has+Σ arrived.
c. Has+Σ John arrived?
d. John has+n't arrived.
e. John's arrived. (no Σ)

Both the emphatic assertion and the yes-no question use the set (62a). As an emphatic assertion with focussed aux, (62b) asserts the non-negated proposition and presupposes the other to be salient. The corresponding yes-no question (62c) takes the set (62a) as its 'answer set'. In this sense, both focussed aux and yes-no questions require Σ to be projected in the clause.

A negated sentence such as (62d) does not, in the standard view, need an alternative set to express a negated proposition; rather, it expresses semantic negation directly, by virtue of containing a negative morpheme (it does requires the presence of Σ though, since Σ introduces the negative morpheme). The way I have phrased things, semantic negation is not expressible directly but only via the alternative set. The function of Σ is to introduce the polarity alternatives. Then the value [+Neg] serves to pick out the negated proposition as the proposition asserted.

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16 Pollock proposed that emphatic assertions may also involve a special morpheme, the affirmative counterpart to Neg, such that both are realizations of a single category (his "Ast"). The analysis of emphatic assertion in terms of an abstract morpheme in the Aux (Infl) complex goes back to Chomsky (1957:65).

17 This idea was proposed in Cavar & Wilder (1995). There, we suggested a different implementation, in which (i) the affirmative element (01b) is inherently emphatic (Chomsky's 1957 'Emph'-morpheme); and (ii) a third distinct Σ-morpheme occurs in yes-no questions ('Q'). Then, each instantiation of Σ can be associated with its own 'PF'—a stress-feature for EMPH, and the special rising intonation contour for Q. However, in that account it must be assumed that Σ can contain several instantiations simultaneously, e.g. 'Emph' and 'Neg' in an emphatic denial (*He DIDn't he leave*), 'Emph' and 'Q' in *DID he leave*? or even all three in *DIDn't he leave*? Here, only two Σ-morphemes are assumed. 'Q' and 'emph' are treated as independent factors; the former located in C, responsible for question interpretation, and triggering aux-raising, the latter simply being focus.

18 This may be an oversimplification: maybe modalized alternatives are also involved. Cf. fn 15.

This suggests that a neutral declarative assertion could in principle also be expressed via Σ (as in (62b)). Σ introduces the alternative set, and the feature value [–Neg] serves to pick out the proposition asserted (in ths case, the non-negated proposition). However, this case differs from negation, in that the presence of Σ is not required. (62e), without Σ, can be used to express the same content. Here, the appeal to 'economy' comes in: the inclusion of Σ in the structure to express the neutral assertion would be unnecessary (since the same content would be expressible without Σ), hence excluded by a principle of economy.[19]

When aux is focussed, extra use is made of the alternative set to achieve an interpretive effect (presupposing the salience of the negated proposition) that is not expressible by the neutral assertion without Σ ; hence Σ[–Neg] is not blocked.

Finally, consider *wh*-questions. Like a yes-no question, a *wh*-question defines a set of alternative propositions which functions as its 'answer set'. However, unlike a yes-no question, a *wh*-question does not require alternatives differing in polarity value; but rather, alternatives differing in the value assigned to the variable corresponding to the questioned constituent. These alternatives are generated via the *wh*-word and not Σ. Consequently, a *wh*-question does not require Σ to be included in its clause structure, any more than a neutral assertion does. Hence the same 'obligatory focus' effect is induced by the full form of aux.

As far as syntax is concerned, the claim is that the presence of Σ blocks weak aux. Finite auxiliaries raise from VP to T (Pollock's *have-be* raising). Assuming that Σ is dominated by TP and governs VP, the auxiliary must first incorporate into Σ (by the Head Movement Constraint). Hence, negated clauses, clauses with focussed finite aux, and yes-no questions all share (63) as part of their derivation. Where Σ is [+Neg], the verb will pick up *n't* en route to T. Where Σ is [–Neg], the complex in T will contain the abstract Σ-morpheme.[20]

(63) Negation (emphatic affirmation, yes-no question, ...)

SU	Agr	[	T	[	Σ	[	V	[	V	...
			has-nt		t		t		come	
			HAS		t		t		come	
			JESAM		t		t		išao	

The corresponding structure for clause-types like neutral declaratives and wh-questions, which lack Σ, is (64):

(64) Neutral declarative (wh-question, ...)

SU	Agr	[	T	[	V	[	V	...
			has		t		come	
	's		t		t		come	
	sam		t		t		išao	

Given these assumptions, head-to-head movement of the highest verb to T° (only aux, in English) yields different complex heads (65), depending on whether the clause contains a projection of Σ or not. The analysis thus provides a syntactic basis for the distribution of weak and strong forms of aux. The former is a V-T complex lacking Σ, the latter a V-T complex incorporating Σ (which may be abstract). The former undergoes additional movement from T to AgrS (cf. (18) above):

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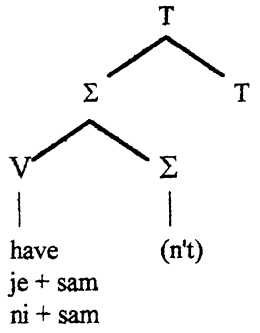
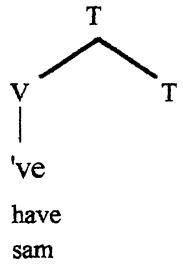
19 Technically, the blocking of Σ in neutral assertions should be a reflex of the principle of Full Interpretation ('economy of representation') rather than Last Resort ('economy of derivation'). The derivations of the structures with and without Σ would begin from different numerations in Chomsky's (1995) sense, hence would not compete with respect to derivational economy principles. However, appeal to FI (Σ[-Neg] does not contribute to interpretation) does not work either. Σ[–Neg] does contribute to interpretation, by making the alternative set it available, and picking out the non-negated proposition as the proposition asserted. The intuition that Σ is superfluous in the case of the neutral assertion is only expressible by referring to the existence of an alternative representation with the same interpretation that does not contain Σ. I leave this issue open.

20 If the S/C *dali*-type of yes-no question (cf. fn xx) involves Σ, then I suppose it to be located in *dali* itself, presumable an item of category C. This in turn suggests that the second position location for the clitic cluster (including the weak aux) must be a head distinct from (lower than) C.

(65) a.



b.



The central claim (17) about the correlation of contracted aux forms with the syntactic entity aux_{weak} is reformulated as (66):

(66) Contracted aux (Engl.), clitic-aux (SC) cannot realize a head containing Σ°.

This analysis requires that sentential negation can be expressed by other means than Σ governing VP. Consider the paradigm (67) (cf. sect. 2.6). Unlike *n't*, the contracted aux is compatible with *not*:

(67) a. John hasn't left yet (Σ = *n't* governs V(Aux))
b. *John s n't left yet
c. John s not left yet (Σ = *not* does not govern V(Aux))

I assume that *not* is not a head governing VP: rather, it is a phrasal satellite, like an adverbial. Crucially, there is no Σ-head that intervenes between VP and T in (07c). The distinction between *n't* (head) and *not* (phrase) mirrors two strategies for negation found cross-linguistically: Neg is a head (Σ) into which finite verbs incorporate in Romance, while it is an adverbial-like element that does not interact with V-movement in Germanic. The fact that *not* contrasts with *n't* in being able to appear in lower positions in the clause (68) is consistent with this view:

(68) a. John might have not left yet
b. *John might haven't left yet (cf. John mightn't have left)

The contrast follows if Σ has a fixed position (governing the highest VP) while *not* has the choice among several adverbial positions.

There is one reason for not making this distinction between *not* and *n't*— *not* triggers *do*-support just like *n't*. In this *not* differs from other adverbs, even negative ones like *never*:

(69) John {never; *not} arrived.

Σ correlates elsewhere with *do*-support: whenever Σ occurs with simple tenses, *do*-support is triggered. Hence it might be thought that (69) argues for analyzing *not* as Σ.

However, *do*-support is also obligatory in *wh*-questions, which are assumed here not to have to contain Σ. If the approach to Σ taken here is along the right lines, *do*-support is not directly tied to the presence of Σ above VP. Rather, some extra condition on *do*-support is needed to account for the fact that *do*-support is obligatory with *not* and non-subject *wh*-movement, both contexts permitting contracted aux (cf. Wilder & Cavar 1995 for a proposal):

(70) a. What's John taken? vs. * What John took?
b. Where's John going? vs. * Where John went?

3. Further distributional restrictions

In this section, I examine further restrictions on contracted forms, concentrating on *'s* (< *is*, *has*), as this form shows the relevant facts most sharply. It is shown that while contractions group with material to their left at surface, the righthand context influences the possibility for contracted forms to occur. The latter cannot have a plausible syntactic account (in terms of Σ or anything else); the relevant generalizations are phonological. Hence,

in addition to syntax, also phonological properties determine whether a contracted or full form is used to spell out finite aux.

3.1 Lefthand context

At the surface (PF, the level determining pronunciation), the contracted form enters a leftward phonological dependency, i.e. enclisis. The contraction forms a unit with material to its left in prosodic (i.e. syllable) structure—and not with material to its right:

(71) a. ($_{\sigma}$ Johns) ($_{\sigma}$ out) b. * ($_{\sigma}$ John) ($_{\sigma}$ sout)

The 'host' is whatever material stands linearly adjacent to aux in the ouput of rules that determine surface order (including trace-deletion and parenthetical placement). In syntactic terms, that host may be arbitrarily distant from aux, e.g. several clauses away (72a); possibly —depending on the account of parenthetical placement—not even a constituent of the same phrase marker (72b, c):

(72) a. the spoon that she told me I should stir the soup (withs) disappeared
b. this one, you (idiots) in the wrong box!
c. this one, believe it or (nots) in the wrong box!

