

Clitics as Features: A Non-semiotic Approach

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1. Introduction

Clitics in the Slavic languages have participated fully in a boom industry devoted to the description and analysis of these linguistic platypuses in a wide range of languages and from a variety of theoretical perspectives.¹ In its most concise form, the problem posed by clitics is that a single prosodic unit corresponds to at least two syntactic units, despite the fact that the two kinds of units are generally isomorphic. Another perspective on the problem was offered by the American structuralists, who in their concern for the separation of linguistic levels noted that clitics are characterized by a blend of affix-like and word-like properties (Rappaport 1988).

There is a range of theories of cliticization in the Slavic languages which place the phenomenon in one or the other component of the grammar. These include the purely phonological, purely syntactic, and hybrid syntactic-phonological. The picture to be advanced here, conceived in terms of the theory of *A-Morphous Morphology* (Anderson 1992, 1996), is that there is a core set of non-lexical, or *functional* clitics (including complementizers, determiners, pronouns, and verbal auxiliaries) which are associated with syntactic heads at lexical insertion. The mixture of affix-like and word-like features exhibited by such clitics can be accounted for by reducing their original form to abstract features, which are “spread” to larger syntactic units and “spelled out” (that is, given phonological form) on those syntactic units. Functional clitics are thus phrase-level morphology, analogous to affixes in word-level morphology, but manipulated at a higher syntactic level. The result is a dismantling of the Saussurean notion of a sign, and a sharp break with a semiotic approach to language, in which formatives (words, affixes) constitute meaningful form-meaning pairings which are inserted and manipulated by the grammar as integral wholes.

Given the variety and complexity of clitic phenomena in Slavic, only part of this picture can be presented here. This paper focuses on the problems posed by the Polish clitic *się*; Russian *-ся* will serve as a foil, because it constitutes a different formal expression of essentially the same content category.

2. Toward an A-Morphous Approach to Clitic Morphology

Before proceeding with the analysis of Polish *się*, it is necessary to briefly review our assumptions, both theoretical and empirical. We focus on five points.

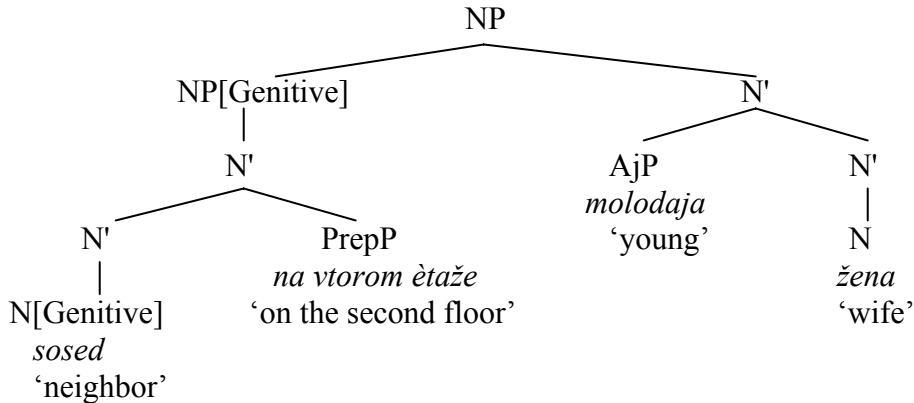
2.1 The basic idea of A-Morphous Morphology is that adding segmentable morphemes to stems is only one way to do morphology in the languages of the world. It just happens to be the norm in the contemporary European languages. A morphological rule can modify a stem in a more abstract way, by changing its feature content. Assigning a palpable form to that content is a distinct process, which can be sensitive to syntactic structure in a way that traditional morphology is not.

2.2 Syntactic structure is built around the projection of lexical heads onto phrases by adding determiners, modifiers, and arguments to that head. For example, the Noun Phrase *the neighbor on the second floor's young wife* results from projecting the head *wife* onto the phrase *young wife* by adding a modifier, and then projecting that phrase onto a larger phrase by adding a determiner

in the form of another Noun Phrase (*the neighbor on the second floor*); the latter Noun Phrase is likewise a projection of ITS head: *neighbor*. The morphological structure of words can be head-based as well.

2.3 There are both functional and formal parallels between clitics and affixes. Contrast, for example, the following Russian and English sentences, with the structure given (abstracting away from word order):

- (1) a. *molodaja žena [soseda na vtorom ètaže]*
 b. [the neighbor on the second floor]’s young wife



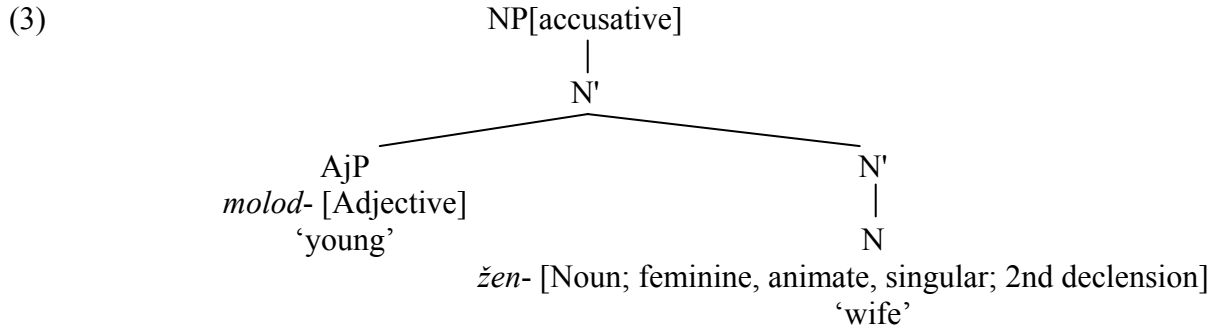
The Genitive case in the Russian example performs the same syntactic function as the *'s Genitive* in English: identifying the possessive determiner of the head noun. There is an important formal difference: the Genitive case in Russian is marked only on the head of the determiner, but its counterpart in English is associated with (follows) the entire determiner, the maximal projection of that head. The A-Morphous approach makes it possible to capture the parallel between such contrasting pairs. In both, the Genitive is syntactically assigned to the maximal projection of the determiner phrase, and copied onto its head; English spells out the former, and Russian—the latter. In this and other cases, similarities between clitics (like the *'s Genitive*) and familiar inflectional affixes may be viewed as an identity in features, but a difference in the level at which these features are spelled out.

