# Towards an HPSG Account of the Bulgarian Definite Article

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Abstract. This paper examines the status of the definite article in Bulgarian and offers a formal account of its morphology and syntax in the framework of HPSG. It shows that the definite article is best considered **a phrasal affix** and should be lexically attached to its host. It also shows that the currently available architecture for morphology could, with some modification, generate the relevant word forms. What is more, the modifications made for morphology can then be used to account for the phrasal distribution of the definite article.

## 1 Introduction

There have been controversial proposals regarding the nature of the definite article in Bulgarian[1]. Stoianov (1983) sums up earlier definitions, in which the definite article has been labelled a particle (Andreichin, 1944) and (Vasilev and Mladenov, 1939), an ending (Kostov, 1944) and (Maslov, 1982), and a suffix (Sławski, 1954). Stoianov himself rejects all of the above and calls the article simply "a morpheme". Mayer (1988) also discusses previous work on the article and concludes that it is an NP marker. Halpern (1995) sums up nicely: "With some exceptions, the discussion has basically been over whether the article should be considered a suffix or a clitic, with the question arising because the article apparently has the distribution of a clitic, but the phonology of a suffix."

This paper will attempt to apply to the Bulgarian definite article the criteria developed to distinguish between words, clitics, affixes, and phrasal affixes and will offer a formal account of the Bulgarian definite article within the HPSG framework.

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We assume the following definitions, largely following the discussion in (Miller, 1992):

- **Clitics** are phonologically deficient elements which cannot bear independent stress and whose distribution is governed either by normal rules of syntax (*simple clitics*) or by special rules (*special clitics*). Clitics are postlexically attached.

- **Phrasal affixes** are lexically attached to their stems, but their distribution is determined with respect to complete phrases.

## 2 The Status of the Bulgarian Definite Article

The definite article, henceforth DA, can appear on nouns, adjectives, numerals, full forms of possessive pronouns and participles. In all cases it surfaces as a string which attaches itself phonetically (and orthographically) to the end of the word. The article agrees (with a few exceptions) with its host in gender and/or number. The article for singular masculine nouns which end in a consonant or a glide is *-ât* (full form) and *-a* (short form) with allomorphs *-iat, -ia*,[2] e.g. *motor* ('engine'), *motor***ât** ('the engine'). Singular masculine nouns which end in *"a"* or *"ia"* take the article *-ta*, those that end in *"o"* or *"e"* take the article *-to*. Feminine singular nouns take the article *-ta*, e.g. *masa* ('table'), *masa***ta** ('the table'), singular neuter have the article *-to*, e.g. *dete* ('child'), *dete***to** ('the child'). Plural nouns take *-te* or *-ta*, e.g. *khora* ('people'), *khora***ta** ('the people'). Adjectives, numerals, participles and possessive pronouns take the same article as the noun they agree with, subject to the following condition: there is at most one DA per noun phrase and that appears as an ending on the first element of the noun phrase.

Cf. the examples below:

(21.1) Kniga**ta** e na masa**ta**.
Book-THE is on table-THE.
'The book is on the table'.

(21.2) Nova**ta** kniga e na masa**ta**.
New-THE book is on table-THE.
'The new book is on the table'.

(21.3) Hubava**ta** nova kniga e na masa**ta**.
Nice-THE new book is on table-THE.
'The nice new book is on the table'.

[2]The full form of the article is used when the NP is in a subject or predicate complement position.

(21.4)    *Nova knigа**ta** e na masa**ta**.
New book-THE is on table-THE.

'The new book is on the table'.

Zwicky (1985) outlines a battery of criteria for distinguishing between words and clitics/affixes. Although the dependent status of the Bulgarian DA seems very clear, it is useful to outline some of the results of applying the tests he proposes in the discussion below.

The DA forms a phonological word with its host and never takes independent stress. It can, though, sometimes attract word stress onto itself, mainly in the case of monosyllabic singular masculine nouns of Bulgarian origin and singular feminine nouns. The same observation leads Elson (1976) to conclude that the articles in Bulgarian "would not qualify as enclitics because they can occur stressed like ordinary syllabic suffixes while the undisputed clitics cannot".

