

Of good thieves and old friends: An analysis of Croatian adjectival forms

Marta Velnić

0. Introduction

Croatian adjectives have two forms in the masculine gender: the Long (L) form and the Short (S) form. The main distributional difference is that the Short adjective can be in predicative position and the Long one cannot, while both can be in attributive position. This difference between attributive and predicative can be related to a variety of other cross-linguistic distributions concerning adjectives (Alexiadou 2001). It has been stated (Aljović 2002, Trenkić 2004) for (Serbo-)Croatian that the two forms mark a distinction in definiteness or specificity with the long one being [+DEF/+SPEC] and the Short one [-DEF/-SPEC].

A survey on 32 adults was conducted in order to obtain more information about the distribution of the two forms in general; to find out whether it is definiteness or specificity that is being marked by the Long form; and to check whether one of the forms (the Long one) can function as a subject of a sentence in the absence of a noun. The results of the statistical analysis show that the predicative/attributive distinction is not as strict as described in the previous literature (Silić and Pranjković 2007); and that the Long form is related to specificity but does not express it.

I propose an analysis that builds on cross-linguistic parallelisms described in Alexiadou 2001 and I propose that Croatian Long and Short distributional patterns are caused by the same factors as Noun Raising in Romance and Determiner Spreading in Greek, even though we find that this is not as strict as in those languages. However, it is only with expanding our cross-linguistic analysis to more languages that we can fully understand the nature of what these subtle differences of adjectives mark.

In this article, I will investigate the distinction between Long and Short adjectives in Croatian. I will start by providing a background of what adjectival contrasts entail in other languages: attribution vs. predication, intersectivity readings, and definiteness vs. indefiniteness contrasts; I will then continue by describing these contrasts in Croatian, focusing on how the Long and Short adjectival forms map onto these. I outline the research



that has already been conducted on Croatian adjectival forms and describe the debate concerning definiteness and specificity. Following the theoretical part, I will describe data obtained from the study that I conducted on adult speakers in order to check the usage of the two forms of adjectives in various contexts. Guided by the data, I will claim that neither definiteness nor specificity is being marked by the Long/Short contrast. The data shows some statistical tendencies, but the scattered nature of the results suggests that the proposed theories are incorrect, or at least imprecise. Perhaps what we are dealing with is a residue of a system in decay and we are observing the last distinctions that the language is able to make. Also, the subject position task has solid results that only the Long adjective can be a self-standing subject, which indicates its link to referentiality.

1. Adjectival contrasts: a cross-linguistic perspective

I will summarize the cross-linguistic variation of adjectives in three different phenomena: the contrast between attribution and predication (Bolinger 1967); the differences in intersectivity readings expressed by the variation between the adjective-noun (AN) and the noun-adjective (NA) position in Romance and Determiner Spreading in Greek (Alexiadou 2001); and the contrast between definiteness and indefiniteness or specificity and non-specificity (Jacob 2003, Leu 2007, Demonte 2008). I will first outline the entailments of these contrasts and then, in the next section, I will apply these approaches to the Croatian contrast between Long and Short adjectival forms.

1.1 Attribution and predication

The distinction between attribution and predication goes back to Bolinger (1967) and his work still remains a classic when it comes to the nature of adjectives. His work is on English, but the observations he makes are valid for the adjectival category overall.

In examples (1a) and (1b) we can see the difference between attribution and predication.

- (1) a. The tall tree
b. The tree is tall.

Attribution attaches the adjective directly onto the noun (1a), while an adjective functions predicatively when it occurs as a subject complement following a noun in subject position and attached to it by copula (1b).

Bolinger (1967) notices that there are a number of attributive adjectives that cannot appear in the predicative construction. These adjectives include ethnic adjectives, relational adjectives, adjectives such as *former*, *mere* or *alleged* (also known as privative adjectives, Partee 2010), and ambiguous adjectives such as *poor* that can have two possible readings ('pitiful' vs. 'without money'), one of which ('pitiful') is never obtained in predicative position (Alexiadou 2001, 233). Consider Bolinger's examples in (2).