3.2 Righthand context

Most of the data demonstrating the dependency of contractions on their righthand context was presented in Bresnan (1971), following Baker (1971), King (1970), Lakoff (1970). The most commonly discussed restriction is shown in (73). A contracted aux does not tolerate a gap immediately to its right, where this gap may be due ellipsis or movement of VP governed by aux, or of the nonverbal main predicate governed by copula *be*:

(73) a. * John isn't coming although Mary's [$_{VP}$ e] (ok: ...Mary is [$_{VP}$ e])
b. * bought the book though John's t_{VP} (ok: ...John has t_{VP})
c. * I don't know where John's t_{PP} (ok: ...John is t_{PP})
d. * I'm living with Mary and Bill's [$_{V}$ e] with Sue (ok: ...Bill is [$_{V}$ e] with Sue)
e. * she's a better doctor than he's [$_{AP}$ e] a lawyer (ok: ...he is [$_{AP}$ e] a lawyer)

The gap may result in aux standing in final position in its clause, though not necessarily, as shown by medial deletions in pseudogapping (73d) and comparative subdeletion (73e).

The effect arises only when the head of the complement of aux is deleted. A participial aux saves a contracted finite aux from the malign effect of the gap:

(74) a. John's often been arrested, although Mary's never been [$_{VP}$ e]
b. I don't know where John's been t_{PP}
c. she's been a better student than he's been [$_{AP}$ e] a teacher

The data in (73)-(74) thus support the generalization in (75):[21]

(75) The head of the complement of aux-clitic may not be empty

At this point, a syntactic account of (75) may seem plausible, which attributes ill-formedness in (73) not to the aux, but to the gap itself. Suppose that the gap must be licensed in certain ways. The intuition would be that weak aux is syntactically 'defective', and that such a defective element is insufficient to license the 'gap' in its complement. The paradigm (73)-(74) could then be explained in terms of the ECP.

(76) Empty Category Principle: [$_{\alpha}$ e] must be properly governed

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21 There is a question about whether subdeletion fits the generalization, since AP in a standard analysis (i) is not the head of the complement of the copula:
(i) ... than he is [$_{NP}$ [$_{AP}$ ~~that good~~] a lawyer]
Alternative analyses are imaginable in which the elided degree element heads the main predicate governed by the copula.

Assuming (i) that the gaps in (73)-(74) can be licensed via head government, (ii) strong aux counts as a proper governor, while weak aux does not, and (iii) there is no other proper governor for the gap in (73), those examples could be accounted for as violations of (76).[22] Such an account could then be implemented in terms of the presence vs. absence of Σ, under the proposal of section 2.9.

However, this line of analysis is doomed to fail. Additional facts noted by Bresnan (1971) show that the generalization (75) is incorrect. Firstly, in subject-aux inversion constructions, weak aux may appear even though the complement of aux is empty:

(77) a. Where's John? [z]
b. What's that? [s]
c. Why's Mary leaving, and why's John [$_{VP}$ e] ? [z]

There is no plausible option open to an ECP account to accommodate (77). These examples ought to be as ungrammatical as (73); the trace of weak aux should not count as a proper governor, just as weak aux in situ does not.[23]

Secondly, the ECP account does not generalize to data involving parentheticals. Recall from section 2.3 that parentheticals may intervene between subject and weak aux, but may not follow weak aux, even though the complement of aux is not empty (78a-c). The same effect is found in wh-questions (78d-f):

(78) a. John, my dear, 's a bastard
b. *John's, my dear, a bastard
c. John is, my dear, a bastard
d. What, my dear, 's a girl like you doing in a place like this?
e. *What's, my dear, a girl like you doing in a place like this?
f. What is, my dear, a girl like you doing in a place like this?

This paradigm illustrates a restriction on the righthand context of the contraction that does not fall under the generalization (75). An account in which the illformedness of (77b,e) is due to the same factor as the one underlying (73) is to be preferred.

The paradigms (73)-(74) and (77-(78) are taken by Bresnan as evidence that contractions enter a dependency with material to the right, i.e. that contractions undergo proclisis. If contractions are proclitic, then the contexts which bar them can be explained as environments in which no host for proclisis is available. In implementing this account, we can appeal to a notion of a boundary (which I take to be prosodic) that intervenes between the aux and a potential host to prevent cliticization. In the extreme case, this boundary is the edge of the sentence; in (73a,b,c) proclisis is blocked, since there simply is no host to the right.[24]

In (73d,e), a medial syntactic gap intervenes between proclitic and potential host; in (78b,f), a parenthetical intervenes. In both cases, the assumption that they induce a relevant prosodic boundary is plausible. The effect of pseudogapping and subdeletion is to induce two prosodic constituents separated at the deletion site. This is intuitively clear in minimal pairs like (79): the second conjunct of (79a) is felt to induce two prosodic units in a way impossible for the string-identical copula sentence (79b):

(79) a. Sue's staying with Bill and John is # with Mary. (=John is ~~staying~~ with Mary)
b. John is with Mary.

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22 Such an account has been explored by Zagona (1982), and for similar facts in Serbo-Croatian and Old Spanish, by Lema/Rivero (19xx).

23 Alternatives that involve appeal to governors for the gap other than the immediate head governor fare no better. Suppose that aux-raising to C opens the possibility for the wh-moved phrase to govern, hence antecedent-govern, its trace in (6a,b). This option does not generalize to VP-ellipsis, where the wh-phrase is not the antecedent of the gap. The only other conceivable 'governor' for the gap when aux has raised would be the subject.

24 Bresnan's actual formulation is that proclisis destroys environment for the application of deletion rules; in the case of (73), VP-deletion, Subdeletion and Trace deletion; i.e. the reason for ill-formedness is failure to apply the relevant deletion rule, rather than failure to apply proclisis. In her model, proclisis is a cyclic rule in syntax, ordered before relevant deletion rules.

A similar prosodic effect distinguishes parentheticals from nonparenthetical adjuncts in postsubject position. In (80a), *apparently* can be prosodically integrated in the utterance in a way impossible for *apparently* in (80b), which is preceded by an at least 'implicit' boundary (= #), as is *my dear* in (80c):

(80) a. John's apparently on drugs.
b. John, # apparently,'s on drugs.
c. John, # my dear,'s on drugs.

The proclisis account thus permits a unification of these cases impossible under an ECP approach.

The account also correctly captures cases where contractions are possible. In (74), there is a gap that induces a boundary; but the auxiliary participle precedes that boundary and so can act as host for aux. In inversion (77), it is the subject NP that intervenes before the boundary, providing a host for the proclitic.

One further piece of evidence for the proclitic analysis is the '*it*-effect' noticed by Bresnan. In inversion constructions, weak aux does not tolerate a 'weak pronoun' to its right, if that pronoun precedes a gap:[25]

(81) a. What's that _?
b. * What's it _ ? (*Who's it? / *How's it? / ...)
c. What's it for _ ?
d. * What's it _ now?
e. What is it _ ?

The pronoun alone is not sensitive to the presence of a gap or edge to its right (81e). It is as if, while the subject in (81a) (cf. also (77)) 'protects' weak aux from the malign effect of the following gap, the weak pronoun is 'not strong enough' to protect weak aux, with the result that aux is exposed to the gap following the pronoun in (81b,d). In (81c), the gap is in the complement of *for* (which heads the main predicate), so that a 'host' intevenes between aux and the boundary induced by the gap. This means that *'s* and *it* procliticize together onto (stressed) *for*. (81d) is like pseudogapping: *'s* + *it* cannot procliticize onto *now*, since the gap intervenes.

The evidence just reviewed has shown (i) that the nature of the righthand context affects the distribution of clitic forms; and (ii) that a syntactic account (in terms of underlying distribution of strong/weak aux, i.e. presence/absence of Σ) is unlikely to work. Instead, an account that treats the auxiliary as a proclitic, i.e. an item dependent on a phonological host to its right, is more promising. Specifically, the claim is that aux must form a constituent with a 'host', i.e. a phonologically filled constituent, to its right at some level.

Bresnan assumed that there must be a proclisis transformation of the type (82a):

(82) a. ... [aux] [host] ... → ... [aux + host] ...
b. [*John*] [*s*] [*left*] → [*John*] [*s* + *left*]
c. [*where*] [*s*] [*John*] → [*where*] [*s* + *John*]

It is not clear that such a transformation is needed for (82b,c), as the syntactic structure already ensures that aux forms a constituent with material to its right in its sentence, namely I' or C'. Where that constituent contains no host, the example is ill-formed:

(83) a. John [$_{I'}$ s left]
b. where [$_{C'}$ s John]
c. *I don't know where John [$_{I'}$'s]

If however the proclisis requirement is interpreted as meaning that aux must form a word-level constituent with its host, then such a transformation is required, since aux is an independent word (X°-constituent) in syntax. This could not be the syntactic operation assumed by Bresnan, given the ban on downwards movement (cf. sect. 1.).[26]

Moreover, syntactic constituency is insufficient to account for cases with a medial gap. Here, reference must be made to the presence of a prosodic boundary between aux and potential host, to explain why clitic aux is blocked in some but not all cases where a potential host is contained in TP (the syntactic sister of aux):

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[25] The same effect is created by any unstressed subject pronoun—either the pronoun or the aux must be stressed: *where's HE ? / where IS he? / *where's he ?* . The effect is most obvious with *it*, since *it* has no homophonous strong counterpart; cf. Cardinaletti & Starke (1995).

[26] We can safely discount the possibility that 'procliticization' is the result of moving the host up to aux.