2.4 It is important to be explicit about the mechanism that transmits morphosyntactic features among syntactic categories.

The notion of *feature harmony* is intended to generalize over feature copying in two directions: top-down and bottom-up. A contextually assigned feature (e.g., case in nouns) is assigned to a maximal projection of a noun (a Noun Phrase) on the basis of the syntactic structure containing that projection, but it may be expressed in the morphology of the head of that category and its modifiers (as in the Russian example (1a)). An inherent feature of a noun (e.g., gender, animacy, number) must be available to larger syntactic units containing it to be copied onto other categories (its modifiers and, potentially, its predicate). To generalize feature copying in the two directions, we propose the following convention:

- (2) **FEATURE HARMONY:** a syntactic head and all of its projections agree in morphosyntactic features, whether they grammatically originate on the head or on the maximal projection.²

For example, the syntactic structure of the accusative Noun Phrase *moloduju ženu* ‘young wife’ resembles (3):



Feature harmony copies the morphosyntactic features [feminine, animate, singular, accusative] onto the N, NP, and each N' between them. A rule of concord copies this set onto the maximal projection AjP, and feature harmony further spreads the feature set down to the head Adjective. Inflectional morphology refers to the feature complex [Adjective; feminine, animate, singular, accusative] to add the string {-uju} to {molod-}, and to [Noun, feminine, animate, singular, accusative; 2nd declension] to add the string {-u} to the stem {žen-}.

2.5 If clitics represent the phrase-level spell-out of morphosyntactic features, what feature is associated with *się*?

We follow Babby (1993, 1996) in assuming that verbal stems are associated in the lexicon with an argument structure, or *diathesis*, which includes a list of semantic roles which must be filled for the verb to be properly interpreted and a minimal specification of how these semantic roles are mapped onto syntactic structure (e.g., *čitat* 'to read' is associated with an Agent and Patient; the former will be the clause subject, and the latter—the direct object). As Babby has investigated in detail, there are a variety of rules which convert this unmarked, lexically-specified diathesis into a new one. Such rules, which Babby calls "morpholexical," are a type of derivational *Word Formation Rule*. We will adopt for Polish *się* the view expressed by Brecht and Levine (1984) with respect to Russian *-sja* that the latter indicates a derivational process which changes the lexically-specified diathesis of the given verb stem. Correspondingly, we will identify the category associated with *się* as [marked diathesis].³

Virtually any inflectional category with semantic content has core uses in which this content is motivated and peripheral uses in which this content is assigned either arbitrarily or by some formal principle. In defining the content of the feature associated with *się*, then, we take it as too strong a requirement that all uses be subsumed under a single *Gesamtbedeutung*. We take cases in which *się* obligatorily combines with a particular verb stem (e.g., *starać się* 'to try') to be diacritic: such stems are simply stored with this feature in the lexicon, rather than resulting from a *Word Formation Rule*; optional *się* (e.g., *pytać (się)* 'to ask') is optional diacritic use.

3. Polish *się*

Clitic placement in Polish is more complicated than in any other standard Slavic language. In this section we sketch the basic possibilities and how they follow from our approach.⁴

In (4), *się* stands after a verb or noun associated with the feature [marked diathesis]; the clitic is not in second position in its clause:⁵

- (4) a. Przez cały wieczór z wielkim zainteresowaniem i zrozumieniem *patrzył się* na program telewizyjny.
'Throughout the entire evening, with great interest and understanding he *watched* the television program.'
- b. Autorzy opisują *zachowanie się* premiera.
'The authors describe *the behavior* of the premier.'

In the framework assumed here, the verb and noun in italics are inserted in syntactic structure with the feature [marked diathesis], which is spread by feature harmony (2) to the corresponding maximal projection (VP and NP, respectively). How would the resulting placement of the clitic be derived from an A-Morphous approach?

Part of the parallel between standard morphological affixes and phrasal affixes lies in their parameters of placement (see section 2.3 above). The position of a generalized affix is defined by three parameters: *domain*, reference point (which we will call the *anchor*), and *order*. Limitations of space preclude demonstrating this in detail, but the idea is that affixes stand to the left or right of (are *pre-* or *post-*) some anchor defined over some domain.⁶ Possible anchors are first-position in the domain (which we will designate as the *onset*), head of the domain, or final position of the domain (its *coda*). The domain parameters can be stated simply as [(*syntactic*) *head*] or [(*syntactic*) *phrase*], the category information (N/NP vs. V/VP, for example) is given with the lexical stem bearing the morphological feature in question. An affix spelled-out over the domain of a syntactic head is a morphological affix; one spelled-out over the domain of a syntactic phrase is a phrasal affix.

There are clear indications that *się* is not part of the word-internal structure of the lexical item bearing the feature [marked diathesis] and is therefore a phrasal affix. These include the fact that the clitic does not count for the characteristic Polish assignment of fixed stress to the penultimate syllable and, when associated with a verb, its mobility (demonstrated below). Both examples in (4) illustrate the spell-out of *się* after the head of the corresponding syntactic phrase, so the placement parameters have the following values: domain = [phrase], anchor = [head], and order = [post].

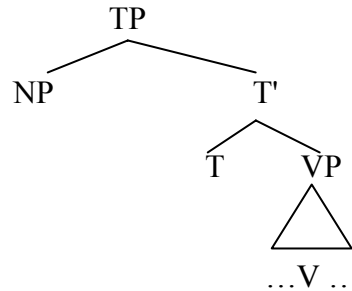
A variety of topicalizations are possible in Polish, so that the first constituent in the clause need not be the subject, although the subject can be topicalized as well. The affix *się* can follow such constituents and not be adjacent to the verb. This exemplifies the classic Wackernagel position, illustrated in (5a,b) (parentheticals and preposed complements in the following examples ensure that the clitic is not pre-verbal):

- (5) a. Z tym *się* zresztą, jak sądzę, *zgodzi* prawie każdy człowiek.
‘With this, incidentally, I feel, almost anyone will *agree*.’
- b. Ludzie *się* do Matki Boskiej w rozmaity sposób *zwracają*.
‘People *appeal* to the Virgin Mary in various ways.’
- c. Bo przecież czegoś podobnego w historii świata nie było.
I w tym ja *się* z Żydami *zgadzam*.
For after all there had never been anything similar in the history of the world.
And in this I *agree* with the Jews.’