- (2) a. The main reason. / *The reason is main.
b. A total stranger. / * A stranger is total.

We will notice that this holds for a variety of languages, Croatian included. Bolinger (1967) states that there are much fewer adjectives that are predicative but cannot be attributive. One of his examples is provided in (3).

- (3) The man is asleep. / *An asleep man.

The difference between the two structures is not merely in the distribution and quantity of adjectives that allow for one instead of the other. The predicative construction is also said to be more vague than the attributive one. This is because there are two structures among the attributive construction that can provide more precision to the interpretation of the constituent. An example from Bolinger (1967) is presented in (4).

- (4) a. The jewels are stolen.
 b. The stolen jewels
 c. The jewels stolen

According to Bolinger (1967, 3) the predicative sentence in (4a) is ambiguous between a characteristic and an action, while (4b) and (4c) do not carry this ambiguity with the former being a characteristic and the latter an action.

There are also other types of distributions, such as in Russian where the distribution of predicative and attributive adjectives is divided between two adjectival forms. Russian has two forms of adjectives: Long and Short. Both can be in predicative position but only the Long form is used attributively; Short forms are considered to be verbal while Long forms are adjectival. The Long form is also the only form that marks case (Babby 2010, Borik 2014). An example from Borik (2014, 143) is presented in (5).

- (5) a. *Deti byli udivleny / udivlennye / udivlennym.*
 Children-NOM were surprised-S.Pl / surprised-L.Pl.NOM / surprised-L.Pl.INS
 ‘The children were surprised.’
 b. *Udivlennye /*Uduvleny deti pritiqli.*
 Surprised-L.Pl.NOM / * surprised-S.Pl children-NOM became_quiet
 ‘The surprised children got quiet.’

Another difference of predication and attribution is that a predicative construction cannot be obtained from the attributive one if the adjective-noun constituent has a non-intersective reading; we can however when the reading is intersective. An example of this is provided in (6) in the next section where adjectival intersectivity is discussed.

1.2 Intersectivity patterns

When it comes to attributive adjectives we may distinguish between different types of meanings. I am referring to the differences in intersective and non-intersective readings. Note that these are also referred to as intersective and subsective readings (Partee 1995).

Intersective adjectives denote the set of things contained in the adjective-noun compound, the denotation is the intersection of the set of things denoted by the adjective

the latter post-nominal. Demonte (2008, 72) provides some Spanish examples that can be seen in (8). I provide some additional examples from Italian in (9) and (10).

- (8) a. *El buenoabogado*
 The good lawyer [he is good as a lawyer: non-intersective reading]
 b. *El abogado bueno*
 The lawyer good [he is a good person and he is a lawyer: intersective reading]
- (9) a. *un uomo grande*
 a man big
 'a big man' [intersective]
 b. *un grande uomo*
 a big man
 'a great man' [non-intersective]
- (10) a. *un amico vecchio*
 a friend old
 'an elderly friend' [intersective]

However, the readings are not as clear-cut as they might seem, since (8b) is actually ambiguous and can be interpreted both with an intersective and a non-intersective reading (Demonte 2008, 72). As Demonte (2008, 81) notices, adjectives that can be used both in AN and NA position can also occur in predicative position; here they retain only the intersective meaning, is related to NA position which is the unmarked word order.

For Greek, it has been stated that it only allows AN order. It however also allows an alternative structure in which adjectives can have a NA order, but, in that case, the phenomenon of Determiner Spreading (DS) or poly-definiteness takes place: more than one determiner is associated with the NP. This phenomenon relates to the order of the noun and the adjective: in case of AN there will be DS, but this does not happen if the order is NA. The order is rigid if there is no DS (Alexiadou 2001, 232 and Leu 2007, 2). Some examples taken from Leu (2007, 1) are presented in (11).

