Affix/Word Variation of Syntactically Parallel Structures and Distributed Morphology

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1. Introduction

Crosslinguistic as well as intralinguistic comparisons of pairs of constructions often reveal a specific type of variation in form, namely pairs of expressions that seem to yield the same interpretation even though they differ in their forms. In other words, judging by one member of such pairs, the interpretation of the other member does not seem to be computed in parallel with its syntactic derivation. In this paper, we look at some of these cases and propose to derive this variation using the theory of non-simultaneous spell-out (Marušič 2005, in press).

An old observation regarding word-composition states that semantics of derivational morphology crucially differs from the semantics of inflectional morphology, while at the same time the phonology of the two types of morphemes is basically the same. We implement this insight using non-simultaneous spell-out. We claim that at the word level, spell-out of the syntactic structure does not happen simultaneously to both interfaces; rather, spell-out to LF happens immediately after a category-defining head is merged with a root or another category-defining head (adopting Distributed Morphology [DM], Marantz 1997, Harley & Noyer 1999, Embick & Noyer 2001, 2006, etc.), while spell-out to PF is postponed until the next merge. At the point when inflectional morphology is added into the structure with some Agr head, a word is typically completed. In some cases, though, PF spell-out can be further delayed, which gives rise to the observed variation.

This paper is organized as follows. In section 1.1, we set the scene by briefly introducing several pairs of constructions that seem to yield the same interpretation even though one member of the pair expresses the category in question with a word ('syntactically') and the other with an affix ('lexically'). Section 1.2 presents one case of such variation in form in more detail, namely the so-called definiteness-marking suffix on standard Slovenian adjectives and the colloquial Slovenian adjectival definiteness-

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marking clitic TA (cf. e.g. Herrity 2000, Marušič & Žaucer 2006b, in press). In section 2.1, we outline the approach that the recently dominant syntactic approach to word-building, i.e. Distributed Morphology, takes to the building of words, mentioning also why we do not adopt it in its entirety. Section 2.2 presents the idea that spell-out to LF and PF is not simultaneous, which is then used in the proposal in section 3 to complement certain insights of DM to derive the investigated variation in form. Section 4 closes the discussion.

1.1 A quick look at several phenomena of this type

To set the scene, we will go through several pairs of constructions that exhibit the affix/word (morphological/syntactic) split. Let us start with a contrast between the so-called 'lexical' and 'syntactic' causatives in Eastern Armenian on the one hand and Japanese on the other. As discussed in Megerdoomian (2003), Eastern Armenian has two types of causatives, just like Japanese. The two types of Eastern Armenian causatives share all the relevant properties with the two types in Japanese. Lexical causatives, such as (1) and (3), can only be formed from a restricted group of verbs, and they have monoclausal properties; on the other hand, syntactic causatives, such as (2) and (4), can be productively formed from any verb, and they have biclausal properties. The lexical vs. syntactic split in both Japanese and Eastern Armenian causatives shows parallels with respect to anaphor binding (restricted to binding with the causer but not the causee with lexical causatives, unrestricted with syntactic causatives), the interpretation of manner adverbs, the scope of negation, the existence of idioms, etc. (see Megerdoomian 2003).

(1) *Hahaoya-wa akachan-ni kutsushita-o hak-**ase**-ta*
mother-TOP baby-DAT socks-ACC put.on-CAUS-PAST
'The mother put the socks on the baby's feet.' (Japanese)

(2) *Ken-ga Naomi-o suwar-**ase**-ta*
Ken-NOM Naomi-ACC sit-CAUS-PAST
'Ken made Naomi sit.' (Japanese)

(3) *Nairi-n shor-er-e chor-**atsn**-um e*
Nairi-NOM dress-PL-ACC dry-**CAUS**-IMP be-3SG
'Nairi is drying the clothes.' (Eastern Armenian)

(4) *Ara-n yerex-in p'at'uhan-e bats-el **t'v-ets***
Ara-NOM child-DAT window-ACC open-INF **give-A**OR.3SG
'Ara made the child open the window.' (Eastern Armenian)

What is of interest for us is that in terms of the interpretation and of several syntactic tests, the difference between the two types of causatives is the same in both Japanese and Eastern Armenian; at the same time, though, Japanese expresses both causatives morphologically, with the morpheme '(s)ase', whereas Eastern Armenian employs morphological expression only for lexical causatives but an independent word for syntactic causatives. In other words, the semantic difference between the two types of causatives, as well as their pre-movement syntax, are the same in both Japanese and Eastern Armenian, but the PF-realization differs between the two languages.