While in (5b) *się* follows the first of several topicalized constituents, (5c) shows that this is not necessarily the case. An A-Morphous approach to such constructions must admit the spell-out of *się* over a domain larger than the Verb Phrase.

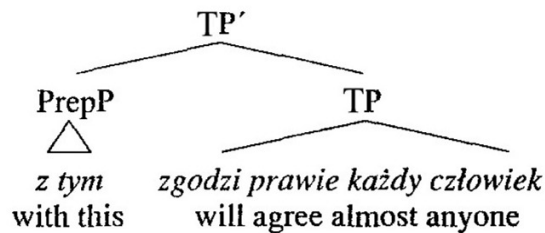
We assume the basic clause structure displayed in (6), where what is traditionally called a clause is in fact a projection of the category T (for “Tense”), a functional category (corresponding to the Inflection node of earlier work) involved in transmitting agreement features between the NP clause subject (the specifier of the Tense Phrase, or TP) and the Verb Phrase (VP) predicate (complement of T) (Chomsky 1995):

(6)



We follow King (1993, chapter 4), among others (with respect to Russian), in taking the structure of topicalization to be recursive syntactic adjunction to TP. (5a), then, has the following structure (ignoring parentheticals):

(7)



Clitic placement in (5) constitutes evidence that the feature [marked diathesis] is spelled out over the domain TP', in post-onset position. This can be accounted for by means of two assumptions. First, [marked diathesis] raises from V to the next higher (“governing”) head category T, from where it spreads to TP by feature harmony (cf. 6). Second, since in (7) topicalization has created in TP' not a distinct, headed category, but rather a clone of TP, feature harmony applies so as to spread features from TP to TP'. (5c) shows that this extension of feature harmony is optional.

The notion of feature raising from V to T has been introduced as a *deus ex machina* to account for *się* placement in topicalization structures. This mechanism will be placed in the context of linguistic theory below, but we now develop four empirical consequences of this assumption.

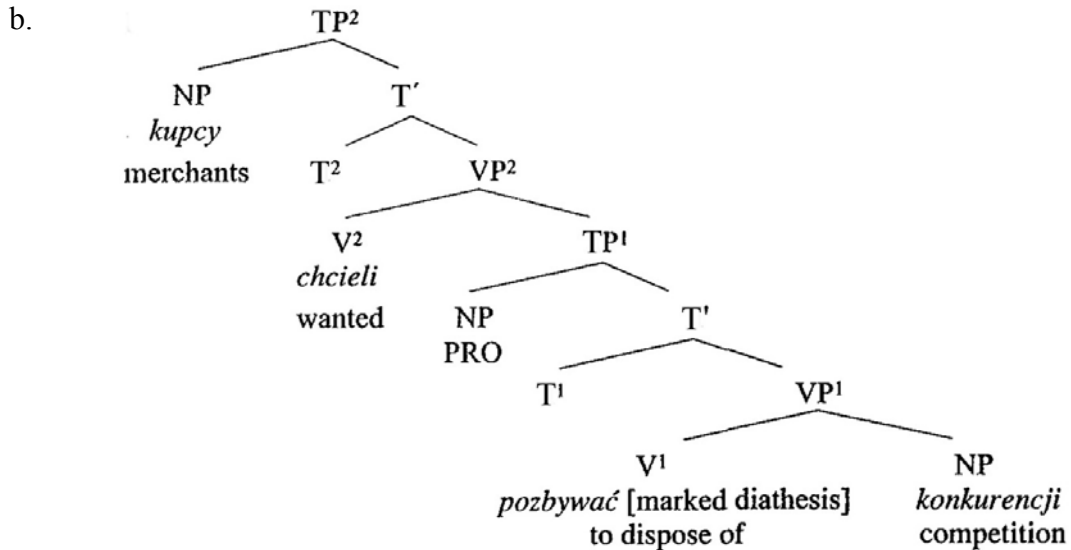
First, this approach accounts for the fact that clitics tend to move to the left when they are separated from the verb. It is a general property of movement that it proceeds upward through syntactic structure, in a way that ensures that the vacated position is “properly governed.” In the right-branching structures considered so far, upward can only be to the left. In (8), for example, the sequence *boją się* results from post-head-of-VP spell-out, and the sequence *studenci się* represents post-onset-of-TP spell-out, made possible by feature raising from V to T, followed by feature harmony:

(8) Studenci (*się*) boją (*się*) egzaminów (**się*).
 ‘Students are afraid of examinations.’

The clause-final position of *się* could result only from post-coda-of-TP placement, which is not possible in Polish, or from feature LOWERING to the direct object NP, which is ruled out generally.

Second, further evidence for feature raising is provided by nonfinite clauses governed by a lexical category. Consider first a standard verb plus infinitive construction (e.g., 9a); the clitic *się* can “climb” to the superordinate clause. The corresponding structure is displayed in (9b) (we assume that infinitives have a syntactically present but phonologically null subject, identified as *PRO*):

- (9) a. [...] polscy kupcy i rzemieślnicy chcieli *się* łatwym kosztem *pozbywać* konkurencji,
(*pozbywać się* ‘to dispose of’)
‘Polish merchants and craftsmen wanted an easy way to *dispose of* competition.’



Such clitic climbing indicates that the feature [marked diathesis] can be raised from V^1 to T^1 , as above, and then on to the verb V^2 , which governs TP^1 . Feature spreading assigns [marked diathesis] to VP^2 , where it is spelled out in post-head position. If the higher clause TP^2 is infinitival, *się* can raise through T^2 to a higher governing V by the same mechanism:

- (10) Nie chcę *się* zresztą przestać *bać* egzaminów. (*bać się* ‘to fear’)
‘I do not want, incidentally, to stop *fearing* exams.’