- (11) a. *to megalo (to) vivlio*
 the big the book
 'The big book'
 b. *to vivlio to megalo*
 the book the big
 'The big book'

The NA order in (11b) yields obligatory DS, while in the AN order (11a), it is possible but only optional. This relates to the predicative status of adjectives because adjectives that cannot be used predicatively should not allow DS. We have seen that there is a group of such adjectives in English, such as *former* or *mere*; example (12)¹ shows that it is indeed not possible to have DS with this type of adjectives.

¹ Examples taken from Alexiadou (2001, 233)

- (12) a. *o prion (*o) ipurgos*
 the former (the) minister
 b. **o ipurgos itan prion*
 the minister was former

So, adjectives that are non-predicative are also not permitted in DS constructions in Greek.

In Romance both NA and AN orders are allowed, and the NA order is related to the predicative position. This entails that this non-predicative group of adjectives does not occur post-nominally (Alexiadou 2001, 234). An example from Italian is provided in (13).

- (13) a. *un presunto assassino*
 an alleged murderer
 b. **un assassino presunto*
 a murderer alleged

The same group of adjectives that cannot occur in predicative position in English is not allowed in post-nominal position in Romance, and in DS in Greek. It would seem that cross-linguistically every language has a group of privative adjectives which is lexically stable and that behaves differently from the rest of the adjectival class by not allowing the predicative construction and the syntactic construction that a language has for the category of adjectives.

Alexiadou 2001 concludes that “the cross-linguistic asymmetry concerning the relative order of nouns with respect to adjectives has its source in the syntactic configurations available in UG for adjectival modification”, and also that “not all types of adjectives are amenable to the same structural analysis. Adjectives depending on their semantic type, can be heads or phrasal. In the former case they are never generated in predicative position. In the latter case they can be generated in such a position” (pp. 245-246).

Russian also allows both AN and NA orders but, as Markovskaya (no date) states, Russian adjectives do not exhibit the reading contrasts seen in Romance and Greek since ambiguous interpretations are possible in both adjectival positions. As already stated, both forms can appear in predicative position but the attributive position is reserved for the Long form (Babby 2010, 75). We can note some differences in reading in the predicative position, these and their paraphrases are presented in (14).²

- (14) a. *Kitajskij jazyk očen' trudnyj.*
 Chinese language-NOM very difficult-L
 b. *Kitajskij jazyk očen' truden.*
 Chinese language-NOM very difficult-S
 ‘The Chinese language is very difficult.’

Paraphrases:

- a. *Kitajskij jazyk odnositsja k klassu trudnyx jazykov.*
 Chinese language belongs in class difficult-GEN languages-GEN
 ‘Chinese belongs to the class of difficult languages.’

² Examples taken from Babby 2010, the paraphrases are from Isačenko 1963 in Babby 2010.

- b. *Trudnost' -svojstvo kitajskogo jazyka.*
 Difficulty property chinese-GEN language-GEN
 'Difficulty is a property of the Chinese language.'

If we try to put this into perspective for intersectivity patterns, we can identify the two readings: (14a) is non-intersective because it is difficult for a language, while (14b) is intersective because it is difficult and a language, its meaning lies in the intersection of languages and difficult things.

Polish makes a positional distinction with regard to reading: adjectives are usually prenominal with the exception of classifying adjectives being post-nominal. Some examples taken from Pesetsky and Tatevosov (2011) are presented in (15).

- (15) a. *dyrektor generalny*
 director general
 b. **generalny dyrektor*
 general director
 'General director'

Therefore we can conclude that a variety of languages has a tool for expressing intersective and non-intersective readings. We will see in section 2.3 that Croatian uses solely the Long form for expressing these types of adjectives.