Elson (op. cit., pp. 274, 275) points to some even more convincing arguments from phonology that the DA is an affix: (i) whereas final devoicing occurs in Bulgarian at word boundaries, and between a word and a following clitic, it does not occur between the article and its host; (ii) the sequences of liquid and schwa which undergo metathesis before inflectional affixes but not before clitics, metathesize before the DA; (iii) the sequences obstruent+schwa+sonorant which lose the schwa before inflection, can do so before the DA as well. All of the above lead Elson to conclude in favour of an affixal status for the DA.

The DA can be subject to the laws of vowel harmony, thus for plural nouns if the stem ends in "e" or "u", the article is *-te*, if the stem ends in "ia" or "a", the article is *-ta*. Cf. Stoianov (1983) and the following examples: *borove* ('firs'), *borove***te** ('the firs'), but *patishta* ('roads'), *patishta***ta** ('the roads').

The article is strictly ordered with respect to adjacent morphemes in a word. It always appears as the last morpheme, and is added to the stem subsequent to inflectional endings.

It is important to point out that the article also has access to the internal morphological structure of the stem it attaches itself to. For masculine nouns ending in a consonant the article has two full and two short forms: *-ât, -iat* and *-a, -ia*. The forms *-ia* and *-iat* appear after consonants that are historically soft. Thus, the form corresponding to the noun *den* ('day') is *deniat* ('the day'). Most often the tabacckludge'softtabacckludge' allomorph will appear on nouns ending in the agentive suffix *-tel*, e.g. *uchi-tel-***iat** ('the teacher'). If a noun ends in "tel", but this is not the suffix *-tel*, then the article will remain *-ât*, cf. *motel-***ât** ('the motel').

The combination of an element X and a DA forms a single unit with respect to syntactic rules. Thus we cannot delete, replace with a pro-form or move only the element X in a sentence, without doing the same with the DA.

All of the above testify to the dependent nature of the definite article. There is one point which merits separate discussion. Zwicky (1985) points out that "Inflectional affixes combine with stems or full words, whereas words combine with other words or with phrases." Although it attaches itself to single words, the DA in Bulgarian can appear only once in a given noun phrase. Therefore, (21.5) is grammatical, but (21.6) is not.

(21.5) Pârva**ta** kâshta se pokaza na horizonta.
First-DEF house REFL appeared on horizon-DEF.

'The first house appeared on the horizon.'

(21.6) *Pârva**ta** kâshta**ta** se pokaza na horizonta.
First-DEF house-DEF REFL appeared on horizon-DEF.

'The first house appeared on the horizon.'

What is more, the presence of another determiner, e.g. a demonstrative pronoun, will block the use of a noun with a DA. Therefore, (21.7) is also ungrammatical. The demonstrative pronoun itself cannot bear the DA.

(21.7) *Tazi kâshta**ta** se pokaza na horizont**a**.
This house-DEF appeared-REFL on horizon-DEF.

'This house appeared on the horizon.'

It seems then that although we can state the distribution of the definite article with a simple rule (the DA article appears after the first element of the NP unless there is a lexical determiner already present), which according to Zwicky (1985) points to an affixal nature, the DA enters into constructions with phrases rather than words, which in turn is more typical of words. Zwicky himself, though, refers to (Klavans, 1985) who "uses construction with phrases rather than words as a touchstone for clitics as opposed to affixes".

The pressing task then, although it is clear that the article is not a word but a clitic or an inflectional or phrasal affix, is to see which of these options is a more plausible analysis for the DA in Bulgarian.

The phonological criteria outlined above would suggest that the DA is an affix, and not a clitic.

In addition, Zwicky and Pullum (1983) give 6 criteria to distinguish between affixes and clitics. It is useful to see how the DA in Bulgarian fares on these.

1. "Clitics can exhibit a low degree of selection with respect to their hosts, while affixes exhibit a high degree of selection with respect to their

stems". The DA in Bulgarian seems to have a rather low degree of selection. It can attach itself to nouns, adjectives, participles, numerals, and some pronouns. Miller (1992) notes, however, that this criterion is tabacckludge'compatible with both affixal and postlexical statustabacckludge'.

Of the elements that go into the NP the DA cannot attach itself to personal pronouns, the short (cliticised) forms of the possessive pronouns, demonstrative pronouns (with some exceptions), indefinite pronouns, negative pronouns, or aggreggate pronouns (except the one for quantity).

2. "Arbitrary gaps in the set of combinations are more characteristic of affixed words than of clitic groups".