(84) a. ... [aux] # [host] ... –/→ ... [aux + host] ...
b. * I don't know where John ['s # now]
c. I don't know where John ['s been #]

In other words, the presence of a syntactic gap can induce a prosodic constituency that is non-isomorphic to syntactic constituency. The proclisis requirement of aux must be met in prosodic structure.[27]

3.3 Left-right paradox

The facts discussed in the last two sections appear to leave us with a paradox. The evidence for phonological proclisis (clitic aux forms a constituent with a host to its *right*) seems to contradict the evidence for phonological enclisis (clitic aux syllabifies with material to its *left*). This paradox has not been faced in previous work; 'proclitic' authors deny the 'enclitic' facts; 'enclitic' authors deny the 'proclitic' facts. Bresnan's assertion that "despite orthographic practice, ... Tense contraction is not encliticizing" is surely not supported by 'phonetic practice'. Kaisse (1985:41), arguing for syntactic encliticization, notes the paradigm (73), but claims it does not reflect proclitic status of aux, referring instead to Zagona's (1982) syntactic account in terms of ECP. Nespor (1994), arguing for phonological enclisis, does not address the 'proclisis' paradigms. Inkelas & Zec (1993) propose that unstressed full forms are proclitics, but explicitly exclude the 'enclitic' forms from that analysis.[28]

The paradox in assuming that something is both proclitic and enclitic arises from a basic premise about hierarchical linguistic representations. Neither syntactic nor prosodic trees admit "multiple motherhood", so that a node A cannot be daughter of two nodes B and C that are sisters. If the clitic aux is tautosyllabic with material of the preceding word, it cannot form a prosodic constituent with the following word; and vice versa.

However, in a derivational model, there need be no paradox. It is perfectly conceivable that aux could be proclitic at one stage of the derivation, and enclitic at another. Proclisis could be syntactic, but enclisis phonological; or they could reflect different stages of the phonological derivation.

It is neither desirable nor necessary to assume proclisis in syntax. While the 'proclisis paradigms' are partially syntactically conditioned, they have no direct syntactic explanation. They are best accounted for in terms of the syntax-prosody mapping. In the next section, I propose a two-stage account for left-right paradox:

(i) syntax-prosody mapping (proclisis effect)
(ii) late enclisis rule

Contractions that survive (i) are subject to (ii).

By locating both stages in the phonological component, it becomes possible to maintain the view that in *all* the examples discussed in section 3.2—declaratives and *wh*-questions—the finite auxiliary is (or can be) the syntactic element aux_{weak} lacking Σ, as predicted by the proposal of section 2.9. Whether or not the clitic form

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27 Inkelas & Zec (1993) propose a syntax that is isomorphic to prosodic structure in the case of medial gaps (pseudogapping, subdeletion). They claim that in all such cases, any subpart of VP that gets stranded to the right of the gap has in fact raised out of VP by S-structure, prior to deletion. A pseudogapped clause as in (i) then has the S-structure (ii):

(i) John is dating Mary, and Sue is, Bill,
(ii) [Sue [$_{VP}$ is ~~dating~~ t_j] $Bill_j$]

Theirs is a proclisis account of the ban on weak aux in such cases-see sect 4.below. Essentially, proclisis in (ii) is not possible, since the syntactic constituency does not provide a host for aux. These authors are concerned to establish that syntactic gaps do not induce prosodic boundaries. This issue is not central to the argument here; however, I do not think this view of the syntax of medial gaps is tenable. For arguments against such an analysis of pseudogapping, cf. Lasnik (1995).

28 In an appendix, Inkelas & Zec propose that righthand restrictions on contracted forms are due to a lexically specified requirement on the *syntactic* environment they appear in: "finite ... clitics require a phrasal sister to their right":

(i) [CL [ ]$_{XP}$]$_{XP}$ = syntactic requirement

Their assumption must be that ellipsis and trace sites are unable to satisfy (i) at some syntactic level. But if trace or ellipsis sites are syntactically represented (as required by the Projection Principle or its equivalent), (i) cannot account for the basic paradigm (73). Nor will (i) generalize to the parenthetical facts. I&Z propose that the enclitic nature of contracted aux is lexically specified as a 'prosodic subcategorization':

(ii) [[ ]$_W$ CL]$_W$ = prosodic subcat

It is possible that they restrict their proclisis analysis to reduced full aux out of the (mistaken) belief that extending it to enclitic aux could only lead to a representational paradox of the sort alluded to here.

can be used to spell out that weak aux will depend on factors governing the mapping of the syntactic representation to a prosodic structure in the phonological component.

This result is also desirable from a cross-linguistic point of view. The 'proclisis' paradigms are specific to English. In Serbian/Croatian, the weak forms are usable in all *wh*-questions, regardless of the nature of the righthand context. Given that S/C is pro-drop, root *wh*-questions may surface with only two words, the second being the the weak auxiliary. (85a) is equivalent to saying *what's?* for *what is it?*, and so on—there is no trace of the '*it*-effect' found in English.

(85)	a.	Što	je *pro*?	b.	Tko	je *pro*?	c.	Kako je *pro*?
		what	be-3sg-cl		who	be-3sg-cl		how be-3sg-cl

A declarative may also be a two word sentence with the main predicate preposed around the clitic aux (86):[29]

(86)	a.	Pametan sam.	b.	Spavali su.	
		intelligent be-1sg-cl		slept	be-3pl-cl
		'I'm intelligent'		'They slept'	

By attributing the English proclisis effect and the contrast with S/C to properties of the phonological component, it is possible to maintain a uniform (non-parametrized) account of the syntactic determination of weak forms in terms of Σ for both languages. That the phonological component should be a locus for parametrization is expected in any case.

4. Finite aux in phonology

This section sketches an account of the prosodic restrictions on contracted aux within a model of the syntax-prosody mapping of the type found in much recent work (including Inkelas & Zec 1993, Nespor 1994, Selkirk 1995). Major assumptions are

(i) a sentence has a hierarchical prosodic representation distinct from its surface syntactic representation;
(ii) prosodic structure is mapped from syntactic structure (which partially determines it) by rules of the phonological component
(iii) prosodic structure is not necessarily isomorphic to surface syntactic structure
(iv) prosodic structure is built of phonological categories, hierarchically organised in line with the 'Strict Layer Hypothesis' (SLH).

The categories of the prosodic hierarchy adopted here are (bottom to top):

(87) a. syllable (= σ)
b. foot
c. phonological word (= *p-wd* or ω)
d. phonological phrase (= *p-phr* or *PPh*)
e. intonation phrase (= *int-phr* or *I*)
f. utterance (=*U*)

We will be concerned here mainly with the phonological word and the phonological phrase.

According to the SLH, any category must dominate at least one category immediately below it in the hierarchy (a foot must dominate a syllable; a p-wd must dominate a foot; etc). Additionally, any category (except the root U) must be immediately dominated by a category immediately above it in the hierarchy. In fact, some prosodic structures adopted below violate the SLH in selective fashion. Selkirk (1995) decomposes the SLH into four 'constraints on prosodic domination', of which two (Layeredness and Headedness) are inviolable, two (Exhaustivity, Recursivity) are selectively violable. I assume that substructures such as (89), which violate Exhaustivity (88a) without violating Headedness (88b), are licit:

(88) a, *Exhaustivity* (violable): No Ci immediately dominates Cj, j < i-1
b. *Headedness* (inviolable): Any Ci must dominate a Ci-1 (except if Ci = a syllable)

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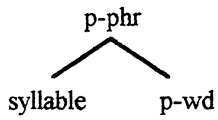
[29] These are instances of Long Head Movement, discussed in Cavar & Wilder 1994.

(89)



The p-phr immediately dominates at least one category immediately below it in the hierarchy, satisfying Headedness. That it also immediately dominates a syllable represents a violation of Exhaustivity.

With regard to the choice between contracted and full forms of aux, I adapt I&Z's account of the distribution of stressless ('reduced') and stressed full forms. In that account, stress properties depend on assignment of prosodic structure. A stressless form is possible iff aux is not exhaustively dominated by a p-wd node. Aux comes to be dominated by a p-wd node only by a default rule applying after phrasing rules. I assume that contracted forms are like stressless full forms in being possible only where not dominated by a p-wd. Where a contracted form is licensed syntactically (absence of Σ), contracted forms and full forms are 'in competition'. In that case, a contracted form is used where there is one, a stressless full form otherwise (i.e. contracted forms have priority over full forms). In this sense, allomorph selection is dependent on the prosodic environment.

4.1 Function words and phonological words

There is a fundamental distinction between functional (closed class) and lexical (open class) items with respect to the notion of 'prosodically dependent item' (phonological clitic): the only words that can be prosodically dependent are function words. All lexical words (**l-wds**) are p-wds, i.e. prosodically independent words that bear word-stress. Functional words (**f-wds**) can lack accent—many f-wds consist solely of an unstressed monosyllable. But while an l-wd might contain unstressed syllables, the sole syllable of a monosyllabic l-wd may not be unstressed. Hence we can have [fə] for *for*, but not [flə] for *floor*; [həz] for *has*, but not [jəz] for *jazz*; etc.

A standard line for encoding this fact exploits the assumption that phonology is split between a lexical and a postlexical component (e.g. Kiparsky 1982). Word stress is assigned to l-wds in the lexicon, so that these enter the postlexical component with the status of phonological words. F-wds enter the postlexical component lacking p-wd status, i.e. without stress properties. Stress, once assigned, cannot be removed. Then, the impossibility of 'reduction' of l-wds is due to lexical assignment of word-stress; and stresslessness is a basic property of f-wds as they enter the postlexical component, rather than the product of 'reduction' rules.

In the proposal of Inkelas & Zec, whether an f-wd surfaces as a stressed or stressless ('reduced') form is determined by the rules of the postlexical component that map syntactic structure to prosodic structure. In the unmarked case, the stresslessness of f-wds is preserved by that mapping. The operation that ensures this is the *phonological phrasing algorithm* (discussed directly) which constructs phonological phrases over pre-existing p-wds (i.e. l-wds). Only if an f-word acquires prosodic structure by a late rule, does it acquire stress.