1.3. Definiteness and indefiniteness

The concept of definiteness implies that the referent has already been given in the context and that it is known both the speaker and to the listener. In some languages, such as German, adjectives inflect differently based on the definiteness value of the DP. Therefore, we will see what is called a weak adjectival inflection in a definite DP and a strong inflection in its indefinite counterpart.³

- (16) a. *der schöne Tisch*
 the pretty-WEAK table
 b. *ein schöner Tisch*
 a pretty-STRONG table

In (16b) the adjective has the same *-er* ending as the definite article in (16a). Milner and Milner (1972) (referenced in Leu 2007) propose that this is the same morphological object that the adjective can take only in the absence of a definite article; this explains the manifestation of the strong inflection in the indefinite DP in (16b).

However, unlike Croatian, German has overt definiteness marking and the adjectival system with the weak and strong inflection does not signal definiteness, it merely agrees with it by having a weak form in the definite environment, and a strong form in an indefinite environment. What has been suggested for Croatian, as we will see in the next

³ Examples taken from Leu (2007, 3)

sections, is that the two forms mark definiteness, since the language has no other method for marking it overtly.

In the previous section we have seen some of the implications of the variants of AN and NA orders. It has been argued by Jacob 2003 that a feature like specificity is also related to the position of the adjective with respect to the noun, meaning that AN/NA alternations will signal changes in specificity. This has been noted for Romance languages in which the pre-nominal adjective marks specificity, while the post nominal position is vague in this regard (Jacob 2003, 71). He presents the following examples for Spanish:

- (17) a. *Las cinco muchachas habían conocido a un famoso actor.*
 the five girls have-AUX met to a famous actor
 ‘The five girls have met a famous actor’ [+specific]
- b. *Las cinco muchachas habían conocido a un actor famoso.*
 the five girls have-AUX met to a actor famous
 ‘The five girls have met a famous actor’ [±specific]

Jacob (2003) also states that even if a specificity reading is obtained by positioning the adjective in a certain way, there is a rather weak correlation, and adjectival position is not triggered directly by the specificity of the referent, but by factors that are indirectly related to specificity, such as relevance and information structure (Jacob 2003, 72).

Summarizing what we have seen so far, in German the adjectival form correlates with the definiteness value of the DP by taking the weak form when the DP is definite and a strong form when it is indefinite; these adjectives, however, do not mark definiteness, since there is always an overt article in German—the form is merely related to definiteness through agreement. In Spanish, and other Romance languages, the situation is different since the AN/NA position alternation signals differences in specificity, restrictiveness, or intersectivity. However, it is only the AN position that is clear in its marking of one of the three characteristics above, while the NA position remains vague.

2. Adjectives in Croatian

In this section, I will describe the Croatian adjectival system by focusing on the predicative vs. attributive distinction, the variation in readings, and the definiteness/specificity debate. I will then describe the research that I have conducted, and how that adds to the knowledge of what has been done so far.

2.1. Croatian adjectives: a description

Although Croatian has relatively free word order, the ordering of adjectives is fixed with respect to nouns insofar as in section 1.2, and the dominant word order is AN, the post-nominal position is available but some restrictions apply, this order is generally considered marked and is often used in literary works such as poetry (Siewerska and Uhlirova 1998).

Croatian adjectives agree with the noun in gender, number and case, and gender is attested both in the singular and the plural in both attributive and predicative positions. We can see some examples below:

- | | | | | | | |
|---------|-------------------------|---------------|----|---------------------------|-----------|----------------|
| (18) a. | <i>Lijep/i</i> | <i>konj</i> | d. | <i>Konj</i> | <i>je</i> | <i>lijep.</i> |
| | beautiful-S/L-M | horse-M | | horse-M | is | beautiful-M |
| | ‘A/the beautiful horse’ | | | ‘The horse is beautiful.’ | | |
| b. | <i>Lijepa</i> | <i>jabuka</i> | e. | <i>Jabuka</i> | <i>je</i> | <i>lijepa.</i> |
| | beautiful-F | apple-F | | apple-F | is | beautiful-F |
| | ‘A/the beautiful apple’ | | | ‘The apple is beautiful.’ | | |
| c. | <i>Lijepo</i> | <i>more</i> | f. | <i>More</i> | <i>je</i> | <i>lijepo.</i> |
| | beautiful-N | sea-N | | sea-N | is | beautiful-N |
| | ‘A/the beautiful sea’ | | | ‘The sea is beautiful.’ | | |

If demonstratives are present within the phrase, the ordering is also fixed: demonstrative > possessive > adjective > noun, as we can see in (19).