The DA can attach itself to all nouns and noun modifiers (with the above exceptions). The rules of combination with proper names are more complex. It could be argued though that the exceptions there are not arbitrary, but are rather based on semantic considerations.

There is one arguably arbitrary gap in the paradigm. Short possessive pronouns in Bulgarian can only appear after definite nouns. See example (21.8).

(21.8) kâshta*(**ta**) mi
house-*(DEF) my
'my house'

There is a group of nouns, though, which can be followed with a short possessive pronoun, but without the DA. These form a natural class: they all refer to family relations. See (21.9) for an example.

(21.9) bashta(***ta**)mu
father-(*DEF) his
'his father'

This exception would point to the DA being an affix, rather than a clitic.

3. "Morphological idiosyncrasies are more characteristic of affixed words than of clitic groups". There seem to be no morphological idiosyncrasies in the paradigm of the DA. It has no suppletive forms and its phonological shape is predictable from the characteristics of the stem it attaches to, and from the morphophonological rules of Bulgarian. However, as we already pointed out, the DA invokes changes in the root it attaches to and is subject to vowel harmony. These facts strongly support the hypothesis that it is an affix.

4. "Semantic idiosyncrasies are more characteristic of affixed words than of clitic groups". The DA does not exhibit semantic idiosyncrasies.

5. "Syntactic rules can affect affixed words, but cannot affect clitic groups". As we have already pointed out, the combination of host + DA is treated as a unit by syntactic operations which at no point make reference

to its internal structure. This suggests that the DA is an affix rather than a clitic.

6. "Clitics can attach to material already containing clitics but affixes cannot". The DA attaches itself to the stem after it has received its inflectional morphemes. Nothing else can intervene between the stem and the DA.

Zwicky (1985) remarks that tests like the above point to "characteristic SYMPTOMS of a linguistic state of affairs" and should not be taken as "DEFINITIONS of a term". Miller (1992) points out that criteria 2 – 4 do not "make affixal status impossible, nor clitic status necessary".

To the above Miller (op. cit.) adds the criteria of coordination. In his analysis an item must be an affix if it cannot have wide scope over coordination, and if it must be repeated on each conjunct. Applying the coordination criteria to the Bulgarian DA, however, gives inconclusive results.

The phonological facts strongly suggest an affixal treatment for the DA. Its behaviour in syntax, however, makes it impossible to put it on an equal footing with other inflectional affixes. The notion of phrasal affix seems to offer a way out of the dilemma and an appropriate categorization for the DA.

I will, therefore, give weight to the phonological facts and conclude that the definite article in Bulgarian is a phrasal affix and must be generated by morphology, with syntactic rules governing its distribution.

## 3 The Analysis

### 3.1 Morphology

I will assume here the HPSG architecture for morphology as first outlined by Höhle (1999) and elaborated on in (Sailer, 1999). Sailer's remarks are largely based on work by (Reinhard, in progress).

I will try to show that assuming this architecture, very little additional machinery is needed in order to model the behaviour of the definite article.

Sailer introduces recursive structure into morphology and assumes the sorts *basic-morph* and *complex-morph* within the following sort hierarchy (Sailer, 1999):

*sign* PHON *phonstring*
SYNSEM *synsem*
⋮
*morph* M-SUBCAT *list(synsem)*
M-SPEC *list(morph)*
⋮
*basic-morph*
*complex-morph* M-DTRS *m-const-struc*

He points out, quoting Reinhard (in progress), that we can use the M-SPEC and M-SUBCAT features to do inflection, derivation, and compounding. The two mechanisms work together for derivation, M-SUBCAT is used for compounding, and M-SPEC for inflection. I will assume that the DA is part of inflection and will therefore employ M-SPEC. Via M-SPEC the morphological head daughter (an affix) selects a morph, which means that we have access to the phonology of the selected item, precisely what is desirable in the case of the DA.

Sailer (1999) outlines a word principle that ensures that we do not have to give redundant descriptions of lexemes and their word forms.

I will adopt these assumptions and use inflectional mechanisms to build word forms of nouns, adjectives, participles, etc., with the definite article attached to them. In the current setup the lexicon consists of basic morphs.