As already mentioned, such affix/word (morphological/syntactic) splits are far from being restricted to causatives. Similarly, a definite article is an independent word in English, German, Italian, etc., (5)-(6). In some instances it behaves like a clitic, but it is still an independent word.

(5)	*the hawk*		(6)	*the large hawk*	(English)
	der Habicht			*der grosse Habicht*	(German)

On the other hand, in Bulgarian and Macedonian, the definite article is a pure clitic in the second position inside the noun phrase, (7). It always attaches to the first syntactic unit of the noun phrase, be it a noun or an adjective (Dimitrova-Vulchanova & Giusti 1998). In languages like (Classical) Arabic, the definite article is also typically considered a clitic even though the fact that it is repeated on adjectives inside the definite noun phrase suggests that it has more bound-morpheme properties then the clitic definite article of Bulgarian and Macedonian.

(7)	*čovek*	*čovekət*	*dobriat čovek*	(Bulgarian)
	'man'	'the man'	'the good man'	
(8)	*al-istiqlaal*		*al-fasl al-awwal*	(Arabic)
	'the independence'		'the first chapter'	

And finally, in Norwegian (and other Mainland Scandinavian languages), definiteness is expressed as a suffix on the noun, so it is clearly part of the phonological unit of the head noun. In other words, semantically comparable definiteness elements can have fairly different PF-realizations.

(9)	*bok*	*boken*	*bøkene*	(Norwegian)
	'a book'	'the book'	'the books'	

To take another case, spatial and temporal relations that are expressed with independent words/prepositions in Indo-European languages are

expressed with postpositions in languages like Hungarian and Finish.

(10) *lakásban* – 'in the apartment'
lakásba – 'into the apartment'
lakáson – 'on the apartment'
lakásra – 'onto the apartment'
lakáshoz – 'towards the apartment'
lakástól – 'away from the apartment'

Postpositions can be seen as case endings (cf. Asbury *et al*. 2007). Although on a smaller scale, the same kind of difference can thus also be observed within Indo-European languages. For example, English dative case is expressed with the preposition *to* and genitive with the preposition *of*, while in languages like Slovenian both cases are expressed with case affixes, (11). And at an even smaller scale, the difference is also observed within the Slavic branch of Indo-European languages. In Russian, intrumental is a case that does not need any preposition, while in Slovenian, it can only be used with a preposition.

(11) *drevesu* *drevesa* (Slovenian)
to a tree *of a tree* (English)

The adjectival form that denotes excessive degree is expressed with an adjectival morpheme in Italian, but needs an independent quantifier in English (and many other languages).

(12) a. *un pane buonissimo* b. *una bici bellissima* (Italian)
'a very good bread' 'a most beautiful bike'

Latin has two ways to express nominal coordination. One option is with a common independent conjunction 'et', the other with a suffix in the second position in the second conjunct, (13).

(13) *Senatus et Populus Romanus* – *Senatus Populusque Romanus*
'Senat and the Roman people' (=SPQR)

English uses possessive determiners, while some other languages, such as Turkish, express possession with nominal morphology, (14).

(14) a. *ev* → *ev*-(*I*)*m* → *evim* (Makedonski 2005)
house house–1pSg.Poss "my house"
b. *araba* → *araba*-(*I*)*mIz* → *arabamız*
car car–1pPl.Poss "our car"

In many languages, there are two ways to express comparative degree of adjectives. One option is with comparative morphology, the other with a comparative quantifier.

(15) *higher, bigger, stronger*
more important, more handsome, more forgetful

(16) *the highest, the biggest, the strongest*
the most important, the most handsome, the most forgetful

It is standardly accepted that one type of English particles and Slavic prefixes have the same semantic and syntactic import (cf. Spencer & Zaretskaya 1998, Svenonius 2004, etc.). It is also quite obvious that while English particles are independent syntactic elements, Slavic prefixes are morphemes attached to the verbs.

(17) a. *Janez dug* ***out*** *the treasure.*
b. *Janez je* ***iz****kopal zaklad.* (Slovenian)
Janez aux out-dug treasure
'Janez dug out the treasure.'

In short, material that is comparable in terms of its semantics and, by assumption, its pre-movement syntax is often realized as a word in one language and an affix in another. In the following section, we will present a case of such variation in Slovenian in some more detail. We will show that the two variants are the same in all relevant respects. Their semantics is the same, and the only difference between the two variants is in the shape of the exponents.