Feature raising is similarly possible through a nonfinite TP to a governing noun:

- (11) Kabla jednak nie mam i nie mam zamiaru *się* w niego *wyposażyć*.
(*wyposażyć się* ‘to equip oneself’)
‘However, I don’t have cable television and have no intention of *equipping myself* with it.’

The case for a feature raising approach to clitic climbing is supported by clear evidence that the spell-out of *się* is defined in terms of syntactic structure, rather than simple linear order or prosodic structure: clitic movement is not strictly to the left, but upward in tree structure. This is shown by the following attested examples, in which the clitic actually moves from second position to the right:

- (12) a. *Bać* zaczniemy *się* po wyborach prezydenckich.
(*bać się* ‘to fear’, *zacząć* ‘to begin’)
‘We will begin *to be afraid* after the presidential elections.’
b. *Bawić* powinniśmy *się* w gronie tych, których lubimy.
(*bawić się* ‘to enjoy oneself’, *powinien* ‘should’)
‘We should *enjoy ourselves* in the company of those whom we love.’

These constructions can be contrasted with the ungrammatical (13), in which the syntactic relation between the two verbs in (12a) is reversed:

- (13) **Boimy* zacząć *się* wybory.
‘We *are afraid* to begin the elections.’

In (12a,b), *się* is associated with the verb in initial position. It could stand immediately after that verb, where it would be doubly licensed: post-verbal in its own clause and in second position. On

moving to the position after the matrix predicate, *się* satisfies neither condition. On our theory, the feature [marked diathesis] has raised in (12) to a higher clause and is spelled out there, exactly as in (9a). Moving *się* to the right is impossible in (13), as it is in (8), since in these constructions such movement would be DOWNWARD in structure. Of course the topicalized verbs in (12a,b) end up higher than the matrix predicate as a result of topicalization, but the contrast with (13) shows that raising the feature [marked diathesis] can precede topicalization.

The third empirical consequence of the feature raising theory is that it offers an automatic account for *się* “haplology,” or deletion without grammatical consequence, in the context of another incidence of *się*. (14a) illustrates the deletion of *się* in an infinitival clause governed by a *się* verb; as (14b) shows, this haplology is possible even when the two verbs associated with [marked diathesis] are separated by a verb not so marked:

- (14) a. Kilkakrotnie w dniu pogromu do mieszkania starali *się* dostać ludzie.
(*starać się* ‘to try’, *dostać się* ‘to get to’)
‘A few times during the day of the pogrom people tried to get into the apartment.’
b. Staram *się* przestać bać egzaminów. (*starać się* ‘to try’, *bać się* ‘to fear’)
‘I am trying to stop fearing examinations.’

These cases of haplology are analogous to the clitic raising in (9) and (10), and the parallel could be documented further. We suggest that the same process of feature raising is involved. A feature can be marked on a given category only once, however, so that feature raising to a verb already marked [marked diathesis] will not result in another instance of *się*. No theory of deletion or haplology is required.

The parallel between clitic climbing and haplology extends to the two basic environments in which feature raising is not possible. Neither process is possible out of a finite clause:

- (15) a. Sądzę, że *się* W. nie utrzyma. → *Sądzę *się*, że W. nie utrzyma.
(*utrzymać się* ‘to last’)
‘I feel that W. will not last.’
b. Boję *się*, że *się* W. nie utrzyma → *Boję *się*, że W. nie utrzyma.
(*bać się* ‘to fear’, *utrzymać się* ‘to last’)
‘I am afraid that W. will not last.’

Both processes are blocked out of a Noun Phrase as well:

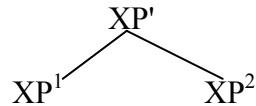
- (16) a. *Reklamują *się* [*ukazanie* ostatniego numeru czasopisma].
(*reklamować* ‘to advertise’, *ukazanie się* ‘the appearance’)
‘(They) are advertising the appearance of the latest issue of the periodical.’
b. *Władze bały *się* [*ukazania* następnego numeru czasopisma].
(*bać się* ‘to fear’, *ukazanie się* ‘the appearance’)
‘The authorities were afraid of the appearance of the next issue of the periodical.’

Się haplology is also observed when two phrases containing *się* are coordinated; *się* need be expressed only in the first:

- (17) a. W Elblągu przed pomnikiem Solidarności pewien mężczyzna [oblał *się* benzyną i podpalił]. (*oblać się* ‘to immerse oneself’, *podpalić się* ‘to set fire to oneself’)
‘In Elbląg in front of a statue to Solidarity a certain man poured gasoline over himself and set (himself) on fire.’
b. I żadnych głupich myśli o [wieszaniu *się* czy tam topieniu].
(*wieszanie się* ‘hanging oneself’, *topienie się* ‘drowning oneself’)
‘And no stupid ideas about hanging yourself or drowning (yourself).’

We assume that coordination structures (of category X) look like this:

(18)



The phrase XP has a superordinate clone of itself, as is the case in adjunction structures (cf. (7)). On the assumption that feature harmony spreads the feature [marked diathesis] in such a structure to XP' if it marks both XP¹ and XP², then the haplology in (17) follows immediately, for the same reason as in (14): XP' can bear the feature only once. The feature can raise further from a coordinated VP structure, just as it can from a simple VP:

- (19) a. Szyk przestawny. Tak *się* może [*mówi*, ale nie *pisze*].
 (*mówić się* ‘to be spoken’, *pisać się* ‘to be written’)
 ‘Backwards (word) order. It can perhaps be spoken like that, but not written.’
- b. Możemy *się* tym [*cieszyć* albo *martwić*].
 (*cieszyć się* ‘to be happy’, *martwić się* ‘to be bothered’)
 ‘We can either be happy with this or be bothered (by it).’

A fourth empirical aspect of the feature raising approach is the possibility it offers for describing variation, both within a language and across languages. Standard sources on Polish indicate that *się* (along with other clitics) avoids final position if possible. This tendency is not a fact of grammar, as indicated by grammatical constructions such as the following:

- (20) Sytuacja nie poprawi *się*.
 ‘The situation will not improve.’

