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## **Classification Projection in Polish and Serbian: The Position and Shape of Classifying Adjectives<sup>1</sup>**

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The aim of this paper is to analyse the syntax of constructions containing classifying adjectives in Polish and Serbian. We will show that, where Polish requires such adjectives to follow nouns, in Serbian they appear in the long form. We will propose a unified account of the Polish and Serbian data, both involving N-movement from the underlying position in N to the head of a higher functional projection (overt in Polish and covert in Serbian). Thus, this paper argues for a distinct functional projection in the nominal domain located immediately above NP. We will tentatively label this projection Class(ification)P(hrase).

### **1. Classifying Adjectives in Polish and in Serbian**

In Polish (P), attributive adjectives generally precede nouns. However, examples such as (1a-3a) below show that certain adjectives can also appear in postposition. Interestingly, as

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demonstrated in (1b-3b), their Serbian (S) equivalents have to take the so-called long form – i.e. long inflectional ending (LA, as opposed to the short adjectival form, which will be abbreviated as SA).

- (1) a. *dyrektor generalny* ~ \**generalny dyrektor* (P)  
 director general
- b. *generalni direktor* ~ \**generalan direktor* (S)  
 general<sub>LA</sub> director                      general<sub>SA</sub>  
 ‘executive director’
- (2) a. *komitet centralny* ~ \**centralny komitet* (P)  
 committee central
- b. *centralni komitet* ~ \**centralan komitet* (S)  
 central<sub>LA</sub> committee                      central<sub>SA</sub>  
 ‘central committee’
- (3) a. *niedźwiedź polarny* ~ \**polarny niedźwiedź* (P)  
 bear polar
- b. *polarni medved* ~ \**polaran medved* (S)  
 polar<sub>LA</sub> bear                                      polar<sub>SA</sub>  
 ‘polar bear’

It seems that the above structures are possible only with adjectives which have been referred to in linguistic literature as *classifying* (Warren 1984), *transpositional* (Marchand 1966), *relational* (Bosque and Picallo 1996), or *pseudo-adjectives* (Bartning 1980). Such modifiers tend not to occur in predicative positions, they cannot be separated from the head noun, coordinated with other adjectives, geminated, or graded (see Warren 1984). They refer to entities and not properties. They most often derive from nouns and relate the noun they modify to another noun. In this paper, we will use the term *classifying* in the following sense: an adjective is classifying if it marks the entity as belonging to a certain category/type/class. Classifying adjectives differ substantially from regular qualifying/attributive adjectives, whose sole purpose is to describe certain non-categorizing properties of the noun they

modify. We assume that the term *classifying* describes a function of a particular adjective in a particular sentence rather than a permanent characteristic of its lexical entry. As shown below, the same lexical item can be used both as a classifying and qualifying modifier (4a-b and 5a-b, respectively).

- (4) a. *Słyszę jakiś język obcy.* (P)  
 hear<sub>1SG</sub> some language strange
- b. *Čujem neki strani jezik.* (S)  
 hear<sub>1SG</sub> some strange<sub>LA</sub> language  
 ‘I can hear some foreign language.’
- (5) a. *Słyszę jakiś obcy język.* (P)  
 hear<sub>1SG</sub> some strange language
- b. *Čujem neki stran jezik.* (S)  
 hear<sub>1SG</sub> some strange<sub>SA</sub> language  
 ‘I can hear some unfamiliar language.’

Thus, the classifying interpretation is not driven by the semantic properties of a given adjective but must be derived syntactically.

The classifying/qualifying distinction may be universal, with different reflexes in different languages. As shown by Bosque and Picallo (1996), in languages that do not mark the classifying function syntactically, structures containing adjectives might be ambiguous. Example (6) below might refer either to a person that belongs to a class of actors that are comic as opposed to tragic (classifying interpretation, restrictive reading) or to an actor that happens to be funny (qualifying interpretation, non-restrictive reading).

- (6) *actor cómico* (Spanish)  
 actor comic  
 ‘comic/comedy actor’

This is precisely the difference in meaning that must be reflected in word order in Polish:

- (7) a. *aktor komiczny* (P)  
actor comic  
'comedy actor' (a type of actor)
- b. *komiczny aktor* (P)  
comic actor  
'comic actor' (an actor that we describe as comic)

This word-order reversal is fully productive in Polish (8-12), unlike in other Slavic languages, such as Czech (13-14), where it appears only in scientific terminology and in poetry (Veselovská 1995).