1.2 TA and the adjectival long form in Slovenian

Standard Slovenian expresses some sort of definiteness of the adjective with special adjectival morphology (much like Bosnian/Croatian/Serbian; cf. Progovac 1998, Aljović 2002, Trenkić 2004, etc.), while colloquial Slovenian uses a special clitic pronoun/article for the same purpose (Marušič & Žaucer 2006b, to appear), as shown in (18). So on the one hand,

we have a suffix[1], and on the other, we have the word TA[2]; but despite this difference in realization, the colloquial Slovenian TA and the standard Slovenian adjectival long-form suffix both seem to have the same semantic contribution, i.e. they both bring some kind of definiteness to the noun phrase (more on this below).

(18) a. *rdeč kuli*
red pen
'red pen'

b. ***ta*** *rdeč kuli*
TA red pen
'the red pen'

c. *rdeč**i*** *kuli*
red_{LONG} pen
'the red pen'

Note that unlike what (18) might lead one to conclude, we have actually claimed (Marušič & Žaucer 2006b, to appear) that neither TA nor the long-form morphology can be directly associated to definiteness/specificity FPs of the entire DP, and that both in fact form the subject of a small clause that acts as an attributive modifier. However, what is crucial for our present purposes is the claim that TA and the long-form suffix are essentially one and the same thing. Therefore, we will now go over several morphosyntactic and semantic properties of the two elements to show that this is indeed the case.[3]

First, both TA and the long-form suffix can only occur with adjectives (Toporišič 2000) and not on bare nouns, a characteristic in which they clearly differ from typical definite articles in languages like French, English or Greek, (19). The intimate link between TA and the long-form suffix on the one hand and the adjective on the other is shown also by the fact that TA and the long-form suffix reappear on stacked adjectives, (20).

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1 Historically, the suffix combines two elements, an adjectival morpheme and a pronoun (Schenker 1993).

2 The latter has the shape of a reduced demonstrative pronoun (Herrity 2000), but it is not just a demonstrative: as shown in (ia), the two can cooccur in a single DP; as shown in (iib), the demonstrative agrees with the head noun in gender, number and case, while TA is invariant; also, the demonstrative is stressed, while TA is a clitic and cannot be stressed.

(i) a. *ta **ta** rdeč kuli*
this TA red pen
'this red pen'

b. *tega **ta** rdečga kulija*
$this_{GEN}$ TA red_{GEN} pen_{GEN}
'this red pen'

3 The phenomenon may remind the reader of some phenomena in other languages, such as definiteness and strong adjectival inflection in some Scandinavian languages, definiteness in Bulgarian, determiner spreading in Greek, etc. See Marušič and Žaucer (2006b, to appear) for a comparison of TA/the long form and these phenomena, and the conclusion that our TA/long form nonetheless cannot be collapsed with any of these.

(19) a. *ta velik dom – ***ta** dom / *dom**i*** (Slovenian)
b. *the big house – the house* (English)
c. *la grande maison – la maison* (French)
d. *to megalo spiti – to spiti* (Greek)

(20) *tá **ta** zelen **ta** debel kuli / zelen**i** debel**i** kuli*
this TA green TA thick pen green$_{LONG}$ thick$_{LONG}$ pen
'this green thick pen'

Secondly, on the semantic side, both TA and the long-form suffix appear in typical definite environments, in definite DPs. So for example, if the DP contains a demonstrative, the noun phrase is clearly definite/specific. In such cases, the long-form suffix is used in standard Slovenian and TA in colloquial Slovenian, (20). Also, both TA and the long-form suffix are used with ordinals, (21a), with superlatives (21b), and after possessors, (21c).

(21) a. ***ta** drug cvek / drug**i** cvek*
TA second F-grade second$_{LONG}$ F-grade
'the second F-grade'
b. ***ta** najboljš komad / najboljš**i** komad*
TA best song best$_{LONG}$ song
'the best song'
c. *moj **ta** rdeč kuli / moj rdeč**i** kuli*
my TA red pen my red$_{LONG}$ pen
'my red pen'

However, unlike the typical definite articles in languages like French, English or Greek, TA and the long-form suffix can appear inside indefinite NPs, (22). This shows that they are both detached from the N-D frame of projections; the definiteness they express has nothing to do with definiteness of the entire NP.

(22) a. *Mim je prdirkal <u>en **ta** hiter avto</u> / <u>nek hitr**i** avto</u>.*
by is speeded a TA fast car some fast$_{LONG}$ car
'Some fast (type of) car came speeding by.'
b. (**some*) *the fast car*

At the same time, as we showed in Marušič & Žaucer (2006b, to appear), the semantic contribution of TA and the long-form suffix in Slovenian also has nothing to do with specificity of the entire NP, which is what Aljović (2002) and Trenkić (2004) proposed for the Bosnian/ Croatian/Serbian long-form suffix. We adopted the definitions of

definiteness and specificity from Ionin *et al.* (2004) and Ionin (2006), which roughly says that an NP is definite when both the speaker and the hearer presuppose the existence of a unique individual and specific when the speaker intends to refer to a unique individual in the set denoted by the NP. According to these definitions, the noun phrase containing TA/the long-form adjective in (23) is non-specific.