I&Z propose that f-wds acquire prosodic structure by means of (90), a rule of the postlexical component:[30]

(90) Default Phonological Word Mapping: $[X^{\circ}\ \alpha\ ] \rightarrow (\ \alpha\ )_{\omega}$

F-wds undergo (90) as 'last resort', i.e. only if they cannot be integrated into the prosodic structure of a neighbouring l-wd. Once (90) has applied, an f-wd must have word stress, i.e. stressless forms (including contracted forms) are barred.

4.2 Phonological phrasing and 'proclisis'

Generally, an f-wd integrates with a lexical word to its right, when this is built into phonological phrase by the Phonological Phrasing Algorithm (PPA). This algorithm operates 'from the bottom up', in approximately the following fashion:[31]

(91) *Phonological Phrasing Algorithm* (PPA)

a. a p-wd is targeted, a p-phr is constructed over it

b. a stressless element α can be incorporated into the p-phr built over a linearly adjacent p-wd ß, if ß is contained within the syntactic sister constituent of α

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30 To avoid confusion with syntactic bracketing, round brackets are used to show prosodic structure.

31 The PPA may also group more than one p-wd under a phrase, if the two are adjacent and one is contained in the syntactic sister of the other. The exact formulation of the PPA depends on factors beyond the scope of this discussion, so I keep to an intuitive informal presentation. (91) differs from I&Z's formulation, partly since they make different assumptions about syntax.

In the simplest case, the l-wd is also the syntactic complement of the f-wd (92). The l-wd need not be the complement of the f-wd; the PPA enables a subject pronoun to be incorporated into the phrase built over the verb (93). Integration of more than one f-wd into a p-phr is also possible, as in (94):

(92) a. for (John)$_{\omega}$ → (for (John)$_{\omega}$)$_{PPh}$
b. is (leaving)$_{\omega}$ → (is (leaving)$_{\omega}$)$_{PPh}$

(93) it (rained)$_{\omega}$ → (it (rained)$_{\omega}$)$_{PPh}$

(94) a. for the (boss)$_{\omega}$ → (for the (boss)$_{\omega}$)$_{PPh}$
b. is it (raining)$_{\omega}$ → (is it (raining)$_{\omega}$)$_{PPh}$
c. is it a (problem)$_{\omega}$ → (is it a (problem)$_{\omega}$)$_{PPh}$

In each case, the p-wd base for p-phr construction is contained in the sister to the f-wd in the syntactic input configuration. In the output of the PPA, the f-wd is not dominated by a p-wd.[32] Hence, the f-wd does not acquire word-stress. Thus *for* in (92a) can be pronounced [fə].

The constituents created by the PPA in (92)-(94) match syntactic constituents. The PPA is also responsible for cases of non-isomorphism between syntactic and prosodic structure. Applied to (95), the PPA brackets aux together with the p-phr constructed over the subject. While the p-phr *in the kitchen* corresponds to a syntactic constituent, the p-phr *is the dog* does not. Hence in (95b), no prosodic constituent corresponds to IP in (95a):

(95) a. [$_{CP}$ is$_j$ [$_{IP}$ [$_{DP}$ the dog] [$_{I'}$ t$_j$ [$_{PP}$ in the kitchen]]]
b. (**$_{PPh}$** is the ($_{\omega}$ dog)) ($_{PPh}$ in the ($_{\omega}$ kitchen))

Although it produces outputs that do not match syntactic constituency, the PPA is still sensitive to the syntactic constituency of the input. If the syntactic sister of an f-wd is empty, then that f-wd cannot be integrated in stressless form, given (91b). This is this case where deletion or movement of the complement of an f-wd leaves that f-wd in final position in the string. Default Word Mapping (90) then applies to the 'stranded' f-wd. I&Z illustrate with preposition-stranding by *wh*-movement:

(96) a. Who did you buy the (book)$_{\omega}$ for ← input from syntax
b. (book)$_{\omega}$)$_{PPh}$ for ← PPA
c. (book)$_{\omega}$)$_{PPh}$ (for)$_{\omega}$ ← (90)

In (96), *for* cannot be reduced to [fə] since its is dominated by a p-wd node, and so must have word-stress.

The same account explains examples where aux is left in final position by deletion or movement. The PPA cannot integrate aux into a phrase, so that Default Word Mapping applies:

(97) a. I know where (John)$_{\omega}$ is ← input from syntax
b. (John)$_{\omega}$)$_{PPh}$ is ← phonological phrasing algorithm
c. (John)$_{\omega}$)$_{PPh}$ (is)$_{\omega}$ ← (90)

Since it is exhaustively dominated by ω in (97c), the aux *is* must have word-stress. It is for this reason, according to I&Z, that a reduced full form cannot appear in this position. I claim that for the same reason, the contracted form is barred.

The result of the PPA is proclisis—the f-word forms a constituent with a 'host' to its right, within which it can remain stressless. It is 'dependent' in the sense that it needs that 'host' to project a PPh within which it can shelter from the rule (90). Stressless f-wds are not 'proclitic' in the sense of forming a word-level constituent with their host. Nor are they 'inherently' proclitic. The fact that f-wds do not remain stressless when they are not 'proclitic' is due to the default mapping rule (90).

This is only an incomplete sketch of the configurations in which an f-wd can be integrated by the PPA. In section 3.2, cases were discussed (*wh*-movement, pseudogapping, subdeletion, parentheticals) that motivate the assumption of prosodic boundaries within syntactic constituents that block 'proclisis'. In terms of the PPA-analysis, these boundaries must be taken to close off p-phr construction.

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[32] The outputs thus violate the Exhaustivity constraint of the SLH. The f-wd generally has prosodic structure at levels lower than the p-wd, i.e.is dominated by syllable and foot nodes.

Assuming a 'Larsonian' approach, the structure of a complex VP that inputs the PF-component is as in (98a); a pseudo-gapped complex VP as in (98b). The PPA does not block proclisis in (98c), since *book* is the closest p-wd contained within the syntactic sister of aux, so that integrating aux into the p-phr constructed would satisfy (91b):

(98) a. John has \[given \[\[a rose\] \[t \[to Mary]]]]
b. ... and Sue has [~~given~~ [[a book] [t [to Bill]]]]
c. John's given a rose to Mary and Sue has, a book to Bill [hæz] / *[həz] / *[z]

The PPA can be prevented from including aux in the p-phr built on *book*, if a deletion site induces closure of the p-phr. Given the intonational grouping effect in such examples, it may be that the deletion site actually induces closure of an intonational phrase. On encountering a deletion site, the PPA must then close off the p-phr, to permit closure of the int-phr. The aux is 'stranded' and subject to (90), as in example (97).[33]

(99) ... and $(\text{Sue})_{\omega}$ has ~~given~~ $(_{\text{I}}\ (_{\text{PPh}}\ \text{a}\ (\text{book})_{\omega}\ )\ (_{\text{PPh}}\ \text{to}\ (\text{Bill})_{\omega}\ )\ )$

4.3 Enclisis

Not all f-wds that fail to be integrated via the PPA are subject to (90). Pronouns are f-wds that lack any l-wd complement. Object pronouns are frequently stressless, and in that case are enclitic to the preceding verb or preposition (cf. I&Z, Selkirk 1995):

(100) a. $(\text{need})_{\omega}$ + m → $(\text{need 'm})_{\omega}$ cf. "Needham"
b. will $(\text{need 'm})_{\omega}$ → $(\text{will}\ (\text{need 'm})_{\omega})_{\text{PPh}}$

This indicates that some f-wds can undergo special "encliticization" rules that apply early, so as to bleed both the PPA and default mapping. In (100a), the pronoun is incorporated into the lexical p-wd *need*. Subsequent application of the PPA integrates the f-wd *will* as a 'proclitic' in the p-phr built over the complex p-wd (100b).

Where an object pronoun is a syntactic sister of V, it could get integrated 'enclitically' into the p-phr of the verb via the PPA. But the PPA cannot capture the enclitic status of unstressed object pronouns in complex VPs and ECM-constructions. In (101), the pronoun is not a syntactic sister of the verb, rather, it is contained in its complement.[34] In (101b), the phrasing indicates that while the infinitive (*to be*) is proclitic on the main predicate, the accusative subject is enclitic on *believe*:

(101) a. ... [believe [[him] [to be sick]]]
b. ... $(\text{believe})_{\omega}$ 'm to be $(\text{sick})_{\omega}$ → ... $(\text{believe'm})_{\omega})_{\text{PPh}}$ (to be $(\text{sick})_{\omega})_{\text{PPh}}$

The pronoun could procliticize, according to (92b). Its behaviour in (101) is explained if *'m* encliticizes before the application of the PPA.

If a Larsonian syntax is adopted for (102), then the pronoun is in the specifier of the complement of V here, too. Following wh-movement of PP, it should end up getting p-wd status by (90). This is possibly the case for stressed pronouns, but unstressed pronouns clearly encliticize to the preceding l-word:

(102) ... where he [put [[it] t_{PP}]]]

A second case that motivates the assumption of an early enclisis rule is the English genitive *'s*-morpheme (POSS). This morpheme shows the same phonologically conditioned allomorphy as contracted aux *'s* (*is/has*). Obligatory voicing assimilation indicates that POSS is enclitic on the surface; phrasing indicates that the host belongs to a previous p-phr. Assming that in syntax this form realizes a functional head in the nominal extended projection (D° for concreteness), enclisis is a 'restructuring' rule:

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33 Proclisis not blocked in (i), indicating that the trace of head-movement of aux does not induce such a boundary:
(i) [is it _ [raining]]

34 This discussion presupposes that object pronouns do not encliticize in syntax. See Selkirk (1995) for a suggestion to the contrary.

(103) a. the boy from ((York's)$_{\sigma}$)$_{\omega}$)$_{PPh}$ ((book)$_{\omega}$)$_{PPh}$ [s] / * [z]
b. [$_{DP}$ [the boy from York] [$_{D'}$ [$_{D^{o}}$ s] [$_{NP}$ ...]]]