- (8) *ogród zoologiczny* (P)  
garden zoological  
'zoo'
- (9) *wartości chrześcijańskie* (P)  
values Christian  
'Christian values'
- (10) *kryzys polityczny* (P)  
crisis political  
'political crisis'
- (11) *książka telefoniczna* (P)  
book telephone<sub>ADJ</sub>  
'telephone book'
- (12) *sprawy międzynarodowe* (P)  
affairs international  
'international affairs'
- (13) *kysličník uhličitý* (Czech)  
oxygen carbon<sub>ADJ</sub>  
'carbon dioxide'
- (14) *skokan zelený* (Czech)  
frog green  
'green frog' (a type of frog)

We follow Bosque and Picallo (1996) in assuming that classifying N+A complexes are not compounds (but see Crisma 1990 for a collocation/compound approach). Compounds such as *pasta do butów* (P) ‘shoe polish’ and *bledoliki* (S) ‘pale-faced’ (15-16) cannot elide their head noun, whereas classifying adjectives (17-19) can:

- (15) \**Kupiłem dwie tubki pasty do zębów i trzy tubki [e] do butów.* (P)  
 bought<sub>1SG</sub> two tubes paste<sub>GEN</sub> for teeth and three tubes [e] for shoes  
 ‘I bought two tubes of toothpaste and three tubes of shoe polish.’
- (16) \**Videla sam jednog mladolikog čoveka i jednog blede[e].* (S)  
 saw AUX<sub>1SG</sub> one young-faced man and one pale-[e]  
 ‘I saw one young-faced man, and one pale-faced.’
- (17) *Zaprezentowałem dwie analizy syntaktyczne i trzy [e] fonologiczne.* (P)  
 presented<sub>1SG</sub> two analyses syntactic and three [e] phonological  
 ‘I presented two syntactic analyses and three phonological ones.’
- (18) *Videla sam dva obična medveda i dva polarna [e].* (S)  
 saw AUX<sub>1SG</sub> two ordinary bears and two polar [e]  
 ‘I saw two ordinary bears and two polar bears.’
- (19) *Widziałem dwa zwykłe niedźwiedzie i dwa [e] polarne.* (P)  
 saw<sub>1SG</sub> two ordinary bears and two [e] polar  
 ‘I saw two ordinary bears and two polar bears.’

Examples (17-19) show that classifying complexes, similarly to regular non-idiomatic structures, undergo a purely syntactic process of ellipsis. Therefore, we argue that combinations of nouns and adjectives such as those presented in (1a-3a) for Polish and

(1b-3b) for Serbian are derived syntactically, in a fully productive process.

## 2. Proposal: ClassP (Classification Phrase)

We propose that, both in Polish and in Serbian (and possibly universally), there is a distinct functional projection in the nominal domain located immediately above NP. We will tentatively label this projection Class(ification)P(hrase):

$$(20) \quad [_{DP} D^0 \dots [_{ClassP} Class^0 [_{NP} N^0]]]$$

We assume (with Bosque and Picallo 1996) that classifying adjectives are base-generated as APs in the specifier position of the NP projection. Both pre-modifying and post-modifying adjectives in Polish agree in case, number, and gender with the head noun. Therefore, the deep structure agreement configuration must be the same in both cases: all adjectives are base-generated as specifiers above the noun. The fact that some of them end up in postposition means that in such constructions the head noun is raised to a higher functional head. This leaves the adjective behind and results in a classifying interpretation:

$$(21) \quad [_{DP} D^0 [_{ClassP} N^0_i [_{NP} \text{classifying adjective } t_i]]]$$

To unify the data, we assume that in Serbian N-raising over the classifying adjective is covert (in LF). However, the long adjective (LA) form is a reflex of movement of the noun across it because the trace has to be licensed (adjectival inflection licenses empty categories in many inflectional languages; see, e.g., Kester 1996). For details, see Section 3.

The ClassP analysis finds support in the following data, which show that there can be only one adjective following the noun:

- (22)a. *międzynarodowy kryzys wojskowy* (P)  
international crisis military  
'international military crisis'
- b. *\*kryzys międzynarodowy wojskowy* (P)  
crisis international military
- (23)a. *parlamentarna komisja budżetowa* (P)  
parliamentary committee budget<sub>ADJ</sub>  
'parliamentary budget committee'
- b. *\*komisja budżetowa parlamentarna* (P)  
committee budget<sub>ADJ</sub> parliamentary

On the other hand, there is no limit to the number of pre-nominal adjectival modifiers. This suggests that we need to differentiate ClassP from other functional projections that accommodate APs. There is only one ClassP and only from this projection does the N+A complex get its classifying reading. Interestingly, if a class needs to be identified with the use of two distinct adjectives, they must, both in Polish and in Serbian, form a compound:

- (24)a. *gramatyka transformacyjno-generatywna* (P)  
grammar transformational-generative  
'transformational generative grammar'
- b. *\*gramatyka transformacyjna generatywna* (P)  
grammar transformational generative
- (25)a. *transformaciono-generativna gramatika* (S)  
transformational-generative grammar  
'transformational generative grammar'
- b. *\*transformaciona generativna gramatika* (S)  
transformational generative grammar

This means that ClassP is non-iterable, unlike functional phrases that host typical qualifying/attributive adjectives (see Cinque 1994, Scott 1998, Laenzlinger 2000). Therefore, we assume that ClassP is an integral part of the basic DP skeleton, not an adjunct.