(23) *Knjigo dobi* ***ta*** *zadn študent / zadnji študent, ki pride na izpit.*
book gets TA last student $last_{LONG}$ student that comes on exam
'The book will go to the last student to come to the exam.'

In Marušič & Žaucer (to appear), we suggested that the meaning contribution of TA and the long-form suffix is uniqueness of type rather than uniqueness of an individual. This is most clearly seen in an indefinite noun phrase, as in (24b), though this effect is not restricted to noun phrases with an overt indefinite determiner, as long as the type under discussion is easily recognizable. But regardless of the exact nature of the semantic contribution of TA and the long form, the crucial thing here is that both are available in the same environments and bring the same semantics into the noun phrase.

(24) a. *Daj mi* ***ta*** *rdeč / rdeči kuli.* [unique item/token]
give I_{DAT} TA red red_{LONG} pen
'Give me the red pen.'
b. *Daj mi kšn* ***ta*** *rdeč / kak rdeči kuli.* [unique type]
give I_{DAT} some TA red some red_{LONG} pen
'Give me a green(-type) pencil / one of the green pencils.'

And thirdly, both TA and the long-form morphology are typical also in some environments that are not so clearly related to definiteness/specificity, namely in adjectival nominalizations, as in (25), and with classifying adjectives, as in (26)[4]; at the same time, neither the long-form suffix not TA is normally tolerated on possessive adjectives, as shown in (27). Crucially for our present purposes, the distribution of TA and the long-form suffix is once again parallel.

4 The story about classifying adjectives is a bit more complicated, but just like the long form, TA also turns a qualitative adjective into a classifying one. In some cases that have the LONG form, TA seems impossible, but those are all cases of idiomatic expressions or proper names.

(25) a. *ta star / stari* b. *ta bel / beli* c. *ta dežurn / dežurni*
old white duty$_{ADJ}$
'old person'/'dad' 'Quisling' 'person on duty'

(26) *Ko* ***beli/*** ***ta bel*** *kruh poide, je tudi* ***črni/*** ***ta črn*** *dober.*
when white$_{LONG}$ TA white bread goes is also black$_{LONG}$ TA black good
'When white bread runs out, black bread is also good.'

(27) a. *očetov avto* * *očetovi avto* /**ta očetov avto*
father's car father's$_{LONG}$ car TA father's car

On the basis of the semantic and distributional facts presented in this section, we conclude that the two variants are semantically and syntactically the same element, even though one is realized as a suffix and the other as a word. In subsequent sections, we will try to account for the difference in their realization.

2. Background

2.1 The building of words

Before we turn to the proposal we offer to account for the variation, we will present some background on the theory of Distributed Morphology (Marantz 1997, Embick & Noyer 2001, 2006, Harley & Noyer 1999, etc.), given that it has recently been a very prominent syntactic approach to word-building. We will also explain why we will not fully adopt it, even though our proposal will also derive words syntactically.

According to DM, words are not created in a separate component dedicated to the creation of words, but rather in independently motivated components of the grammar. One of these is the PF, which is actually where words, in the everyday sense of the term, really come to be; before that, the non-encyclopedic content of words-to-be is part of the syntax—the same combinatorial component used for putting together sentences—which only operates with (combinations of) abstract features, functional heads and roots. To put it differently, in the earliest stage, the content of words-to-be equals hierarchical combinations of abstract syntactic features, functional heads and roots, and then it is only later on, after spell-out, that these abstract features, functional heads and roots become 'words'.

According to DM, an uninflected word is composed at least of a category-free root and a category-defining syntactic head. In the case of verbs, the category-defining head is little *v*; the other category-defining heads include *a* and *n*.

Quite like in Minimalist syntax (Chomsky 2000 ...), DM sees the derivation as proceeding cyclically, in phases, with syntactic structure getting spelled-out to the two interfaces at the completion of every phase. The projections that are standardly taken as constituting phase boundaries are the subject-introducing VoiceP, the CP, and (with less consensus) the DP, to which DM adds all category-defining heads, such as *v*, which are also argued to constitute phase boundaries (Marantz 2001, Marvin 2002, Arad 2003, etc.). Marantz (2001) proposes that when a phase is completed, the combination of the root and little *v* is shipped off to LF and PF. On the LF side, the interpretation of the verb is negotiated against the encyclopedic knowledge (and on the PF side the spelled-out structure gets pronounced as a word). The phasal status of little *v* and other category-defining heads plays a role in word building, in particular in the difference between derivational and inflectional morphology. Following Marantz (2001), derivation is morphology that happens at the end of a phase before the spell-out, where category-defining morphemes/heads attach directly to roots or other category-defining heads, while inflection is added after the spell-out, where morphemes/heads combine with structures already headed by a category-defining head. Marantz extends his proposal for *v* to all category defining heads, i.e. *a* and *n*, suggesting that all category defining heads act as phases.