- | | | | | |
|---------|--------------------------------|-------------|---------------|----------------|
| (19) a. | <i>Taj</i> | <i>moj</i> | <i>lijepi</i> | <i>konj</i> |
| | that-M | my-M | beautiful-M | horse-M |
| | ‘That beautiful horse of mine’ | | | |
| b. | <i>Ta</i> | <i>moja</i> | <i>lijepa</i> | <i>jabuka.</i> |
| | that-F | my-F | beautiful-F | apple-F |
| | ‘That beautiful apple of mine’ | | | |
| c. | <i>To</i> | <i>moje</i> | <i>lijepo</i> | <i>more.</i> |
| | That-N | my-N | beautiful-N | sea-N |
| | ‘That beautiful sea of mine’ | | | |

According to Bošković (2012) the order is less rigid and adjectives and possessives are freely ordered, but demonstratives come first:

- | | | | | | | | |
|---------|---------------|--------------|-------------|---|---------------|---------------|-------------|
| (20) a. | <i>Ivanov</i> | <i>skupi</i> | <i>auto</i> | / | <i>Skupi</i> | <i>Ivanov</i> | <i>auto</i> |
| | John-POSS | expensive-L | car | / | expensive-L | John-POSS | car |
| b. | <i>Ovaj</i> | <i>skupi</i> | <i>auto</i> | / | <i>*skupi</i> | <i>ovaj</i> | <i>auto</i> |
| | this | expensive-L | car | / | expensive-L | this | car |

2.1.1 The long and short adjectival form

As we saw in example (18a), the adjective meaning ‘beautiful’ could have been used in two different forms: *lijep* and *lijepi*. These forms are sometimes referred to as pronominal for the Long form and nominal for the Short one (Aljović 2004, 44), and resemble the adjectival distinction made in Old Church Slavonic. Old Church Slavonic (OCS) made a much neater distinction between the two, by having completely distinct case paradigms for the two sub-categories (Hansen 2004). Hansen (2004) shows that the form that became marginalized or

fell into disuse in the present-day Slavic languages is the short one, as we might see later on from some examples in Croatian. This distinction is still present in Croatian, but on a much smaller scale than it was for OCS: it is limited to some cases in the Masculine gender (see table 1).

In this study, I am only focusing on the contrast between the two forms within the masculine gender, which can be observed in the nominative and genitive singular cases, and in the accusative singular for inanimate nouns. According to Aljović (2002), the contrast is also present in the other two genders, but these distinctions are much less prominent (see next section).

2.1.2 The paradigms of the two forms

The long form has an additional *-i* morpheme in final position in the Nominative Singular. This distinction in form is the same for the accusative case for inanimate nouns. Hansen (2004) presents both declensional paradigms and we can see that those are distinct in most cases of the paradigm:

Case	Long Form	Short Form
NOM	veliki	velik
GEN	velik og(a)	velik a
DAT	velik om(u)	velik u
ACC	velik og (AN.), velik i (INAN.)	velik (INAN.)
VOC	veliki	Not attested
LOC	velik om(e)	velik u
INS	velik im	velik im

Table 1: The declensional paradigms of the two adjectival forms of the Croatian adjective *velik* 'big'; after Hansen (2004, 66).

The Vocative case only has the long form. This might be related to the semantics of the case, as we will see in the next section.