The definite article *-ât* will then have an entry as in Fig 21.1 (Recall that it attaches itself to singular, masculine nouns that end in a consonant).

$$\left[\begin{array}{l} \textit{basic-morph} \\ \texttt{phon}\ \langle \text{ât} \rangle \\ \texttt{synsem\$|\$local} \left[\begin{array}{l} \texttt{category} \left[\begin{array}{l}\texttt{head}\ \boxed{2} \\ \texttt{def}\ + \end{array}\right] \\ \texttt{content}\ \boxed{3} \end{array}\right] \\ \texttt{msubcat}\ \langle\rangle \\ \texttt{mspec}\ \left\langle \left[\begin{array}{l} \texttt{phon}\ \boxed{1} \\ \texttt{synsem\$|\$local} \left[\begin{array}{l} \texttt{category} \left[\begin{array}{l} \texttt{head}\ \boxed{2} \left[\begin{array}{l} \textit{noun}\vee\textit{adj} \\ \texttt{agr} \left[\begin{array}{l} \texttt{person}\ \text{3rd} \\ \texttt{number}\ \text{sing} \\ \texttt{gender}\ \text{masc}\end{array}\right]\end{array}\right] \\ \texttt{def}\ - \end{array}\right] \\ \texttt{content}\ \boxed{3}\end{array}\right]\end{array}\right] \right\rangle \\ \texttt{qstore}\ \left\{ \left[\begin{array}{l} \texttt{det}\ \text{the} \\ \texttt{restind} \left[\begin{array}{l}\texttt{index}\ \text{index} \\ \texttt{restr}\ \{\}\end{array}\right]\end{array}\right]\right\} \end{array}\right]$$

$\wedge$ *last-x-is-a-consonant* ($\boxed{1}$)

Figure 21.1: An entry for the DA **-ât**

I have introduced the boolean feature DEF (with the DA being $[DEF+]$) which ensures that words that bear the DA are marked for definiteness and (in combination with the M-SPEC mechanism) that the DA does not attach itself to words that already have a DA, i.e. we rule out forms like **stolâtât*. A similar feature is used by Wintner (1997) as part of his account of the definite article in Hebrew. In his approach, however, DEF is a head feature. In my analysis this is not possible, since I structure-share the head features of the DA and its host and their DEF values are different.

As it will become clear below, through the Definiteness Principle, the DEF feature also helps to account for the distributional properties of the

DA in syntax — it can only appear on the first element of the NP.

The fact that the article shows "sensitivity to the morphological characteristics of its host" (Halpern, 1995) is rendered naturally by the fact that it selects these characteristics via M-SPEC. Giving a range of values for the HEAD feature of the host in MSPEC reflects the promiscuous attachment of the DA.[3]

In conjunction with the description of *-ât* I use a relation that ensures that the stem it selects ends in a consonant. As you might recall, singular masculine nouns that end in vowels do not take *-ât*. This will mean, for example, that more than one entry for the article *-ta* will be needed — one that will take care of the most usual case of singular feminine nouns, and one that will select via its MSPEC for singular masculine nouns that end in "a" or "ia".[4]

And, finally, the quantificational properties of the DA are reflected in its QSTORE value (Pollard and Sag, 1994, p.47ff).

The description of the stem "stol" follows the account of nouns in (Pollard and Sag, 1994), except that it also bears the feature DEF, but with a negative value, is a morph and has an AGR feature. See Fig. 21.2.

$$\begin{bmatrix} \textit{basic-morph} & \\ \texttt{phon}\ \langle\text{stol}\rangle & \\ \texttt{synsem\$|\$local} & \begin{bmatrix} \textit{local} & \\ \texttt{category} & \begin{bmatrix} \texttt{head} & \begin{bmatrix} \textit{noun} & \\ \texttt{agr} & \begin{bmatrix} \texttt{person} & \text{3rd} \\ \texttt{number} & \text{sing} \\ \texttt{gender} & \text{masc} \end{bmatrix} \end{bmatrix} \\ \texttt{def} & - \end{bmatrix} \\ \texttt{content} & \begin{bmatrix} \texttt{index} & \boxed{1} \begin{bmatrix} \texttt{person} & \text{3rd} \\ \texttt{number} & \text{sing} \\ \texttt{gender} & \text{masc} \end{bmatrix} \\ \texttt{restr} & \left\{ \begin{bmatrix} \texttt{reln} & \text{chair} \\ \texttt{inst} & \boxed{1} \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix} \\ \texttt{msubcat}\ \langle\rangle & \\ \texttt{mspec}\ \langle\rangle & \\ \texttt{qstore}\ \{\} & \end{bmatrix}$$

Figure 21.2: A lexical entry of the stem *stol*

Given the morph entries in Fig. 21.1 and Fig. 21.2, the fact can now be captured that nouns, adjectives, etc. bearing a DA will be generated as

[3]For simplicity of exposition, I have included only nouns and adjectives in the AVM. The HEAD feature in M-SPEC could have more and/or different values, however, depending on the analysis for the NP one envisages.