NP in (103a) can be emptied by deletion, with the result that POSS stands final in a p-phr or even final in the utterance, as in (104). POSS shows no trace of the proclisis effects discussed for contracted aux.

(104) a. You have my book and Mary has John's _
b. This book is the boy from York's _

If the PPA and default word mapping were permitted to precede enclisis of POSS, proclisis effects would be predicted, (104) should be barred.

To account for enclisis of POSS and of object pronouns, I assume that enclisis applies early to these forms, and so is able to bleed PPA and default word mapping.

4.4 Enclisis of aux and rule ordering

This discussion gives us the two rules we need to account for the behavior of aux. The PPA accounts for the 'proclisis paradigms'. In (105), aux is integrated into the p-phr built on the host l-wd (*John*):

(105) (where)$_{\omega}$ s (John)$_{\omega}$ → (where)$_{\omega}$ (s (John)$_{\omega}$)$_{PPh}$

An enclisis rule accounts for the integration of aux into a preceding word:

(106) (where)$_{\omega}$ s → (where s)$_{\omega}$ cf. "wears"

More needs to be said about the enclisis rule. There are two problems. Firstly, as we have just seen, enclisis can precede the PPA. Enclisis should be able to apply to aux in (105) as anywhere else; but if it is able to apply before the PPA, the aux will not be stranded by the PPA in (12). In other words, the account for the 'right-edge' effect in terms of default word mapping (90) is lost. Secondly, the 'proclisis' rule (PPA) must be prevented from determining the output for clitic-aux *'s*, since as pointed out in section 3.1, this form is always enclitic on the surface. The syllabification evidence indicates that encliticization is obligatory for this form at least.

The descriptive solution is to reverse the order of operations, and to make both obligatory. Proclisis 'feeds' enclisis. i.e. aux only encliticizes if it has "survived" by finding a host as a *proclitic*. While enclisis must apply early to POSS, it must apply late to aux. Whether there is a deeper account for this behaviour remains to be seen. At least, the complex patterns of section 3 can now be captured.

Consider the "it-effect" (107). The account suggested above was that weak pronouns like *it* cannot act as host for procliticization. This would follow if *it* is inherently unable to head a p-word; i.e. is never subject to default word mapping.[35] Then, the PPA cannot build a p-phr over *it* (this would be consistent with the behaviour of *it* over a wider range of constructions), aux fails to procliticize, and is subject to default word mapping.. Notice that when that happens, it is able to undergo enclisis onto aux (108):

(107) * what (s (it)$_{\sigma}$)$_{PPh}$
(108) what ((is)$_{\omega}$ it)$_{PPh}$

Now consider the neutralization of "it-effect" in *what's it for*. In this case, the preposition stranded by wh-movement gets p-wd status by default mapping. The PPA can then build a p-phr over *for*, to which aux can procliticize (109a), prior to encliticization (109b):

(109) a. (what)$_{\omega}$ s it (for)$_{\omega}$ → (what)$_{\omega}$ (s it (for)$_{\omega}$)$_{PPh}$
b. (what)$_{\omega}$ (s it (for)$_{\omega}$)$_{PPh}$ → (what s)$_{\omega}$ (it (for)$_{\omega}$)$_{PPh}$

It is unclear whether *it* remains procliticized as in (109b), or whether it encliticizes along with aux. That late enclisis is available to *it* is indicated by simple examples like *what IS it*?

Procliticization and encliticization of aux to *it* is asymmetric. We find no "it"-effect to the left of aux—(110b), shows that *it* may act as the sole host for enclisis of aux:

(110) a. * how difficult's it? b. it's difficult

---

[35] Possibly, if *it* is targeted by default word mapping, it is replaced by its strong pronoun counterpart *that*..

The account of the righthand "it"-effect depends on the assumption of the non-p-wd status of *it*. *It* is never a p-wd, hence it either encliticizes (*did it*) on the basis of an early rule, or else procliticizes (*it did*) via the general phrasing algorithm. How is it that a proclitic can act as a host for aux in its enclitic guise (110b), while not in its proclitic guise (110a)?[36] The answer lies in the different hierarchical status of the host in each case. As a proclitic, aux requires a host that is a p-wd. *It* has syllabic structure, but is not a p-wd, hence *it* is inadequate as host for aux in (110a). As an enclitic, aux requires a syllabic host, hence *it* is adequate in (110b). The two examples are analysed in (111):

(111) a. $*\,(_{PPh}\ s\,(\ it\ )_{\sigma}\ )_{PPh}$ (----)

b. $(_{PPh}\,(\ it\ )_{\sigma}\ s\ (\ difficult\ )_{\omega}\ )_{PPh}$ ← PPA
$(\ (\ its\ )_{\sigma}\ (\ difficult\ )_{\omega}\ )_{PPh}$ ← Enclisis

In (111b), aux is encliticized to a proclitic.

Finally, consider the contrast between English and S/C. The absence of the 'proclisis' effects (e.g. in (112)) in S/C suggests that aux-enclisis bleeds "proclisis" (PPA) in S/C. Then, the contrast falls out from a a rule-ordering difference, which is a plausible 'low-level' phonological parametrization.

(112) Što je *pro*?
what be-3sg-cl

This account predicts that the whole rage of gaps that block contractions in English can immediately follow clitic aux in S/C. The prediction seems to be borne out. Like English, S/C permits VP-ellipsis and even pseudogapping. In (113), the verb-gap is immediately preceded by an enclitic aux, a situation completely excluded in English:[37]

(113) a. Ivan je tvrdio da Marija nije trudna a ja **sam** __ da je.
I. be-3sg-cl claimed that M. isn't pregnant but I be-1sg-cl that (she) is

b. * John's claiming that Mary isn't pregnant, but I'm _ that she is.

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36 Thanks to Hans-Martin Gärtner for raising this question.

37 Example due to D. Cavar (p.c.).

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Das dativische pronominale Klitikum in der DP-Struktur des Bulgarischen

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Im Rahmen neuerer Theorieentwürfe zur Rolle der Syntax und des Lexikons in der Laut-Bedeutungs-Zuordnung (s. Chomsky 1995, Bierwisch 1996) wird die Integration der dativischen pronominalen Klitika des Bulgarischen in die Struktur der DP untersucht. Dabei geht es um ihre prosodischen, morphosyntaktischen, semantischen und informationsstrukturellen Eigenschaften.[1]

1. Aufgabenstellung

Das Bulgarische weist neben den Vollformen der Personalpronomina auch klitische Formen im Dativ und im Akkusativ auf. In Sätzen und satzartigen Modifikatoren vertreten diese Klitika topikalische spezifisch referierende Argumente bzw. duplizieren diese (s. Rudin 1995, Dimitrova-Vulchanova, Hellan 1995). In Substantivgruppen (DPs) hat das dativische Klitikum diese Funktion.

(1) [[[[knig] a][ta]][mu]] na Ivo
Buch fem d- cl-dat präp Ivo
'das Buch von Ivo'

(2) [[[[nov] a][ta]][mu]] kniga na Ivo
neu fem d- cl-dat Buch präp Ivo
'das neue Buch von Ivo'

Es stellen sich folgende Fragen:

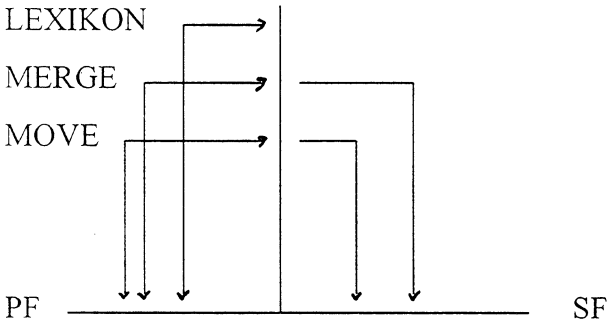
- Wie kommt es zu einer Struktur vom Typ (1) und (2) und welchen Charakter haben die Struktur und ihre Komponenten?
- Welche Rolle spielen dabei Syntax, Morphologie und Phonologie?

- Welche lexikalischen Informationen sind relevant?
- Welche syntaktischen Bewegungen sind in der Strukturbildung beteiligt?
- Wie wird Kongruenz zwischen Determinierer, Adjektiv und Substantiv bzw. zwischen dem dativischen pronominalen Klitikum und der durch es duplizierten *na*-Phrase garantiert?
- Inwiefern ist die Generalisierung zutreffend, daß es sich bei den Klitika und den durch sie duplizierten Phrasen um Argumentausdrücke handelt?
- Was ist der Bedeutungsbeitrag der beteiligten Konstituenten?

2. Grundannahmen zur Laut-Bedeutungs-Zuordnung

Das in (3) skizzierte Modell der Laut-Bedeutungs-Zuordnung rechnet mit dem Lexikon als fundamentalem Lieferanten der für die Korrelierung der Phonologischen Form (PF) und der Semantischen Form (SF) relevanten Strukturbausteine. Die Operationen Merge und Move bewerkstelligen den morphosyntaktischen Strukturaufbau.

(3)



Die Theorie sieht vor, daß es Operationen gibt, die für die semantische Interpretation relevant sind, für die phonologische Interpretation jedoch unsichtbar sind, und umgekehrt. Ich nenne die in die PF übergehende morphosyntaktische Struktur Oberflächenstruktur (OS) und die zur SF zu amalgamierende Struktur Logische Form (LF). Anders als Chomsky (1995) nehme ich mit Bierwisch (1996) an, daá die Laut-Bedeutungs-Zuordnung zwischen PF und SF stattfindet.[2] Alle zwischen diesen Schnittstellen vermittelnden Derivationsschritte und Struktureinheiten sind verborgen.