The difference between derivational and inflectional morphology is thus not morphophonological. From the point of view of morphophonology, all affixation looks similar. The difference, though, has obvious consequences with respect to productivity and the interaction that the affixes can have with root semantics. Derivational morphology, which combines category-defining heads with roots or other category-defining heads, is category-defining and category-changing, while inflectional morphology is not.

To be a phase head thus means to be the point in the derivation at which the structure created by that point is spelled-out, sent to the interfaces. The transfer operation/spell-out creates units at the two interfaces, so that the internal structure of the lower phase is invisible to the processes outside of this phase. The most logical units at the PF interface are words and the logical conclusion seems to be that words are created at the category-defining phases.

Taking verbs as examples, Marantz (2001) claims that at the point of spell-out, the root and the little *v* get spelled-out to both interfaces. As a phase is spelled-out to the PF component, phonological rules should start applying. So if the root and the *v* head create a phase and are spelled-out to the PF component, the stress should be calculated for these two elements alone. The prediction, therefore, would be that anything attaching onto this minimal word should not affect the stress of what they attach to, since stress

for that inner phase has already been calculated and since the (grammatical/external) aspect and tense morphology do not represent phases. But contrary to this prediction, the aspectual morphology that is added on top of the *v* is in fact part of the unit in which stress is calculated, as shown by Slovenian cases that have the stress on the aspectual morphology, such as *delováti* 'work-TH-ASP-INF' (compare with the grammatical-aspect uninflected *délati* 'work-TH-INF')[5]; this suggests that aspectual morphology forms a spell-out unit together with the root and the little *v*. The answer DM offers to such problems is that there are additional operations occurring after spell-out; specifically, syntactic derivation is followed by "morphological" derivation which brings in a number of processes specific to the "morphological" component, e.g. Lowering, various Mergers, etc. (see Marantz 2001, Embick & Noyer 2006, Halle & Marantz 1994, etc.). However, introducing this extra component into the grammar seems to defeat one of the main conceptual motivations behind DM, i.e. simplification of the grammar by dispensing with one of the modules (the lexicon); therefore, we will explore a different approach.

We can think of three possible explanations for the conclusion above presented. The first option seems to be to claim that any verb with overt aspectual morphology, like e.g. *delovati* 'work-TH-ASP-INF', is actually composed of two phases, the *v*P and some other higher phase, e.g. AspP (ala Butler 2004). But that also means that any verb with overt temporal morphology has a phase corresponding to TP and that any verb with overt imperative morphology has an even higher phase corresponding to some MoodP. Butler (2004) indeed claims that there is a phase above every functional projection, but none of these functional projections are category-defining and none of them participate in derivational morphology. Furthermore, if AspP, TP, etc., were all PF and LF phase boundaries, then we would expect them to be scope reconstruction sites, which at least for AspP does not seem to be the case.

Secondly, one might want to claim that (grammatical) aspect is actually internal to the category defining *v*. However, there are good reasons to reject this option. Asp is an event operator. If events are only introduced with the spell-out of *v*P to LF[6], a *v*P-internal Asp has no event to operate on, and

5 See Borer (2005), Arsenijević (2006), etc., for the claim that the Slavic "secondary imperfective" aspect (the value realized by *-va-*) is essentially comparable to the English progressive, that is, is a kind of grammatical/external/IP-level aspect. (The suffix *-ti* in *delati* and *delovati* is the infinitival suffix, and the *-a-* in *delati* and the *-o-* in *delovati* are thematic vowels.)

6 Or in traditional terms, if denoting an event is what distinguishes verbs from

would thus need another phase internal to AspP. So we have not solved anything. Also, if we claimed that (grammatical) AspP is *v*P-internal, we would presumably need to make the same claim for tense morphology, likewise anything but an uncontroversial move. Moreover, there are reasons to believe thematic vowels are realizations of *v* (cf. Jabłońska 2007).[7] Slovenian has inchoative/unaccusative – causative verb pairs like *porumeneti* 'become yellow' and *porumeniti* 'make yellow'. The only difference between the two is in the thematic vowel (*-e-* vs. *-i-*), suggesting that the thematic vowel is the realization of the *v* head. Now, if we check the relative order of thematic vowels and aspectual morphology, we see that aspectual morphology is outside the thematic vowel: *po-rumen-e-ti – po-rumen-e-va-ti* 'PREFIX-yellow-TH-(ASP)-INF', *za-rd-e-ti – za-rd-e-va-ti* 'PREFIX-red-TH-(ASP)-INF'.