The two paradigms match the paradigms of different nominal elements. The long adjectives have the same declension as the determiners, while the short adjectives match the nominal declension. The comparison between the paradigm of determiners and long adjectives is presented in Table 2, and the comparison between the short adjective and the noun is presented in Table 3.

Leko (1999, 229) proposes that all determiners (demonstratives, possessives and some numerals) are actually adjectives in Bosnian because they manifest agreement and have an adjectival declension. We have, however, seen in tables 2 and 3 that there is no proper adjectival declension, but that adjectives have two different declensions depending on their form. Apart from declension, we will see a variety of tendencies in the behaviour of these two different adjectival types. So perhaps it would be more appropriate to state that Long adjectives are determiner-like, rather than determiners being adjective-like; and that Short adjectives are simply adjectives, since the declension and distribution of Long forms conform to the declension and distribution of determiners.

Case	Demonstrative	Long Form
NOM	ovaj	veliki
GEN	ovog	velik og(a)
DAT	ovom	velik om(u)
ACC	ovog (AN.), ovaj (INAN.)	velik og (AN.), veliki (INAN.)
VOC	/	veliki
LOC	ovom(e)	velik om(e)
INS	ovim	velik im

Table 2: The declension of determiners *ovaj* 'this' and of the Long adjectival form *veliki* 'big'

Case	Short Form	Noun
NOM	velik	stol
GEN	velik a	stol a
DAT	velik u	stol u
ACC	velik og (AN.), velik (INAN.)	deč ka (AN.), stol (INAN.)
VOC	/	stol u
LOC	velik u	stol u
INS	velik im	stol om

Table 3: The declension of the Short adjectival form *velik* 'big' and nouns *stol* 'table' and *dečko* 'boy'

Aljović (2002) provides a detailed description of the adjectival form distinctions in the feminine and neuter gender as well, but those are much more subtle than the ones presented here for the masculine. The contrast for feminine and neuter depends on the vowel quantity, on the tone, and on the stress of the adjective. The Silić and Pranjković (2007) grammar also states that there is a distinction in tone. Since my research is only on the adjectives of masculine gender, I will not provide a description of the tone differences in the feminine and neuter gender. These differences are very subtle, and Croatian dialectal variation would make it very difficult to study until we have not clarified what exactly is being marked. That is why in this article I only focus on the differences between the two forms in the masculine gender. Once I determine which distinctions the two forms are making in the masculine where there is a morphological distinction, it will be easier to test whether this distinction is also present in the phonological differences of the feminine and neuter genders.

2.2 Predicativity and attributivity

In this section I will focus on the environments in which the two forms can appear. One of the main differences in the distribution is that only the short form can be used in predicative position (Silić and Pranjković 2007, 240). Examples are provided in (21).

- (21) a. *Auto je brz.*
 car is fast-S

- b. **Auto je brzi.*
 car is fast-L
 ‘The car is fast.’

However, exceptions to this rule must exist because native speakers accepted both variants of this sort in the Survey (section 3.3.1). Marković (2002, 142) provides a possible explanation for that, a sentence like (22a) below can exist only if there is also a sentence like (22b) in which the adjective can be attributed to form (22c).

- (22) a. *Oblak je bijeli.*
 Cloud is white-L
 ‘the cloud is white.’
 b. *Oblak plovi nebom.* c. *Bijeli oblak plovi nebom*
 Cloud cruise-3rd.SG sky-INS white-L cloud cruise-3rd.SG sky-INS
 ‘the cloud cruises the sky.’ ‘The white cloud cruises the sky.’

So, the Long form is available in predicative position only if in the previous context that same adjectives was used attributively in the Long form.

Both Long and Short form can be used in attributive position, but if another determiner is present (e.g. like a demonstrative or a possessive) only the long form can be used (Barić, Lončarić, Malić, Pavešić, Peti, Zečević, and Znika 2005, 179). We can see this in (23).