3. Hypothesen der Analyse

Die Analyse von Konstruktionen mit pronominalen Klitika muß die offensichtlichen Parallelitäten in der Strukturierung von Sätzen, satzartigen Modifikatoren und Substantivgruppen ins Auge fassen (s. dazu Schick, Zimmermann 1996a, 1996b).
Kennzeichnenderweise figurieren die pronominalen Klitika in erweiterten Verb- und Substantivprojektionen relativ weit links im Verhältnis zu den übrigen Konstituenten der jeweiligen Konstruktion. Das Strukturschema (4) deutet das an.

(4) [... [$_{FP}$ (XP) [$_{F'}$ [$_{F}$ cl F] ... [$_{LP}$ ... L ...] ...]] ...]

Wie in Schick, Zimmermann (1996a, 1996b) nehme ich an, daß das pronominale Klitikum Adjunkt einer funktionalen Kategorie F ist und somit jenseits der lexikalischen Projektion LP plaziert ist und in dieser Position basisgeneriert wird. Bewegung von pronominalen Klitika ist nicht vorgesehen. XP in der SpecF-Position ist eine topikalische, gegebenenfalls durch das pronominale Klitikum duplizierte Phrase. Vgl.:

(5) tazi mu kniga na Ivo
dieses cl-dat Buch präp Ivo
'dieses Buch von Ivo'

(6) Ana mu pomaga na Ivo.
Anna cl-dat hilft präp Ivo
'Anna hilft dem Ivo.'

In beiden Beispielen wird deutlich, daß die durch das Klitikum mu pronominal verdoppelte Phrase *na Ivo* in der sichtbaren OS nicht links vom Klitikum figuriert, sondern - wie ich annehme - innerhalb der lexikalischen Projektion liegt. Die in (4) angegebene Konfiguration kommt spätestens durch LF-Bewegung der topikalischen Phrase zustande und liegt der SF zugrunde.

Die Plazierung des dativischen pronominalen Klitikums in der Substantivgruppe verlangt in der OS Adjazenz zu einem definiten Determinierer (s. (1), (2), (5)). Um das zu garantieren,

sind entsprechende Annahmen über die Struktur der DP und die Definitheitskennzeichnung von Konstituenten erforderlich. (7) gibt die Basisstruktur von DPs an.[3]

(7) $[_{DP}$ D $([_{FP}$ $[_{F}$ cl F $])[_{NP}$ $[_{N'}$ ... N ... $]$ $([_{DP}$ na DP $])](\,])]$

Die das Klitikum beherbergende FP und die *na*-Phrase können abwesend sein.[4] Bezüglich der Eingliederung der *na*-Phrase in die DP-Struktur nehme ich nicht wie Szabolcsi (1983, 1987) eine besondere funktionale Strukturdomäne in der erweiterten Projektion von N an, sondern plaziere die mit *na* markierte DP als Tochterkonstituente von NP.[5]

Wenn Definitheit nicht in D gekennzeichnet ist, sondern an einem adjektivischen Kopf oder am Substantiv erfolgt (vgl. (5) vs. (2) vs. (1)), ist D phonologisch leer.[6] Zwecks Lizensierung seiner Definitheitskennzeichnung wandert entweder die betreffende Adjektivphrase in die SpecD-Position (vgl. Gallmann 1995), oder N wird D adjungiert (vgl. Longobardi 1994, Ćavar, Wilder 1994, Wilder, Ćavar 1994). Beide Operationen sind für SF nicht sichtbar. Die resultierenden OS-Konfigurationen in (8) sind typisch für die Abgleichung von Merkmalen, hier von +def.

(8)(a) $[_{DP}$ AP_i $[_{D'}$ $[_{D}$ $\varnothing$ $][_{FP}$ $[_{F}$ cl F $][_{NP}$ t_i ... N ... $]]]]$

(b) $[_{DP}$ $[_{D}$ N_i $[_{D}$ $\varnothing$ $]][_{FP}$ $[_{F}$ cl F $][_{NP}$ ... t_i ... $]]]$

Diese aus der Bewegung von definit gekennzeichneten Konstituenten resultierenden Konstellationen erfüllen die für die Enklise des klitischen Pronomens erforderlichen Adjazenzverhältnisse. Das Klitikum steht adjazent zu dem definiten Determinierer und klitisiert in der prosodischen Struktur an AP_i wie in (2), an N_i wie in (1) oder an D wie in (5).

Eine Ergänzung ist allerdings nötig. Adjektivgruppen oder Partizipialgruppen können komplex sein. Vgl.:

(9) mnogo gordijat mu ot uspexa prijatel na Ivo
sehr stolzer-der cl-dat auf Erfolg-der Freund präp Ivo
'der auf den Erfolg sehr stolze Freund von Ivo'

(1O) davno zabravenite mu ot vsički stari pesni na ovčarja
längst vergessene-die cl-dat von alle alte Lieder präp Schäfer-der
'die längst von allen vergessenen alten Lieder des Schäfers'

Es fragt sich, wie es hier zur Adjazenz des Adjektivs bzw. Partizips und des Klitikums kommt. Zwei Möglichkeiten sind zu prüfen. Erstens: Das Klitikum bewegt sich aus FP an den *Kopf der in SpecD figurierenden Phrase. Eine solche Bewegung ist jedoch fragwürdig* und nicht vorgesehen. Die zweite Möglichkeit besteht darin, daß in der nach SpecD bewegten Phrase und ihrer Spur komplementäre Elidierung von Formativketten stattfindet (vgl. Wilder 1994, 1996). (11) skizziert das in verallgemeinerter Form.

(11) $[_{XP}\ Y\ X\ \not{Z}\ ]_i$, $[_{XP}\ \not{Y}\ X\ Z\ ]_i$

Auf diese Weise kommt es auch in Fällen wie (9) und (1O) zu der erforderlichen Adjazenzstellung der an der Klitisierung beteiligten Köpfe. Daß es sich bei den pronominalen Klitika um Köpfe handelt, ist in den angegebenen syntaktischen Repräsentationen (4), (7) und (8) immer schon vorausgesetzt worden. Das Klitikum wird in der hier verfolgten Analyse als ein nicht projizierendes D betrachtet, das an einen phonologisch leeren Kopf F adjungiert ist. Es wird noch deutlich werden, welche Funktion diesem F in der Laut-Bedeutungs-Zuordnung zukommt.

Ich fasse die in diesem Abschnitt skizzierten Annahmen zusammen, indem ich für das Beispiel (2) die OS und die LF angebe.

(12) novata mu kniga na Ivo

(a) die OS

$[_{DP}\ [_{AP}$ novata $]_i\ [_{D'}\ [_D\ \varnothing\ ][_{FP}\ [_F\ [_D$ mu $][_F\ \varnothing\ ]]\ [_{NP}\ t_i$ kniga $[_{DP}$ na Ivo $]]]]]$

(b) die LF

$[_{DP}\ [_D\ \varnothing\ ][_{FP}\ [_{DP}$ na Ivo $]_i\ [_{F'}\ [_F\ [_D$ mu $][_F\ \varnothing\ ]][_{NP}$ novata kniga $t_i\ ]]]]$

4. Die Bausteine der Analyse

Das Bulgarische hat im Vergleich zu anderen Balkansprachen nichttautologische Definitheitskennzeichnung. Definitheit wird wie in (5) durch Demonstrativpronomen signalisiert. In DPs ohne Demonstrativpronomen bleibt die Definitheit in D stumm und zeigt sich in der hierarchisch höchsten Phrase mit einem adjektivisch flektierenden Kopf wie in (2), (9) und (10) in Gestalt des enklitischen Formativs *t-*, das teilweise flektiert und Genus-sowie Numerusunterscheidungen signalisiert.[7] Fehlt eine solche Phrase, trägt der lexikalische Kopf N wie in (1) die Definitheitskennzeichnung.[8] Semantisch kommt die Definitheit erst in D zum Tragen. D-Einheiten binden das referentielle Argument von N. Das heißt, daß das Formativ *t-* als Definitheitsmarker von +N-Einheiten keine Bedeutung trägt.[9] Die von ihm eingebrachte Definitheitskennzeichnung wird in der OS in den in (8) angegebenen Konstellationen mit dem phonologisch leeren definiten D lizensiert. Mit Penčev (1993) nehme ich an, daß das der Definitheitskennzeichnung dienende Formativ *t-* zur morphologischen Struktur von +N-Einheiten gehört, und gliedere es in diese als enklitisches Annex ein.[10]

Für die in (1) und (2) angedeutete morphologische Struktur für *knigata* bzw. *novata*, für den phonologisch leeren definiten Determinierer und für das dativische Klitikum werden die folgenden Lexikoneinträge wirksam.[11]

(13) Lexikoneintrag für das Flexiv -a

a. /a/

b. +fem+max

c. αV+N (+fem -i-Flektion)$_{-\alpha}$ -max

d. λx [x]

(a) repräsentiert die PF des jeweiligen Formativs. (b) gibt seinen kategoriellen Beitrag zur morphologischen Struktur der flektierten Einheit an. Im gegebenen Fall transportiert *-a* die Genusinformation +fem und die wortstrukturelle Information +max, die redundanterweise besagt, daß das so charakterisierte Wort als syntaktisches Atom mit dem syntaktischen Merkmal +MIN dienen kann (s. dazu Muysken 1982, Stiebels 1996). In (c) gebe ich die morphologischen Charakteristika an, die das Formativ von seinem wortstrukturellen Partner verlangt. *-a* kombiniert sich mit Adjektiv- und Substantivstämmen, ausgenommen Stämme

wie *gordost* 'Stolz', die i-Flektion haben. (d) beinhaltet die Bedeutungscharakterisierung. Im Fall des Flexivs *-a* ist es die identische Abbildung. Resultierende Einheiten sind die Beispiele in (14).[12]

(14) Resultierende Konfigurationen

[[nov] a]$_k$ mit k = +V+N+fem-neutr-pl-1ps-2ps+max

[[knig] a]$_k$ mit k = -V+N+fem-neutr-pl-1ps-2ps+max

(15) Lexikoneintrag für den enklitischen Definitheitsmarker

-ta

a. /ta/, [[ ]$_p$ __]$_p$

b. +def

c. $\left\{ \begin{array}{l} \text{+fem-pl} \\ \text{/a/] /\_\_\_} \\ \beta\text{neutr } \gamma\text{pl} \end{array} \right\}$ /___ αV+N+max

d. λ x [x]

Das heißt: Das Formativ ist ein prosodisch anlehnungsbedürftiges und morphologisch gebundenes Morphem (s. Inkelas 1990). Semantisch ist es leer. Nur für linksadjazente Wörter im Singular mit femininem Genus signalisiert *-ta* hier Kongruenz. Sonst handelt es sich um eine Art Vokalharmonie mit dem Auslaut des linken wortstrukturellen Nachbarn. Vgl. die folgenden Beispiele, die alle prosodische Wirte von *-ta* sein können.