On our analysis, moving *się* so as to follow *sytuacja* ‘situation’ (the preferred position) is the result of feature raising from V to T. The possibility of leaving the clitic after the verb indicates the optionality of feature raising in Polish; the options noted for (8) can be attributed to the optionality of feature raising as well. In Czech, Slovak, Slovene, and Serbo-Croatian, which would completely exclude clause-final position for the corresponding clitic, feature raising is obligatory. Conversely, in Bulgarian and Macedonian, in which the verb-adjacent position of clitics is the norm, the raising of clitic features from V to T is not available. Unfortunately, we must limit ourselves here to these few programmatic remarks.

There remain very typical positions of *się* which are not yet accounted for. It is possible for *się* to precede a TP or, in the case of topicalization, TP':

- (21) a. Czy pan myśli, że *się* takich ludzi nie *boję*?
 ‘Do you think that I *am* not *afraid* of such people?’
- b. Co *się* w tym domu od kilku dni *dzieje*? (Misz 1966)
 ‘What in this house for several days has been happening?’

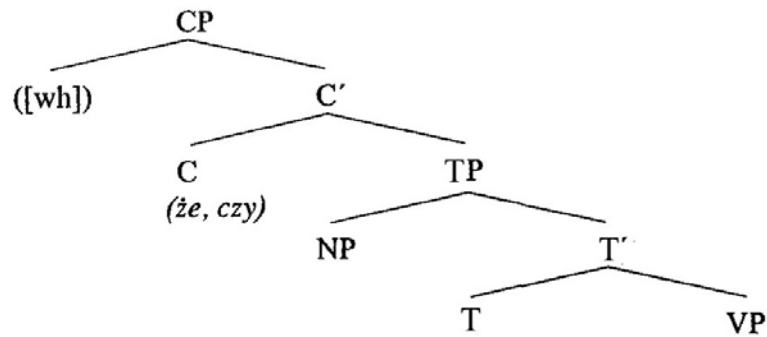
While this location of *się* could be interpreted as pre-onset of TP (including TP'), there is a compelling reason that it not be: in the absence of the preceding elements (*że* ‘that’ and *co* ‘what’), the sentences would not be acceptable:

- (22) a. **Się* takich ludzi nie *boję*.
 ‘I *am* not *afraid* of such people.’
- b. **Się* w tym domu od kilku dni nic nie *dzieje*.
 ‘In this house nothing *has been happening* for several days.’

We introduce another standard assumption of syntactic structure: TP can be the complement of a functional category C (“Complementizer”). A subordinating conjunction (Polish *że* ‘that’, *czy* ‘whether’) stands in the position of C, while a question word or relative pronoun (associated with the [wh] feature which binds a variable in such constructions) represents the specifier of the

Complementizer phrase CP:

(23)



Thus, we take (21) to be the result of feature raising from T to its governing C, with the clitic spelled out after its anchor in the domain of CP. It is difficult to define the anchor precisely, since the specifier of CP (a question word or relative pronoun) and the head C (a subordinating conjunction) never co-occur. We will assume that C, like the other functional category I, takes an [onset] anchor, where “onset” denotes the first stressed element (word or phrase), regardless of its syntactic status (head or not).

To summarize the discussion up to this point, [marked diathesis] is introduced into syntactic structures as a feature associated with the lexical category V or N. There is a mechanism of feature raising which can transfer this feature from V to a governing T, and from T to a governing V, N, or C; raising is not possible out of a finite clause or Noun Phrase.⁷ At each point, the feature is spread to the maximal projection of the corresponding head. Feature Harmony (2) has been extended to apply to adjunction and conjunction structures. The spell-out of *się* is always associated with the domain parameter [phrase]. The functional categories T and C have [onset] anchors, and the lexical categories V and N have [head] anchors. The only value for the order parameter observed so far has been [post].

On this analysis, it is simple to account for three of the four possible positions of *się* in the following example (Misz 1966:105):

- (24) Co (*się*) pani (*się*) tak (*się*) *przechyla* (*się*) na dwie strony?
 ‘Why are you *tilting* so to both sides?’

The first, second, and fourth positions illustrate, respectively, post-onset-of-CP, post-onset-of-TP, and post-head-of-VP spell-out. But what about the third position, after *tak* ‘thus, so’? In contrast to (5), for example, it is not justified to view this manner adverb as a topic, such that *się* is spelled out as post-onset-of-TP.

Dłuska (1976:29) distinguishes two principles of clitic placement in Polish. The *phrasal* principle (“*zasada zestrojowa*”) requires that a clitic constitute a phonological unit with the word it is grammatically associated with, regardless of their relative order; the *syntactic* principle (“*zasada składniowa*”), applying when a clitic is not adjacent to the word it is grammatically associated with, requires that the clitic form a phonological unit with the preceding word. For example, Dłuska notes that *się* in (25a) could be either a proclitic or enclitic, while in (25b), due to the metric peculiarities resulting from the inverted order of *ten tylko* (literally, ‘he only’, rather than ‘only he’), *się* must be treated as a proclitic:

- (25) a. [...] ptakiem *się* *rodzę* [...]
 ‘I *am born* as a bird.’
 b. [...] *ten tylko się* *dowie*, kto cię stracił [...]
 ‘Only he *will learn* who has lost you.’

In our terms, the essence of Dłuska's analysis is that [post] is the default value for the order

parameter; [pre] is also possible if and only if the anchor is head-of-VP.⁸ The third position for *się* in (24), then, is pre-head-of-VP. The corresponding option is not available in nominal phrases; in the following example there is no alternative position for *się*:

- (26) Przejdę do [właściwego *przedstawienia się*].
 ‘I will move on to [a proper *self-introduction*].’

It is conceivable that proclitic *się* in the following attested example exemplifies pre-head-of-VP spell-out:

- (27) Tak więc powstanie—trochę popychane przez spiskowców, trochę prowokowane przez Rosjan—*się zaczęło*.
 ‘So that’s how the uprising—somewhat rushed by the conspirators, somewhat provoked by the Russians—*began early*.’