- (23) a. *Tvoj visoki brat* c. **Tvoj visok brat*
 your-2nd.SG tall-L brother your-2nd SG tall-S brother
 ‘your tall brother’
 b. *Ovaj lijepi auto* d. **Ovaj lijep auto*
 this beautiful-L car this beautiful-S car
 ‘this beautiful car’

We have seen something similar to the German example in (16) where there are two adjectival forms, the weak one and the strong one, and the weak one agrees with the definite article. Croatian does not have articles, but the demonstratives and possessives are inherently definite so we can consider them definiteness markers in this case. So what we are seeing in (23) is perhaps a simple case of agreement with the Croatian Long form being an equivalent of the German Weak form. It has however been noted in Pesetsky and Tatevosov (2011) that the Long form is not obligatory when a demonstrative is present. They give the following example:⁴

- (24) *taj pamentan / pametni čovjek ipak ne razumije sintaksu.*
 That smart-S / smart-L man still not understand syntax
 ‘That man, who is smart, still does not get syntax.’

⁴ The example is taken from a lecture handout.

So obviously there are divergent opinions about the exact distribution of the adjectival forms.

Two other somewhat similar distributional restrictions are mentioned in Barić et al. (2005). The first one is that only the Long form is used if the adjective is part of a personal name like *Petar Veliki* 'Peter the Great' or *Dugi Otok* 'Long Island' (referring to an island in Croatia); the second restriction is that only Long forms can become part of lexical expressions like *zeleni čaj* 'green tea' (referring to the kind of tea, not a tea with green colour), *crni prišt* 'carbuncle', or *vodeni konj* 'hippopotamus'.

These are the main differences in distribution of the two forms; as we progress with the analysis more precise distinctions will emerge.

2.2.1 Non-predicative adjectives in Croatian

As we have seen in section 1, a variety of other languages has a group of adjectives that cannot be predicative. Croatian also has such a group: there are some adjectives that only have one form, in that case this is the Long one. Recall from Bolinger in section 1.1 that there is a group of adjectives in English that can be only in attributive position and a smaller group that is only predicative. Croatian does not have the latter but only the former group: since this group has only the Long form of adjectives, and only the Short form is permitted in predicative position, it is obvious that the only-Long group corresponds to the only-attributive group in English. Croatian does not have a group of adjectives that only have the Short form.

The adjectives that belong to this group of only Long form are privative adjectives like *navodni* 'alleged,' *bivši* 'former/ex,' *budući* 'future'; ordinal adjectives such as *prvi* 'first', *drugi* 'second', *treći* 'third', up until *posljednji* 'last in terms of time', and *zadnji* 'last in terms of position'; classificatory adjectives such as *centralni* 'central,' *generalni* 'general' or *polarni* 'polar', *desni* 'right', *tjedni* 'weekly'; and also adjectives denoting origin like *hrvatski* 'Croatian', *engleski* 'English', *taljanski* 'Italian'.

Since these adjectives are lacking the Short form, they also cannot be used in predicative position:

- (25) a. *On je američki general.*
 he is American general
 'He is an American general.'
 b. **General je američki.*
 general is American
 'The general is American.'
- (26) a. *Navodni / *navodan ubojica nije ostavio tragove.*
 alleged-L / alleged-S murderer did not left traces-ACC
 'The alleged murderer didn't leave any traces.'
 b. **Ubojca je navodni / *navodan.*
 Murderer is alleged-L/ alleged-S
 'The murderer is alleged.'

Recall Bolinger's example (2) from section 1.1. In (27) I provide the Croatian translation of it:

- (27) a. *Glavni razlog.*
 Main-L reason
 'The main reason'
 b. **Razlog je glavni / *glavan*
 reason is main-L / main-S
 *'The reason is main'

As seen from the examples above, the Long form cannot be used in predicative position, even when it is the only form of a certain adjective. This entails that it is the Short form that is missing, and not the Long form taking over the functions of both forms.

