

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 a'. *Vasja budetsja myt'
V. will wash-SJA: 'Vasja will wash (himself)'
- b. Deti nacinali myt'sja b'. *Deti načinalis' myt'(sja)
children started wash-SJA: 'The children started to wash'
- 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 éto 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 étego, 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 tebjá 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

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 a 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 obidelaš' 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 unaccusatives⁵ the only alternative would be to allow SJA to be base-

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. | <i>čitat'</i> | <i>načitat'sja</i> | | |
| | | read | read one's fill | | |
| | b. | * <i>smejat'</i> | <i>smejat'sja</i> | | |
| | | | laugh | | |
| | c. | <i>smejat'sja</i> | <i>nasmejat'sja</i> | c'. | * <i>nasmejat'sjas'/sja</i> |
| | | 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 were 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. | <i>vydajuščijsja</i> | |
| | | stand-out-ACT.PRT-NOM.M-SJA: 'outstanding, excellent' | |
| | b. | <i>stirajučijsja</i> | |
| | | wash-ACT.PRT-NOM.M-SJA: 'washable' | |

⁵(...continued)

<i>merznut'</i>	<i>s-merznut'-sja</i>	freeze	freeze together
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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. *Ětot 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° clitic has an attractive ring to it, because the placement of SJA in AgrO° 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° 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

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)	<i>zvál</i>	called-M	<i>zválsja</i>	called-M-SJA
	<i>zvalá</i>	called-F	<i>zvalás'</i>	called-F-SJA
	<i>zválo</i>	called-N	<i>zválós'</i>	called-N-SJA
	<i>zváli</i>	called-PL	<i>zválís'</i>	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).

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)	<i>záper</i>	locked-M	<i>zápersjá</i>	locked-M-SJA
	<i>zaperlá</i>	locked-F	<i>zaperlás'</i>	locked-F-SJA
	<i>záperlo</i>	locked-N	<i>záperlós'</i>	locked-N-SJA
	<i>záperli</i>	locked-PL	<i>záperlís'</i>	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 mojuť-sja* *ja moju-s'*
 they wash-SJA I wash-SJA
 b. *ja myľ-sja* *ja myľa-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* b'. **Mladen je je vidio*
 M. *her* is seen: 'Mladen saw her' *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* a'. *Čitat-ću*
 I will read-INF 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-Croatian, 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. očistiti 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.

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 parallel 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-adjointed 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 participial 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 swap 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 restrict 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.

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 other 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.

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 evidence 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 exhausting'
- 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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