(16)

kniga fem 'Buch'	baša masc 'Vater'
edna fem 'eine'	junoša masc 'Jüngling'
moja fem 'meine'	dva masc 'zwei' (s. Anm. 7)
nova fem 'neue'	roga masc pl 'Hörner'
kupena fem 'gekaufte'	deca neutr pl 'Kinder'
zaminala fem 'verreiste'	pisma neutr pl 'Briefe'
gordost fem 'Stolz'	

(17) Resultierende Konfigurationen

[[[nov] a -][- ta -]]$_k$ mit k = +V+N+def+fem-neutr-pl-1ps
-2ps+max

[[[knig] a][ta -]]$_k$ mit k = -V+N+def+fem-neutr-pl-1ps
-2ps+max

Im Gegensatz zum Maskulinum *-at*, zum Neutrum *-to* und zum Plural *-te*, die alle als flektierte Formen von *t-* mit entsprechender morphologischer Struktur gelten, wird -ta morphologisch nicht dekomponiert, wie der Lexikoneintrag (15) zeigt. Es ist hervorzuheben, daß die für *-ta* charakteristische Vokalharmonie mit dem Auslaut des prosodischen Wirts für die morphologische Integriertheit dieses Formativs in dessen Wortstruktur spricht.13

(18) Lexikoneintrag für den definiten Artikel

a. /∅/

b. +D+def+spez αtop-oblique+MIN

c. -V+N

d. λP [ix [P x]]

Das phonologisch leere D bringt in die erweiterte N-Projektion strukturelle Informationen bezüglich Definitheit, Spezifizität, Topikalität, syntaktischer Projektionsfähigkeit und die Kennzeichnung als Nichtdativ (s. dazu unten) ein. Genus-, Numerus-, Person-Merkmale und auch die kategorialen Charakterisierungen -V+N übernimmt D als funktionale Kategorie von seinem Komplement (s. dazu Grimshaw 1991). (d) beinhaltet die semantische Seite der Definitheitskennzeichnung und die Bindung des referentiellen Arguments von N.

(19) Lexikoneintrag für das pronominale Klitikum mu

a. /mu/, [[ ]$_p$ __]$_p$ v [__ [ ]$_p$]$_p$

b. +D-V+N+def+spez+top+regiert+oblique αneutr+max+MAX

d. x mit x ε N

(a) kennzeichnet das klitische Pronomen als prosodisch anlehnungsbedürftige Einheit. (b) charakterisiert es als morphologisch nicht analysierbare und syntaktisch nicht

projektionsfähige Einheit im Dativ Singular, 3. Person Maskulinumoder Neutrum, ferner als spezifisch referierendes topikalisches definites Pronomen. Seine in (d) angegebene Semantik ist schlichteine Individuenvariable.

Diese Lexikoneinträge und die in (8) angegebenen OS-Konstellationen führen zu folgender prosodischer Strukturbildung der betrachteten Beispiele:

(2O) Resultierende prosodische Konfigurationen

[[[nova]$_p$ [ta]]$_p$ [mu]]$_p$

[[[kniga]$_p$ [ta]]$_p$ [mu]]$_p$

Es müssen nun noch einige kurze Betrachtungen zum Kasussystem des Bulgarischen angestellt werden (s. dazu ausführlicher Schick, Zimmermann 1996b). Personalpronomen weisen in ihrem Lexikoneintrag Spezifizierungen bezüglich der Kasusmerkmale α regiert β oblique auf (zu solchen Merkmalsystemen s. Bierwisch 1967, 1996, Fries 1996). DPs haben via D (s. (18b)) die Kennzeichnung -oblique als Nichtdativ. Sie treten in Nominativ-und in Akkusativpositionen auf. Alle Präpositionen regieren den Akkusativ. Die Präposition *na* dient der Kennzeichnung von DPs als Dativphrasen, so daß sich gegebenenfalls Kongruenz mit einem dativischen pronominalen Klitikum wie in den Beispielen (1), (2), (5), (9), (1O) feststellen läßt. An den Beispielen wird auch deutlich, daß die bulgarische *na*-Phrase adnominalen Genitivphrasen bzw. Phrasen mit den Präpositionen *von*, *of*, *de*, *di* anderer europäischer Sprachen entspricht. Über einen Genitiv verfügt das Bulgarische nicht. Wie schon in (7) vorweggenommen, sind bulgarische Dativphrasen mit dem analytischen Dativmarker na folgendermaßen repräsentiert:

(21) [$_{DP}$ na [$_{DP}$ Ivo]], [$_{DP}$ na [$_{DP}$ nego]]
+regiert -oblique +regiert +regiert
+oblique +oblique -oblique

Das bedeutungsentleerte *na* wird also als phrasales Affix angesehen, das der Dativkennzeichnung von DPs dient. Schließlich ist nun noch die für die syntaktische

Eingliederung des klitischen Pronomens in Anspruch genommene funktionale Kategorie F näher zu betrachten. Sie hat folgenden Lexikoneintrag:[14]

(22) Lexikoneintrag für die funktionale Kategorie F
("Topikalisierer")
a. /∅/
d. $(\lambda y)_{\alpha}\ \lambda P\ (\lambda x)_{\beta}\ \lambda r \quad [\, y = x\,] : [\, P\ y\ r\,]$
k k +def
mit $\beta = +$, wenn $\alpha = -$
und k = +top+regiert γoblique δfem εneutr ζpl η1ps θ2ps

Die Funktion dieser funktionalen Kategorie liegt vor allem in ihrer Semantik. Die Bedeutungsangabe in (d) besagt, daß das pronominale Klitikum und auch die durch es gegebenenfalls duplizierte Phrase Topikstatus haben (vgl. Rudin 1995), wobei beide Ausdrücke als semantisch miteinander identifizierte Entitäten gelten und die Phrase in SpecD das Klitikum gewissermaáen expliziert.[15] Topiks sind im jeweiligen Diskurs gegebene, als existent vorausgesetzte Größen anzusehen (s. dazu Jäger 1995). Dem trägt in (22d) der unsymmetrische Konnektor ':' Rechnung. λP ist durch die NP-Bedeutung bzw. bei Sätzen und satzartigen Konstruktionen durch die VP-Bedeutung zu spezifizieren. Dabei wird angenommen, daß neben dem referentiellen Argument noch ein weiteres Argument von N bzw. V unspezifiziert ist und erst in der FP zur Geltung kommt. Ferner enthält (22d) die Forderung an die referentielle Argumentstelle λr, daß sie durch eine als +def gekennzeichnete Einheit zu spezifizieren ist.16 Die Argumentadresse k beinhaltet die für die Topiks erforderliche Kongruenz bezüglich Topikstatus, Kasus, Genus, Numerus und Person.17 Die Boolesche Kondition für die Wertefestlegung von α und β besagt, daß das Klitikum in FP abwesend sein kann. Dann repräsentiert die Phrase in SpecF allein das Topik. Ob F zur erweiterten Projektion von N bzw. V einen kategoriellen Beitrag leistet, läßt (22) offen. Möglicherweise gibt es auch in der Syntax kategoriell anonyme Einheiten, wie es in der Derivationsmorphologie beispielsweise für das deutsche Präfix *un-* gilt. Mit Grimshaws (1991) System erweiterter Projektionen müßte das verträglich sein.

Zwei weitere Bauelemente für die kompositionale Laut-Bedeutungs-Zuordnung müssen noch beleuchtet werden, und zwar zwei im System der semantischen Interpretation von sprachlichen Ausdrücken zur Verfügung stehende Templates.

Mit Ortmann (1995) will ich - anders als in Zimmermann (1991b) - annehmen, daá die Bedeutung nichtrelationaler Substantive auf folgende Weise um eine Argumentstelle angereichert werden kann:

(23) ARG(umentstellenerweiterung)

$\lambda Q \quad \lambda x \ \lambda r [Q r] \& [x R r]$
-V+N
wobei R eine nicht näher spezifizierte
Zugehörigkeitsrelation repräsentiert

Angewendet auf die Bedeutung von kniga ergibt sich (24).

(24) $\lambda x \ \lambda r \ [\text{BUCH } r] \& [x R r]$

Auf diese Weise können alle Substantive neben der referentiellen Argumentstelle eine weitere Argumentstelle haben und dativische Klitika wie *mu* und die durch sie duplizierte *na*-Phrase erhalten in DPs mit einem nichtrelationalen Nomen wie *kniga* 'Buch', mit einem relationalen Nomen wie *prijatel* 'Freund', mit einem deadjektivischen Nomen wie *gordost* 'Stolz' bzw. mit einem deverbalen Nomen wie *pristigane* 'Ankunft' den gleichen Status, semantisch, informationsstrukturell und morphosyntaktisch. Vgl.:

(1) knigata mu na Ivo
Buch-das cl-dat präp Ivo
'das Buch von Ivo'

(25) prijateljat mu na Ivo
Freund-der cl-dat präp Ivo
'der Freund von Ivo'

(26) gordostta mu na Ivo ot uspexa
Stolz-der cl-dat präp Ivo präp Erfolg-der
'der Stolz Ivos auf den Erfolg'

(27) pristiganeto mu na Ivo
Ankunft-die cl-dat präp Ivo
'die Ankunft Ivos'

Ferner ist für die Integration von Modifikatoren das Template MOD vorzusehen (s. Zimmermann 1992). Es macht u.a. Adjektivphrasen zu Modifikatoren von NPs.