### 3. Why Long Adjectival Form in Serbian

When used only with a noun, long forms in Serbian are obligatory in three basic contexts: 1) when the noun phrase is definite, 2) when the adjective has the classifying function discussed above, and 3) in vocative constructions. These three uses are illustrated below.

Definiteness<sup>2</sup>:

- (26)a. *U sobu je ubauljao ranjeni čovek.* (S)  
 in room AUX<sub>3SG</sub> stumbled wounded<sub>LA</sub> man  
 ‘The wounded man stumbled into the room.’
- b. *U sobu je ubauljao ranjen covek.* (S)  
 in room AUX<sub>3SG</sub> stumbled wounded<sub>SA</sub> man  
 ‘Into the room stumbled a wounded man.’
- (27)a. *Nedostaje mi crveni kaput.* (S)  
 miss<sub>3SG</sub> I<sub>DAT</sub> red<sub>LA</sub> coat  
 ‘I’m missing the red coat.’
- b. *Nedostaje mi crven kaput.* (S)  
 lack<sub>3SG</sub> I<sub>DAT</sub> red<sub>SA</sub> coat  
 ‘I’m lacking a red coat.’

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<sup>2</sup> Note that ellipsis occurs with both long and short forms, depending on definiteness:

- (i) *Nedostaje mi crveni kaput, ne zeleni* [e]. (S)  
 miss<sub>3SG</sub> I<sub>DAT</sub> red<sub>LA</sub> coat not green<sub>LA</sub> [e]  
 ‘I’m missing the red coat, not the green one.’
- (ii) *Nedostaje mi crven kaput, ne zelen* [e]. (S)  
 lack<sub>3SG</sub> I<sub>DAT</sub> red<sub>SA</sub> coat not green<sub>SA</sub> [e]  
 ‘I’m lacking a red coat, not a green one.’



Classifying<sup>3</sup>:

- (28)a. *Jela sam beli luk.* (S)  
 ate AUX<sub>1SG</sub> white<sub>LA</sub> onion  
 ‘I ate (some) garlic.’
- b. *?Jela sam beo luk.* (S)  
 ate AUX<sub>1SG</sub> white<sub>SA</sub> onion  
 ‘I ate (some) onion which happened to be white.’
- (29)a. *Upala sam u živi pesak.* (S)  
 fell AUX<sub>1SG</sub> into alive<sub>LA</sub> sand  
 ‘I fell into quick sand.’
- b. *?Upala sam u živ pesak.* (S)  
 fell AUX<sub>1SG</sub> into alive<sub>SA</sub> sand  
 ‘I fell into sand which was alive.’

## Vocatives:

- (30)a. *Mudri čoveče, progovori!* (S)  
 wise<sub>LA</sub> man<sub>VOC</sub> speak  
 ‘Wise man, speak!’
- b. *\*Mudar čoveče, progovori!* (S)  
 wise<sub>SA</sub> man<sub>VOC</sub> speak
- (31)a. *Umorni putniče, odmori se!* (S)  
 tired<sub>LA</sub> traveller<sub>VOC</sub> rest
- b. *\*Umoran putniče, odmori se!* (S)  
 tired<sub>SA</sub> traveller<sub>VOC</sub> rest  
 ‘Weary traveller, rest!’

Since marking definiteness is the most salient use of long adjectival forms, it is traditionally assumed that this is the primary

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<sup>3</sup> We assume that certain compound-like phrases that are non-transparent from the semantic point of view, e.g., *slepi miš* ‘bat’ (lit. ‘blind mouse’) or *beli luk* ‘garlic’ (lit. ‘white onion’), conform to the classifying pattern outlined in this paper. However, it has to be stressed that, although classifying constructions may get an idiomatic reading, it is not their primary characteristic.

function of LA morphology (e.g. Stevanović 1964; see also Leko 1988, Zlatić 1997, Progovac 1998). However, classifying constructions are definitely not definite noun phrases (or at least they do not have to be). Note as well that, although vocative structures may be analysed as definite, languages such as English or Italian do not use definite article in this context (cf. Longobardi 1994):