And finally, the third option is that the spell-out to the PF component is delayed until the aspectual morphology is merged to the verb. Let us repeat from above that the aspectual morphology is clearly not part of the same semantic/LF phase as the verb, that is, aspect is not interpreted together with the verb, it does not influence the basic interpretation of the verb, it simply modifies the verb's grammatical properties. Aspect is an operator on events.

To accept this third option, then, we would need to say that spell-out can occur to a single interface, or that at some points, spell-out to a particular component can be delayed. This is indeed what we want to suggest. And more specifically, what we want to suggest is that only PF spell-out can be delayed in such a way, while LF spell-out is, in principle, universally determined. In other words, PF spell-out, but not LF spell-out, is subject to variation (inside and across languages). We could also say that PF spell-out is also fixed within a particular (variety of) language, but that the position of PF spell-out can differ between languages, unlike the position of LF spell-out. We discuss this view of the functioning of spell-out in some more detail in the next section.

2.2. Non-simultaneous spell-out

According to the Phase theory (as in, among others, Chomsky 2001, 2004, 2005), derivation proceeds in phases, that is, every derivation can be broken down into several stages. Each phase is a complete stage in the

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simple nouns, adjectives … (cf. Alexiadou 2001).

7 In DM, thematic vowels have been analyzed as adjuncts to functional projections that signal morphological well-formedness of the word (Oltra-Massuet 1999, cf. also Embick & Noyer 2001).

derivation. It consists of a numeration, of the application of the operation MERGE, and of the spell-out of the created syntactic structure to the two interfaces. Syntactic objects can move out of a phase only by moving to the phase edge, where they remain visible for operations in the next phase.

Because of the Spell-out / transfer operation at the completion of every phase, the concept of the phase has an interface reality, that is, whatever gets shipped to an interface at one go constitutes a unit at the relevant interface. For example, CP phases are propositional elements at the LF interface and have a certain phonetic independence at the PF interface, i.e. they form intonational phrases (cf. Chomsky 2001, 2004, 2005, Marušič 2005).

By looking at the PF and LF properties of various syntactic objects, we can determine their phasal composition (cf. Matushansky 2003, Marušič in press). Interestingly, certain projections behave as phases at only one of the two interfaces, that is, certain projections correspond to phonetic units (i.e. behave as a phase at the PF level) but do not behave as a unit at the LF interface, and vice versa. For example, the topmost projection of non-finite clauses has no PF independence but is, at the same time, a propositional element; unaccusative or raising *v*P does not pass PF-phase tests but at the same time turns out to be a projection where a raised quantifier can get interpreted (see Marušič 2005, in press for more discussion and a detailed look at various projections).

Marušič & Žaucer (2006a) and Marušič (2005, in press) give extensive syntactic evidence arguing that non-simultaneous spell-out is a computational option. An argument for the existence of non-simultaneous spell-out is also the coverage of this mechanism: the phasal composition we find by checking various projections is exactly the phasal composition we need in order to derive the two most obvious phenomena where the locus of interpretation differs from the locus of pronunciation, i.e. total reconstruction and quantifier raising. With non-simultaneous spell-out, we thus get a completely derivational account of the two phenomena using a single mechanism.

Non-simultaneous spell-out means that instead of spell-out happening simultaneously to both interfaces, as originally proposed in Chomsky (2004, 2005, 2008), spell-out can occur independently to a single interface. This means that at the point of spell-out, only some features of the structure built thus far would get frozen and shipped to an interface. Since lexical items are composed of three types of features, semantic, phonetic, and formal ({S,P,F}), if only one type gets frozen, the other two can still take part in the derivation. For example, if the complement of a certain head is only spelled-out to LF but not PF, its completion would freeze all the features that must end up at LF, but not those that are relevant for PF. Then, when the

derivation reaches the next (full) phase, the structure ready to be shipped to PF would be twice the size of the structure ready to get shipped to LF, since part of the structure has been already shipped to LF at the earlier LF-only spell-out. Non-simultaneous spell-out does not mean that we should be calculating completely independent phases for each interface; it is just the spell-out to a certain interface that is delayed.