However, this would not be the correct analysis: while stylistically awkward, (27) would be grammatical even if an adverb (e.g., *przedwcześnie* ‘prematurely’) intervened between the clitic and the verb. It is significant that, as discussed in Fried 1994, completely analogous constructions are possible in Czech, a language which essentially requires V-to-T feature raising and the resulting Wackernagel position for clitics; one of Fried's examples (with her translation) is given in (28):

- (28) Samospráva míst, tedy těch nejnižších článků, *se k vlastnímu státoprávnímu uspořádání může a musí chovat neutrálně*. (*Lidové noviny*)
 ‘The local government, i.e., government at the lowest levels, may and must maintain neutrality with respect to the state bureaucracy.’

Fried shows that pauses and parenthetical expressions can be invisible to clitic placement, so that both (27) and (28) illustrate post-onset-of-TP clitic spell-out. As for the fact that the clitic in each is phonologically proclitic, Fried recalls that Klavans (1985), in proposing the parameters of clitic placement, distinguished the syntactic context of clitic location, which the parameters are intended to describe, and the phonological process of incorporating the clitic into a neighbor as a single phonological word. The latter process, a form of *Stray Adjunction* in sentence-level phonology, strongly favors left-adjunction (encliticization), but right-adjunction is possible under limited circumstances: if the word to the right is the head of the clitic (cf. Dłuska's “phrasal principle”) or the clitic is placed at the left margin of an intonational phrase ((27) and (28)).

Chomsky (1995) views syntactic movement as being driven by the movement of features, one form of which is raising from a head to the next higher head (*Head Movement*). Feature movement without a corresponding overt syntactic movement is possible in the absence of a phonological matrix associated with that feature. By treating *się* as a bare feature in the syntax, a signified without a signifier, we are able to appeal to independently motivated syntactic processes without viewing clitic placement as a case of syntactic movement per se. The general properties of feature movement are still a matter of discussion and we cannot pursue the issue here. We note, however, that the pattern of feature raising relevant to *się* is quite similar to that of familiar long distance, scopal phenomena in Polish such as the interpretation of anaphoric (reflexive and reciprocal) pronouns, the genitive of negation, and the licensing of negative polarity items, which generally extend over the minimal finite clause. But the clitic pattern is more restrictive, as the feature raising of [marked diathesis] is regularly restricted to within a Noun Phrase. We must leave the matter here, having discovered a descriptive generalization that raises deeper questions of motivation and explanation.

4. Russian *-sja*

We will assume that Russian *-sja* is the morphological spell-out of the same content category as Polish *się*: [marked diathesis]. The similarities in usage between the two exponents are great, if not complete, but that is no more troubling than, say, minor differences between these two languages in case or aspectual usage.⁹ On the formal side, however, the differences are considerable. We would like to make the minimal formal differentiation sufficient to account for their grammatical properties. The basic idea is that Polish *się* represents spell-out over the domain of the (syntactic) phrase, while Russian *-sja* represents spell-out over the domain of the (syntactic) head. The latter statement entails that the affix is morphological in the traditional sense. With respect to this head, the spell-out of that feature is [post coda].

The obvious difference between Russian *-sja* and Polish *się* is that the former has none of the mobility of the latter, being fixed to the verb associated with the category [marked diathesis]. But this is not sufficient to assume that *-sja* is a conventional affix, i.e., word-internal, since it is conceivable that its spell-out is fixed as [post head] over the VP domain. The word-internal status of *-sja*, then, must be demonstrated.

There are two clear phonological indications that *-sja* in Contemporary Russian is word-internal, like an ordinary affix, and unlike Polish *się*.

First, stressed vowels are raised and tensed in Russian under the influence of a preceding or following palatalized consonant. For example, a stressed front vowel between palatalized consonants is tensed if the following consonant begins an affix (29a), but not an independent word (29b) or clitic (29c). Tensing occurs before *-sja* (29d), as though it were an ordinary affix.

- (29) a. govori^li [r'il'] 'were speaking'
 b. Ne govori Lize! [r'il'] 'Don't tell Lisa!'
 c. veli=li [l'il'] 'whether (they) led'
 d. velis' [l'is'] '(they) were led'

The second indication assumes an older pronunciation norm in which, contrary to spelling, *-sja/-s'* is pronounced without palatalization, as [sə]/[s]. There are no sequences of [t']+non-palatalized dental in non-alternating environments; when such a sequence has the potential to arise in an alternating environment, [t'] loses its palatalization ((30a)) ([t's] → [ts] → [c:]); in contrast, this sequence is permitted across word boundaries ((30b)). The palatalized [t] of an infinitive loses its palatalization before the hard dental of *-sja* ((30c)), indicating the rule of word-internal palatalization assimilation applying in (30a) applies before *-sja*.¹⁰

- (30) a. otec [t'ec] ~ otca [c:] 'father [Nominative ~ Genitive]'
 b. Zabud' Sašu! [t's'] 'Forget Sasha!'
 c. zabyt'sja [c:] 'to forget oneself'

There are morphological indications that *-sja* is word-internal as well. First, the truncation of the vowel in *-sja* after a vowel immediately preceding the affix is the type of readjustment rule which is typical of morphemes, not of autonomous words. It is analogous to the loss of unstressed {i} in the imperative and infinitive.¹¹ Second, *-sja* has the morpheme-like characteristic of affecting affix selection in forming the adverbial participle. There are two such cases. When a perfective adverbial participle is formed by the addition of {v}, {ši} may be added as a somewhat archaic option; however, if *-sja* is to be added, {ši} is obligatory (Vinogradov 1954:529):

- (31) a. vstretiv(?ši) ~ vstretivšis' (*vstretivsja) 'having met'
 priznav ~ priznavšis' (*priznavsja) 'having confessed'
 b. zaperev ~ zaperešis' (*zaperevsja) 'having locked up (oneself)'

Also, while the formant {a} normally used to derive imperfective adverbial participles is sometimes admissible in the perfective form as well, it has been preferred in the language of some writers in the presence of *-sja* (Vinogradov 1954:529):

- (32) a. *naxmurit'* → *naxmuriv*, but *naxmurit'sja* → *naxmurjas'* 'having frowned'
 b. *prostiv ego postupok* 'having forgiven his deed' ~ *prostjas' s nim* 'having bid him farewell' (Šaxmatov 1941:489)

There are, however, morphological indications that *-sja* cannot so easily be considered an ordinary affix: it is the only verbal morpheme which follows verbal agreement inflection. The problem is more general. There is a pattern in language that morphological structure iconically reflects its grammatical (especially syntactic) derivation. This intuition is codified in the so-called *Mirror Principle* (Baker 1985:375):¹²

- (33) Morphological derivations must directly reflect syntactic derivations (and vice versa).