[4]The phonological description of the host would need to be enriched even further to take care of the distribution of *-ât, -a* and its allomorphs *-iat, -ia.* This should not be a problem for a fully fledged theory of phonology (see for example Höhle (1999)) but goes beyond the scope of this paper.

words. We need only provide the following principles:

- **The Definiteness Principle**. If at least one of the daughters of a phrase or of a complex-morph is marked DEF+, then the mother node also bears the marking DEF+. Otherwise it is DEF−.

- **QSTORE principle** The QSTORE in phrases and complex morphs is the set union of the QSTOREs of the daughters. (This is very much like the Quantifier Inheritance Principle of (Pollard and Sag, 1994, p.48), but is used here for morphology as well).

I assume that the affix is head (hence the M-H-DTR feature) and passes the HEAD features to the mother, according to a principle analogous to the Head Feature Principle in syntax. The CONTENT value will also be passed to the mother from the head daughter, according to the Semantics Principle. The stem is a non-head daughter (M-N-DTR).

These specifications predict that models of our grammar contain the complex-morph "stolât" as described in Fig. 21.3.

$$
\begin{bmatrix}
\textit{complex-morph} & \\
\texttt{phon} & \boxed{6} \oplus \boxed{7} \\
\texttt{synsem\$|\$local} & \begin{bmatrix}
\texttt{category} & \begin{bmatrix} \texttt{head} & \boxed{2}\,\text{noun} \\ \texttt{def} & + \end{bmatrix} \\
\texttt{content} \ \boxed{10} & \begin{bmatrix}
\texttt{index} \ \boxed{1} & \begin{bmatrix} \texttt{person} & \text{3rd} \\ \texttt{number} & \text{sing} \\ \texttt{gender} & \text{masc} \end{bmatrix} \\
\texttt{restr} & \left\{ \begin{bmatrix} \texttt{reln} & \text{chair} \\ \texttt{inst} & \boxed{1} \end{bmatrix} \right\}
\end{bmatrix}
\end{bmatrix} \\
\texttt{mspec} & \langle\rangle \\
\texttt{msubcat} & \langle\rangle \\
\texttt{qstore} & \boxed{3} \cup \boxed{4} \\
\texttt{m-n-dtr} \ \boxed{9} & \begin{bmatrix}
\texttt{phon} & \boxed{6}\langle \text{stol} \rangle \\
\texttt{synsem\$|\$local} & \begin{bmatrix} \texttt{category} & \begin{bmatrix} \texttt{head} & \boxed{2}\,\text{noun} \\ \texttt{def} & - \end{bmatrix} \\ \texttt{content} & \boxed{10} \end{bmatrix} \\
\texttt{qstore} & \boxed{3}
\end{bmatrix} \\
\texttt{m-h-dtr} & \begin{bmatrix}
\texttt{phon} & \boxed{7}\langle \text{ at } \rangle \\
\texttt{synsem\$|\$local} & \begin{bmatrix} \texttt{category} & \begin{bmatrix} \texttt{head} & \boxed{2} \\ \texttt{def} & + \end{bmatrix} \\ \texttt{content} & \boxed{10} \end{bmatrix} \\
\texttt{msubcat} & \langle\rangle \\
\texttt{mspec} & \langle \boxed{9} \rangle \\
\texttt{qstore} & \boxed{4}
\end{bmatrix}
\end{bmatrix}
$$

Figure 21.3: A description of the complex-morph *stolât*

### 3.2 Syntax

One can ensure that the DA will only appear on the first element of a NP by using the DEF feature introduced on the level of morphology.

It will be necessary to stipulate that modifiers, specifiers, etc., which normally precede the noun, can only select (via MOD or SPEC) for N′ with $[DEF-]$.