- (32) *\*I ragazzi, venite qui!* (Italian)  
 the boys come here  
 (33) *\*The boy, come here.*

Therefore we propose a more general hypothesis: that Long Adjective (LA) morphology in Serbian signals that a noun (or possibly some other category) has moved across the adjective to a higher nominal projection. Long inflectional form may be needed to govern/licence the copy/trace of the noun (see, e.g., Kester 1993, 1996, Lobeck 1993, 1995 on the analysis of null nouns; also Rizzi 1986, 1990). This is schematically illustrated as follows:

- (34) [DP D<sup>0</sup> [ClassP N<sup>0</sup><sub>i</sub> [NP adjective<sub>LA</sub> → t<sub>i</sub>]]]

The requirement of governing inflectionally the trace of a moved element might be viewed as a more general phenomenon; compare VP preposing in English (Rizzi 1990, Zagana 1988, Lobeck 1987):

- (35) *She promised she would read the book, and read the book I think she will [t]/would [t]/\*'ll [t]/\*'d [t].*

Kester argues that “while certain morphemes are regular spell-outs of adjectival agreement, others must be regarded as special inflectional endings surfacing for reasons of formal licensing and/or identification” (Kester 1996, p. 57).

Following Longobardi’s (1994) analysis of N-to-D raising of proper names in varieties of Italian, we assume that in definite DPs

in Serbian (an articleless language), in the absence of any other means of identifying D such as demonstratives or possessives, the noun is forced to move to D (covertly)<sup>4</sup>. However, the LA form is not obligatory when for example a demonstrative is present. Assuming the noun is not raised in the presence of a demonstrative, one can argue that the adjective is generated either lower than the demonstrative (36 – no movement across the adjective, no long form), or higher than the demonstrative (37 – the demonstrative moves to D across the adjective, long adjective form)<sup>5</sup>:

- (36) *Taj pametan čovek ipak ne razume sintaksu.* (S)  
 that smart<sub>SA</sub> man still not understand<sub>3SG</sub> syntax  
 ‘That man, who is smart, still does not get syntax.’
- (37) *Taj<sub>i</sub> pametni [t<sub>i</sub>] čovek ipak ne razume sintaksu.* (S)  
 that smart<sub>LA</sub> man still not understand<sub>3SG</sub> syntax  
 ‘That smart one still does not get syntax.’

The movement analysis of LA is possible also in the case of vocative expressions. Longobardi (1994) shows that nouns can precede modifiers in Italian vocatives and considers an N-to-D analysis, but then discards it based on the non-occurrence of articles with vocatives (see examples 32-33). However, it could be assumed that articles are impossible with vocatives independently,

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<sup>4</sup> Overt head-to-head movement of common nouns from N to D (or to a higher functional projection) has been proposed for Semitic (e.g. Ritter 1989, Fassi Fehri 1989, Ouhalla 1991), Scandinavian (Delsing 1988, Taraldsen 1990), Irish, and Welsh (Rouveret 1991). The same N-raising analysis for postposed articles has been proposed for Romanian by Grosu (1988) and Dobrovie-Sorin (1987) and for Bulgarian by Arnaudova (1996), but see Dimitrova-Vulchanova and Giusti (1998) for a different view.

<sup>5</sup> See, e.g., Brugé and Giusti 1996 and Rutkowski 2000 for the generation of demonstratives in a lower functional projection with their subsequent movement.

given that articles are marked for third-person features, which are incompatible with the second-person feature of the vocative:

- (38) *We/you linguists think highly of ourselves/ yourselves/\*themselves.*  
 (39) *The linguists think highly of \*ourselves/ \*yourselves/themselves.*  
 (40) *Teacher, please excuse yourself/\*myself/\*himself.*

Our proposal for vocative structures in Serbian is as follows: D position in vocatives is necessarily projected (whether or not vocatives are analysed as arguments), because the vocative noun is referential and has a second-person feature. Therefore, vocative nouns move to D to check these features (either overtly or covertly), resulting in obligatory LA form.

#### **4. Conclusion**

In this paper we have proposed a unified account of expressions containing classifying adjectives in Polish and Serbian. We have argued that in such structures the noun is raised to a functional projection labelled ClassP. This N-to-Class movement is overt in Polish and covert in Serbian, but in the latter the movement makes the classifying adjective take long morphology. We assume that long adjectival forms are necessary because they govern/licence the copy/trace of the raised noun. We have also extended this analysis of LA inflection in Serbian to other contexts, namely, definite and vocative expressions.

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