Placing *-sja* outside agreement inflection violates this pattern. The Mirror Principle would place a voice morpheme inside predicate agreement morphemes, because agreement is not possible until the subject is determined (Baker 1985: 403). The problem is not an artifact of Baker's theoretical assumptions; many scholars of the Russian language have called attention to the troubling uniqueness of *-sja* in following verbal inflection (cf. Janko-Trinickaja 1962:32-36); this has led to *-sja* being called a "postfix," rather than a "suffix."

There is another morphological indication that *-sja* is not word-internal. Jakobson (1931/1984:9) observed that the Russian imperative has an agglutinative nature: it is not a standard paradigmatic form of the verb, but rather a verbal vocative, with its own, completely distinct set of categories; e.g.:

- (34) *Dvinem-te-s'-ka!*
 'Let's move-[second plural addressee]-[marked diathesis]-[hortative]!'

The plural addressee marker *-te* of the imperative combines with non-verbs (*Na-te!* 'Take it-[plural addressee]!', *Nu-me!* 'Come on-[plural addressee]!', to cats, *Brys'-me!* 'get out of here-[plural addressee]!'), and, according to Jakobson (if not, it seems, to contemporary speakers), even with a past tense form (perhaps a frozen lexicalized form in this use): *Pošěl-me!* 'Get out of here-[plural addressee]!'. Clearly imperative *-te* is not an inflectional ending, and yet *-sja* follows it (34). Furthermore, palatalization assimilation as discussed above confirms that while *-sja* is generally word-internal for the purposes of phonology, it is word-external in the case of an imperative (Avanesov 1984:164). In that (now somewhat archaic) variant of the literary language in which the {s} of *-sja* is hard, a general tendency toward the regressive palatalization assimilation of soft dentals before hard ones is blocked before *-sja* in the imperative, as it is at word boundaries (cf. 30b,c):

- (35) *zabud'sja* 'forget yourself!' [t's]

The A-Morphous approach to clitics makes it possible to resolve the contradiction posed by *-sja*. Just as phrase-level affixes can take different anchors within their phrasal domain, so can word-level affixes within their head domain. We propose that the inflectional affixes of person, number, gender, and tense in the Russian verb are post-head, while *-sja* is post-coda.

Identifying the head of a word makes it possible to resolve a well-known problem of morphological structure. Prefixed forms in Russian can be attached to stems associated with suppletion of the verb stem in one or the other tense form, whether prefixed or not. Thus, the suppletion of *byt'* 'to be' in the future tense (cf., e.g., *буду* 'I will be') as opposed to the regular past (*был* 'was') is maintained in the prefixed form *zabyt'* 'to forget': cf. the suppletive future

tense *zabudu* ‘I will forget’, as opposed to the the regular past tense (*zabyl* ‘forgot’). Similarly, the forms *exat’* ‘to travel’, regular *exal* ‘travelled’ vs. suppletive *edu* ‘I travel’ are mirrored in the prefixed forms *zaexat’* ‘to drop by’, *zaexal* ‘dropped by’ versus the suppletive future tense *zaedu* ‘will drop by’. Such facts have often been presented as a bracketing paradox: the semantic structure of *zaexal*, say, is [[za+jed-] + past tense], but its formal structure is [za [jed+past]]. If such verbs have the internal structure of a composite, with the prefix adjoined to a head ([_v za+ [_v jed-]]), then identifying verbal inflection as post-head means that any prefixal structure is invisible and irrelevant.¹³

Second, treating *-sja* as post-coda properly locates it in the adjectival participle form (e.g., *ulybajuščijsja* ‘smiling[masc. sg. nom.]’), if we treat the concord affixes in modifiers as post-head as well. This same assumption makes it possible to describe the inflection of various indefinite pronouns with the structure of a composite, formed by means of *-to*, *-nibud’*, *-libo*, *-ugodno*, *-popalo*, which follow inflection (*kto-to* ‘someone [nominative]’, *kogo-to* ‘someone[accusative]’, etc.).¹⁴

Finally, what Jakobson called the agglutinative nature of the imperative suggests that imperatives are composites as well: stems to which various derivational morphemes are adjoined in the lexicon by Word Formation Rules. The fact that *-sja* follows the adjoined morpheme *-me*, rather than the verbal head, indicates that its placement parameter is post-coda.

The spirit of the Mirror Principle is thus preserved, because features may be assigned in the order of the syntactic derivation. But the internal headed structure of the word makes it possible to place affixes in a different linear order than they are assigned. In particular, in our case, one affix can be placed in post-coda position, and then at a later point in the derivation, another affix can be placed in post-head position, so as to precede the affix spelled-out earlier.