This will mean that contructions like (21.10) are correctly predicted to be grammatical, whereas the ungrammatical (21.11), (21.12), and the like are ruled out.

(21.10) $_{DEF+}$[Nova**ta** $_{DEF-}$[interesna $_{DEF-}$[bâlgarska $_{DEF-}$[kniga]]]].
New-THE interesting Bulgarian book.

'The new interesting Bulgarian book'.

(21.11) *$_{DEF+}$[Nova $_{DEF+}$[interesna**ta** $_{DEF-}$[bâlgarska $_{DEF-}$[kniga]]]].
New interesting-THE Bulgarian book.

'The new interesting Bulgarian book'.

(21.12) *$_{DEF+}$[Nova $_{DEF+}$[interesna $_{DEF+}$[bâlgarska $_{DEF+}$[kniga**ta**]]]].
New interesting Bulgarian book-THE.

'The new interesting Bulgarian book'.

Other determiners, like the demonstrative pronoun, can be marked $[DEF+]$ in the lexicon. Since they also come first in a NP, this will predict the fact that they cannot bear or cooccur with the DA. Cf. example (21.7).

## 4 Conclusion

This paper examined the status of the definite article in Bulgarian and offered a formal account of its morphology and syntax in the framework of HPSG. It showed that the DA is best considered a phrasal affix and should be lexically attached to its host. It then went on to show that the currently available architecture for morphology could, with some modification, generate the relevant wordforms. What is more, the modifications made for morphology can then be used to account for the phrasal distribution of the DA. For lack of space, I have focussed only on the typical behaviour of the DA. I have left out some peculiarities of its distribution with respect to NPs containing simultaneously demonstrative pronouns and adjectives, NPs with two nouns, NPs with adverbs (which in Bulgarian never inflect), etc. These topics are left for future research.

## Bibliography

Andreichin, L. (1944). *Osnovna Bâlgarska gramatika.* Nauka i izkustvo, Sofia.

Elson, M. J. (1976). The definite article in Bulgarian and Macedonian. *Slavic and East European Journal*, **20**(3), 273–279.

Halpern, A. (1995). *On the Placement and Morphology of Clitics.* CSLI Publications.

Höhle, T. (1999). An architecture for phonology. In B. Borsley and A. Przepiórkowski, editors, *Slavic in Head-driven Phrase Structure Grammar.* CSLI Publications.

Klavans, J. L. (1985). The independence of syntax and phonology in cliticization. *Language*, **61**, 95–120.

Kostov, N. (1944). Bâlgarska gramatika. Sofia.

Maslov, I. (1982). *Gramatika na bâlgarskiia ezik.* Nauka i izkustvo, Moskva.

Mayer, G. L. (1988). *The Definite Article in Contemporary Standard Bulgarian.* Wiesbaden:Harrasowitz.

Miller, P. (1992). *Clitics and Constituents in Phrase Structure Grammar.* New York, Garland.

Pollard, C. J. and Sag, I. A. (1994). *Head-Driven Phrase Structure Grammar.* University of Chicago Press, Chicago.

Reinhard, S. (In progress). -ung-Nominalisierungen und -ung-Komposita. Ein Fall für die Morphologie-Syntax-Semantik-Schnittstelle. PhD Thesis, Tübingen University.

Sailer, M. (1999). *The content of CONTENT.* PhD thesis, Tübingen University, Tübingen. Draft version of November 24, 1999.

Sławski, F. (1954). *Gramatyka języka bułgarskiego.* Warszava.

Stoianov, S., editor (1983). *Gramatika na sâvremenniia bâlgarski knizhoven ezik.* Izdatelstvo na bâlgarsktata akademiia na naukite, Sofia.



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Vasilev, S. P. and Mladenov, S. (1939). *Gramatika na bâlgarskiia ezik*. Kazanl. dolina, Sofia.

Wintner, S. (1997). The affixal nature of the definite article in Hebrew. In P. Coppen, H. van Hatteren, and L. Tennisen, editors, *Computational Linguistics in the Netherlands*. Selected papers from the Eighth CLIN Meeting.

Zwicky, A. (1985). Clitics and particles. *Language*, **61**(2), 283–305.

Zwicky, A. and Pullum, G. (1983). Cliticization vs. inflection: English *n't*. *Language*, **59**(3), 502–513.