Non-simultaneous spell-out has been independently proposed in various versions in Megerdoomian (2003), Felser (2004), Marušič & Žaucer (2006a) and Marušič (2005, in press). It is also hinted at in Sauerland & Elbourne (2002) and considered but rejected in Matushansky (2003). In our account of the variation between a suffixal realization and an independent-word realization of one and the same pre-movement syntactic structure, we will build on the version of Marušič (2005, in press).

3. Proposal

In section 1.1, we mentioned that Megerdoomian (2003) compares Armenian and Japanese causatives and observes that while both lexical and syntactic causatives appear as affixes in Japanese, only lexical causatives are realized as an affix in Eastern Armenian; syntactic causatives in Eastern Armenian are realized as an independent word. Megerdoomian captures this distinction with a difference in the spell-out to the PF component. She proposes that spell-out to LF is universal and applies at the strong phases identified by Chomsky (2001), but that spell-out to PF is subject to parametric variation among languages, and thus constitutes the main reason why something that appears as a single word in one language can be realized with multiple words in another. Therefore, the difference between Japanese and Eastern Armenian can be seen as arising from the fact that in Armenian one of the two causative constructions has an additional PF phase, and so one of the two causatives is composed of two different phonological units.

In the next section, we will adopt the basic insight of Megerdoomian (2003) and try to explain the observed variation in Slovenian.

3.1. Proposed structure for the Slovenian noun phrase

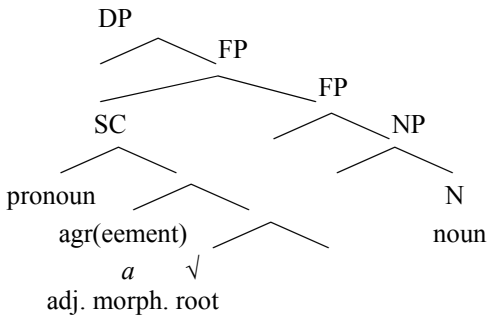
In section 1.3, we presented Slovenian data such as (28), and since we showed that the variant with TA and the variant with the adjectival suffix are semantically and distributionally the same, the question one should ask is why the same (pre-movement) structure gets pronounced as three independent words in (28a) and as two words and a suffix in (28b).

(28) a. ***ta*** *rdeč kuli*
TA red pen
'the red pen'

b. *rdeč**i*** *kuli*
red_{LONG} pen
'the red pen'

As the starting point of our analysis, that is, for the pre-movement structure of both (28a) and (28b), we will take the structure in (29), which is a slightly modified version of the analysis from Marušič and Žaucer (2006b, to appear). That analysis was motivated mostly by the following facts: the long form and TA are used only with predicative adjectives (cf. Marušič & Žaucer 2006b, to appear for discussion and exceptions), and TA+AP combinations and long-form adjectives are found only in prenominal positions; they bring in definiteness of type; they can—but need not—make the DP definite/specific; the interpretation of TA+AP combinations and of long-form adjectives is that of picking an individual from a set, just like the interpretation of relative clauses (Cinque 2005). Therefore, we proposed to analyze TA+AP combinations and long-form adjectives as reduced relative clauses, and more specifically, as prenominal reduced relative clauses. The adjective is found inside a reduced relative clause with the pronominal elements as subjects (see Marušič & Žaucer 2006b, to appear for details); the relative clause, in turn, sits in the specifier of a functional projection dominating the noun, à la Cinque (2003).

(29)



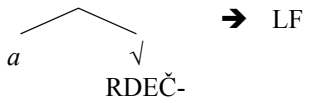
We propose that LF spell-out is universal and that it happens as soon as *a* or any other category-defining head is merged with the root (or with another category-defining head). These two things are related; because spell-out happens immediately after merge, there is no option for phase extension or movement out of the phase via a phase edge. Evidence for immediate LF spell-out comes from the negotiation of the meaning of the word. As explained above, as soon as derivational morphology (=a category-defining head) combines with the root, the meaning of the word is set.

Regardless of any additional morphology on top of the first derivational morpheme, the meaning of the original/first-phase word will be inherited by the new combination. In other words, it is only at the point when the first category-defining head merges with the root that there can be any meaning negotiation. In our case, this means that LF spell-out occurs as soon as little *a* merges with the root.

PF spell-out, on the other hand, does not happen immediately after merge of the category-defining head with the root (or with another category defining head). Rather, it is postponed until the next head, which carries inflectional morphology. A word without inflectional morphology is just as unpronounceable as a root without a category-defining head is uninterpretable.[8] Inflectional morphology signals the end of the phase and sends the structure to PF. In a sense, we could say that a word without inflectional morphology is rejected by the PF component, just like uninterpretable structure can be rejected by the LF component. As we mentioned above, derivational and inflectional morphology (which in this system means morphology merged with the root before and after spell-out to LF) do not have different phonological properties and do not influence the phonology of the root any differently. Both derivational and inflectional morphology form the same phonological unit, which means they have been shipped to PF with the same spell-out operation. PF spell-out is different from LF spell-out only in the fact that whereas LF spell-out happens automatically after merge of a category-defining head, PF spell-out does not happen until the next projection is merged.