Further evidence for the feature approach to *-sja* is provided by an interesting case of haplology involving circumfixes of the type found in *razbežat’sja* ‘to disperse running’ (*raz ... sja* added as a single unit to *bežat* ‘to run’, *na ... sja* plus *est’* ‘to eat’ to give *naest’sja* ‘to eat one’s fill’, first pointed out by Fowler (1993): when a circumfix in *-sja* is added to a stem already associated with *-sja*, only one appears in the result: {na...s’a} + {kataj-s’a} → *nakatat’sja* (**nakatat’sjas’*). As Fowler notes, there is no problem with derivational affixes being doubled, whereas deletion under identity is common in syntax. In particular, he cites *się* haplology in Polish as an analogue. The Russian facts fall out directly from the theory proposed here, without reference to syntax: the Word Formation Rule just illustrated takes the following form:

(36) X → [_v na [_v X]] [marked diathesis]

This rule ensures that the resulting stem has the feature [marked diathesis]; if the deriving base X already has that feature, that part of the rule applies vacuously. As in the Polish cases of haplology discussed above, the feature can be marked only once. In contrast, a morpheme-based approach encounters the problem of what to do with the second *-sja* morpheme. As Fowler points out, haplology analogous to that observed in Polish is impossible in Russian: **ja starajus’ pobrit’* ‘I am trying to shave myself’ (cf. *starat’sja* ‘to try’ and *pobrit’sja* ‘to shave (oneself)’), or **on predstavilsja i zasmegal* ‘he introduced himself and began to laugh’ (cf. *predstavit’sja* ‘to introduce oneself’ and *zasmekat’sja* ‘to begin to laugh’); on our account, this follows automatically: a feature taking a syntactic head as its domain is not visible to the (morpho)syntactic processes of feature harmony and raising, which apply to the phrasal feature in Polish.

To summarize our discussion of Russian, since [marked diathesis] is assigned in the lexicon, derivational Word Formation Rules such as adverbial participle formation can be sensitive to its

presence, just as a Word Formation Rule can condition the choice of an allomorph on the gender of the stem. When [marked diathesis] is spelled out, it is placed in the post-coda-of-head (i.e., V) position; this definition of its placement permits *-sja* to follow post-head inflectional categories added later than it in the derivation and to follow the plural addressee affix adjoined to the imperative form and other forms of appeal. Finally, the spell-out of [marked diathesis] undergoes readjustment (*-sja* ~ *-s*) as do many other word-level affixes.

5. Conclusions

While traditional notions defining phonology as sound structure, morphology as the structure of the word, and syntax as the structure of the sentence are coherent, they should not be carried over wholesale to an explicit grammar. In saying that clitics are phrasal affixes, we are extending the notion of morphology to include elements associated with syntactic structure. The proposed extension is a natural one, although it leaves the notion of morphology as word structure in shambles. Clearly there is something intuitively reasonable about the notion of compositional semantics implicit in the semiotic view of language and the structural morphology which assumes it: palpable elements associated with meaning are assembled, and the resulting meaning takes shape in parallel with the form. Each is subject to contextual variation. But this view, we submit, is not correct. In our case, on the “surface,” in Phonological Form, there is obviously a palpable reflection of the category of marked diathesis: Russian *-sja* and Polish *się* indicate (diacritic uses aside) that the verb has undergone a diathesis changing rule. However, a semiotic theory of language should demand more than that when the dust settles there be some correlation between form and meaning. It demands the integrity of the sign, which consists not only of a signifier and a signified, but of a structural bond between the two. But we have argued that it is a distilled essence of content, represented in feature form, which moves through a good portion of the grammar as a unit before acquiring a signifier. Thus, the structural bond between signifier and signified is broken. Furthermore, breaking this bond is essential to the present attempt to capture the functional similarities between Polish and Russian despite the difference in form. Reference to a feature and to parametric variation in the domain of spell-out abstracts away from the form of the sign, thereby undermining the concept of the sign itself.

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NOTES

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² An apparent exception to feature harmony is the heterogeneous case marking of numeral phrases (e.g., *èti dva molodyx sosedà* ‘these[nominative plural] two young[genitive plural] neighbors[genitive singular]’). We would argue that the apparent genitive forms (singular and plural) are in fact numeral (i.e., “paucal”) forms, syncretic with genitive case forms

³ We view Schenker’s (1985) conclusion that the various uses of *się* constitute special cases of a general meaning of subject internalization (“*uwewnętrznienie podmiotu*”) to be in the same spirit as this proposal.

⁴ Space does not permit a serious assessment of alternative approaches to clitics in the literature on formal

grammar; for some comparative remarks on a syntactic approach advanced by Progovac (1996) and the hybrid syntactic/prosodic approaches of Halpern (1992) and Bosković (1995), see Anderson 1996.

⁵ Throughout this paper, unattributed examples have been gleaned from a variety of contemporary texts (typically popular periodicals, but also from various internet sources); they have all been checked with native speakers.

⁶ This approach to clitic placement, proposed by Klavans (1985), is further developed within the framework of A-Morphous Morphology by Anderson (1992, chapter 8; 1996).

⁷ Space limitations prevent us from adumbrating these two constraints on feature raising. We would assume that a governed infinitive represents a TP complement of the governing V, without the intermediate CP which introduces a governed finite clause. Recent work has developed the hypothesis that Noun Phrases are in fact built around the functional category D (“Determiner”). It would follow that feature raising is blocked from the two functional categories C and D.

⁸ It is significant that while clause-initial position is excluded in the standard language, Dłuska (1976:29-30) and Misz (1966:109) point out its occurrence in the speech of children and in stylized (often with humorous intent) speech; cf. the contemporary promotional slogan *Się ma!* Also, an article in *Wprost* weekly magazine is entitled *Się komentuje co się dzieje* ‘What is happening is commented on.’ All such cases that I have encountered are pre-verbal, illustrating the same constellation of placement parameters: pre-head-of-VP.

⁹ Cf. Janko-Trinickaja 1962 on Russian and Wilczewska 1966 on Polish.

¹⁰ We take up the special case of the imperative below.

¹¹ The vowel truncation in *by* → *b* and *li* → *l’* after vowels is not regular like that of *-sja* and requires a different account. The preposition *o(b)* is different, because the alternation is phonologically motivated in terms of sequences of consonants and vowels in contact.

¹² Baker mentions in a footnote that Russian may constitute an “exception.”

¹³ Fowler 1996 provides five arguments that prefixes are added to their verbal stem in the syntax, including the morphological suppletion argument just mentioned. All of these arguments are answered by the composite analysis proposed here

¹⁴ Similar, but requiring further analysis, are indefinite pronouns formed by the *koe-*, *ni-* and *ne-*, which precede prepositions: *koe o kom* ‘about someone’, *ni s kem* ‘with no one’, *Ne o čem ...* ‘There is nothing ...’

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