(28) MOD(ifikationstemplate)

λQ2 λQ1 λr [Q1 r] & [Q2 r]
mit Q1, Q2 ε S/N
und mit Kongruenz der unifizierten Argumentstellen, wenn Q1 und Q2 durch +N-Einheiten ausgedrückt sind.

Es ist wesentlich zu verstehen, daß dieses Template auf die Bedeutungsstruktur des Modifikandums via Funktionale Komposition angewendet werden kann, so daß es zur Argumentvererbung kommt. Ich illustriere das an *novata kniga* aus Beipiel (2).

(29) MOD (novata')(ARG (kniga')) =

λQ2 λQ1 λr [Q1 r] & [Q2 r] (λx [NEU x]) (λQ λr
[Q r] & [x R r] (λy [BUCH y])) =
λx λr [[BUCH r] & [x R r]] & [NEU r]

Diese Repräsentation kann nun mit der Bedeutung der *na*-Phrase auf zweierlei Art verknüpft werden, jenachdem ob diese Konstituente als nichttopikalische oder topikalische Einheit repräsentiert ist. Im ersteren Fall steht die *na*-Phrase in NP (s. (7)), im letzteren Fall in der SpecF-Position (s. (12b)). Entsprechend ergeben sich folgende zu unterscheidende semantische Repräsentationen:

(3O) novata kniga na Ivo' =
$\varnothing_{D'}$((MOD (novata')(ARG (kniga')))(na Ivo')) =
ir [[BUCH r] & [IVO R r]] & [NEU r]

(31) novata mu kniga na Ivo' =

$\varnothing_{D'}$ ($O_{F'}$ (mu')(MOD (novata')(ARG (kniga')))(na Ivo)) =

ir [y = IVO] : [[[BUCH r] & [y R r]] & [NEU r]]

5. Zusammenfassung

Die hier vorgestellte Integration des dativischen pronominalen Klitikums in die Struktur der Substantivgruppe des Bulgarischen weicht in einigen Punkten von Grundannahmen der gegenwärtigen minimalistischen Syntaxtheorie ab.

Das betrifft erstens den Mechanismus des feature checking. Ich rechne grundsätzlich mit dem Funktionieren der Bedingungen für die semantische Amalgamierung von Konstituenten, die in den mit Argumentstellen assoziierten Argumentadressen repräsentiert sind. Eine Zuordnung von Laut und Bedeutung, d.h. eine Derivation, bricht zusammen, wenn die betreffenden Voraussetzungen nicht erfüllt sind. Diese erforderliche Verträglichkeit zweier in der semantischen Amalgamierung zu kombinierenden Konstituenten ist in meinen Augen eine entscheidende Form des feature checking.

Zweitens rechne ich mit Templates, die Bedeutungsstrukturen ohne entsprechende Formative anreichern. Anders als Siloni (1995) und Bailyn (1994) schreibe ich attributiv verwendeten Adjektivgruppen Modifikatorstatus nicht durch besondere syntaktische Konstituenten oberhalb von AP zu, sondern wende ein die Modifikatorfunktion lieferndes Template an. Mindestens für slavische Sprachen wie auch fürs Deutsche, Englische, Französische, Italienische halte ich diese Analyse für angemessen. Sie schließt nicht aus, daß es satzartige Modifikatoren gibt, die Sätzen vergleichbare funktionale Strukturdomänen aufweisen.

Drittens benötige ich folglich weniger funktionale Strukturdomänen in erweiterten Projektionen, als üblicherweise angenommen wird. Insbesondere sehe ich keine Agr-Phrasen vor. Die betreffenden Verträglichkeiten sind in den Argumentadressen und entsprechenden Kombinationsvorschriften, z.B. MOD, verankert (s. auch Wunderlich 1992).

Viertens mache ich massiv von syntaktischen Operationen Gebrauch, die für die PF bzw. für die SF nicht sichtbar sind. Dabei ist zu klären, welche Beschränkungen für die resultierenden Repräsentationen bestehen, insbesondere auch welche Rolle Spuren (oder Kopien) von bewegten Konstituenten spielen.

Fünftens betrachte ich die hier analysierten Klitika nicht wie Rudin (1995) und Maaßen (1994) als funktionale Köpfe in der erweiterten lexikalischen Projektion von Verben oder hier von Substantiven, sondern als Adjunkte einer funktionalen Kategorie. Deren Funktion besteht darin, Topiks aus der lexikalischen Projektion VP bzw. hier NP herauszuheben und informationsstrukturell als im Diskurs gegebene Entitäten zu interpretieren.

Sechstens sieht die Analyse der klitischen Pronomen des Bulgarischen keine Bewegung der Klitika vor. Sie werden in FP basisgeneriert und klitisieren in der prosodischen Struktur an einen adjazenten Wirt. Die Lexikoneinträge der Klitika enthalten in der phonologischen Charakterisierung entsprechende Bedingungen.

Im Ganzen versteht sich die vorliegende Untersuchung auch als ein Beitrag zur Beleuchtung der Rolle des Lexikons in der minimalistisch orientierten Theoriebildung zur Laut-Bedeutungs-Zuordnung.

ANMERKUNGEN

1 Die Untersuchung fußt auf Zusammenarbeit mit Ivanka Petkova Schick (s. Schick, Zimmermann 1995, 1996a, 1996b). Für hilfreiche Diskussion und einschlägige Hinweise danke ich Peter Gallmann, Birgit Gerlach, Brigitta Haftka, Ursula Kleinhenz, Teresa Parodi, Alexandra Popescu, Christopher Piñon, Cristina Schmitt und Wolfgang Ullrich Wurzel.

2 Zur Rechtfertigung der SF als Repräsentation der grammatisch determinierten Bedeutung sprachlicher Äußerungen und zu ihrer Unterscheidung von der konzeptuellen Struktur als Repräsentation der Welterfahrung von Sprechern und Hörern s. Bierwisch (1982, 1987, 1988, 1989, 1996), Lang (1987, 1990, 1994) und Stiebels (1996).

3 Vgl. die DP-Analyse in Zimmermann (1991a, 1991b, 1992, 1993), die mit Ausnahme der FP für die Plazierung des Klitikums der hier angenommenen DP-Strukturierung weitgehend entspricht.

4 Zu den Abhängigkeiten der in LF in FP plazierten Konstituenten s. unten, Abschnitt 4.

5 Möglicherweise ist die *na*-Phrase in der Basisstruktur von DP in SpecN, also links von N', zu plazieren. Dann sind transformationelle Umstrukturierungen vorzunehmen, die alle nicht mit N kongruierenden Phrasen in postnominale Stellungen bringen. Ich diskutiere solche Strukturbildungen hier nicht.

6 Zu leeren funktionalen Köpfen s. Zimmermann (1990).

7 Ich klammere in dieser Untersuchung - vereinfachend - die Betrachtung von Kardinalia und Totalitätspronomen wie *vsički* 'alle' aus, die auch Definitheitskennzeichnungen tragen können. Es wäre ausführlich zu der diesbezüglichen Analyse von Giusti, Dimitrova-Vulchanova (1995) Stellung zu nehmen.

8 Fälle mit impliziter Definitheit betrachte ich hier nicht.

9 Vgl. auch die attributiven Formen der Adjektive des Russischen, die historisch aus der Kurzform des Adjektivs mit klitischem definiten D hervorgegangen sind (s. Bailyn 1994).

10 Ganz analog schließe ich das russische Reflexivität signalisierende Formativ *-sja* enklitisch an die flektierte Wortform von Verben, Partizipien und Adverbialpartizipien an (s. Zimmermann 1995).

11 Die einzelnen in (a)-(d) verzeichneten lexikalischen Informationen sind in ihrer Substanz den Einträgen in Jackendoff (1975) analog. Im Hinblick auf eine minimalistisch orientierte Morphologie-Konzeption folge ich im Prinzip Wunderlich, Fabri (1994).

12 Für die folgenden aus morphologischer und prosodischer Strukturbildung resultierenden Repräsentationen wird nur die strukturelle Typisierung der jeweiligen Einheit angegeben. Dabei werden die morphosyntaktischen Merkmale mit vorhersagbaren Minuswerten ergänzt.

13 Auf eine Diskussion, wie *-ta* in einer Morphologiekomponente zu behandeln wäre, die - anders als hier - mit später Integration von Formativen in die morphologische Struktur von Wörtern rechnet, muß ich verzichten.

14 (22d) weicht minimal von der für F in Schick, Zimmermann (1996a, 1996b) angenommenen Bedeutungsrepräsentation ab.

15 Bemerkenswerte Nähe hat die in (22d) in der Präsupposition repräsentierte Beziehung zwischen dem Klitikum und der es explizierenden Phrase mit Schmitts (1996: Kap. 3) Auffassung, daß in der Basisstruktur von Sätzen in der Objektposition eine Art small clause αP im Spiel sei mit dem Klitikum in Specα und der duplizierten Phrase als Komplement des Identität setzenden Prädikats α . Ich installiere diese Beziehung in der Semantik, ohne sie in einer entsprechenden syntaktischen Form zu repräsentieren. Es ist hier nicht möglich, die Einzelheiten von Schmitts Analyse zu diskutieren.

16 Mindestens für DPs ist diese Bedingung wesentlich.

17 Es sei hier erwähnt, daß es keinen Sinn macht, diese für Kongruenz relevanten Informationen in der erweiterten V- oder N-Projektion zu haben. Das käme zustande, wenn das Klitikum als F und nicht als F-Adjunkt angesehen würde.

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