In the case of TA+Adj, the derivation thus proceeds as follows. First the root is merged with the category-defining *a*. Since *a* is a phase head, the phrase it creates is spelled-out to LF, where the semantics of the adjective is negotiated.

(30)

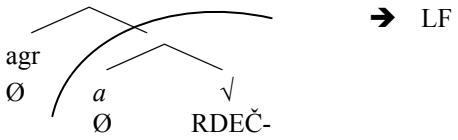


In the next step, the newly created phrase, which by now consists only of PF-related features, is merged with the head carrying inflectional morphology; in our case, the relevant functional projection is the one carrying case agreement morphology, the agr head in (31). In nominative singular masculine, there is no visible case inflection on the adjective, but it

8 In principle, this part could be language-specific.

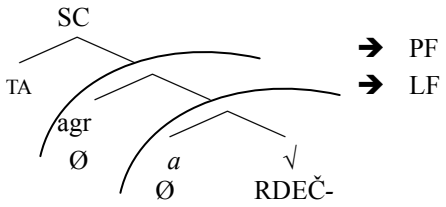
is clearly visible in other forms (e.g. *rdeč*$_{\text{NOM.SG.MASC}}$, *rdečega*$_{\text{GEN.SG.MASC}}$, *rdeča*$_{\text{NOM.PL.NEU}}$ …).

(31)



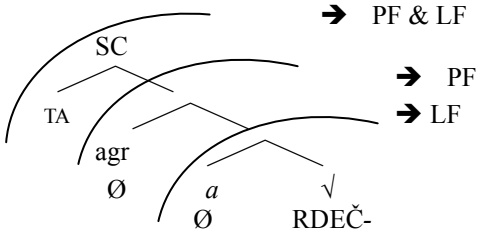
In the next step, the subject of this predication is merged in. When this is TA (which has the form of a reduced demonstrative pronoun, cf. Fn. 2), the sister of TA gets spelled-out to PF.

(32)

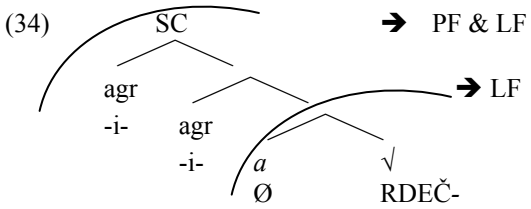


Since the small clause in (32) is a predicate with a subject and thus a proposition, it is also a phase in the syntactic sense. The entire structure is therefore sent to both PF and LF.

(33)



Now, in the case of the standard Slovenian long-form adjectives, the derivation is the same all the way to the last step. At that point, however, the agreement marker is remerged in the subject position of this small clause instead of TA. Since agr is the phase head, its movement extends the PF phase to its landing site, which makes the entire small clause one PF spell-out unit, i.e. a word.



The last thing that needs to be explained is where the difference between the PF realization in standard Slovenian and colloquial Slovenian comes from. We suggest that agr in Standard Slovenian differs from agr in colloquial Slovenian in having a +D feature. This +D feature forces the agr in Standard Slovenian to move to the subject position of the small clause (this is presumably a position parallel to SpecTP, where the +D feature can be checked), thereby extending the PF phase to the entire small clause (cf. Phase extension in den Dikken 2007).

Since Slovenian is a null subject language, a natural question to ask is why we could not insert a null subject in the subject position of the SC. We do not have a definite answer, but we suggest that what prevents this option in Standard Slovenian is the fact that agr has a +D feature that needs to be checked, which forces the agr to move up to the subject position of the SC. In colloquial Slovenian, agr does not have the +D feature and hence does not move up; however, since *pro* would require Case, which it cannot get in the subject position of the small clause, since small clause subjects (in Slovenian) get case via some other mechanism, TA gets inserted in the subject position. This in turn precludes phase extension in the way we suggested it for long-form adjectives in Standard Slovenian.

6. Conclusion

We showed that the adjectival definite article found in Colloquial Slovenian and the adjectival long-form found in Standard Slovenian are syntactically very similar and that the difference between them can be derived from phasal composition of each construction. We argued that the standard way Distributed Morphology sees word building cannot explain such interlinguistic variation. We suggested that the proposed mechanism could be used to explain the other described cases of comparable variation.

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