Since this group of adjectives cannot be in predicative position in any of the languages mentioned, and it cannot be in DS in Greek or in AN position in Romance, we can add another cross-linguistic parallel: the group of adjectives that is only attributive does not have a Short form in Croatian. What other languages express with adjectival position or DS, Croatian expresses with adjectival form.

2.2.1.1 Corpus results for non-predicative adjectives

Corpus data might reveal whether the system is actually as strict as described in the previous section. That is why a brief search was conducted on the adjectives in examples (25)-(27). Corpus data points towards a less rigid view on the Long form and predicativity.

By using the hrWaC corpus for Croatian written language we come across the Short form for 'alleged': *navodan*, which if Croatian matches the cross-linguistic pattern of privative adjectives, should not be attested. The corpus contains very few occurrences of this lemma: merely 33 compared to 5612 of the Long counterpart, but nevertheless it is attested. Examples follow:⁵

- (28) *Neću komentirati ni navodan osjećaj nelagode...*
 Neg.1st.SG comment neither alleged-S feeling uncomfot-GEN
 'I will not comment on the alleged feeling of uncomfortable...'

This also entails the possibility of the adjective appearing in predicative position. There are instances of the Short adjective appearing in the copula construction, most of them (3 out of 4) as part of an attributive construction. By way of example, consider (29).⁶

- (29) *Razlog je navodan pokušaj visokog predstavnika...*
 reason is-AUX alleged-S attempt high-DAT representative-DAT
 'The reason is the alleged attempt of a high representative...'

⁵ From tportal.hr

⁶ From forum.hr

There is only one instance of the Short form in proper predicative position:⁷

- (30) *No, taj dug je navodan, jer ...*
 but that debt is-AUX alleged-S because
 'But, that debt is alleged, because...'

The Long form can also be found in these constructions such as example (31):⁸

- (31) *... koja je navodni sadržaj Nacionalovog trendovskog uratka.*
 Which is-AUX alleged-L content Nacional-GEN trendy-GEN work-GEN
 'Which is an alleged content of the trendy works of *Nacional*'⁹.

Overall, it seems that 'alleged' has started to develop the Short form, which is much less numerous than the Long form but is still present, contrary to our predictions. However, the usage is still attributive rather than predicative.

We have checked in the hrWaC corpus whether this change has also been taking place among the ethnic adjectives. There are more than 8000 hits of the concordance *je američki* but they are mostly used in an attributive context such as (32).¹⁰

- (32) *Zagovornik te ideje bio je američki predsjednik W.Wilson*
 Proponent that-ACC idea-ACC was is-AUX american-L president W.Wilson
 'The proponent of that idea was the American president W.Wilson.'

Only one example is purely predicative:¹¹

- (33) *Avangarda je europska, a underground je američki.*
 avant-guard is-AUX European but underground is-AUX American-L
 'The avant-guard is European, but the underground is American.'

Taking a more attested ethnic adjective into consideration could reveal a more accurate pattern. The adjective *hrvatski* 'Croatian' has more than 21000 concordances of *je hrvatski* 'is Croatian' in the hrWaC corpus. The vast majority is still of the 'copula adjective noun' format but there is a higher chance of detecting predicativity. A possible example is presented in (35).¹²

- (34) *Službeni jezik je hrvatski.*
 Official-L language is Croatian-L.
 'Croatian is the official language.'

⁷ From radio-mrežnica.hr

⁸ From slobodnadalmacija.hr

⁹ *Nacional* is a weekly political newspaper

¹⁰ From ffri.hr

¹¹ From zarez.hr

¹² From rusi-zagreb.hr

However in (34) the adjective is used to refer to the language, and it is lexicalized in Croatian to refer to languages by just using the masculine long adjective like in (34), and a lot of predicative examples refer to the language. Therefore we will not be counting language examples as an anomaly.

Some more predicative uses of the ethnic adjective are attested, such as (35), (36), and (37).

- (35) *Problem je hrvatski, što nakon odlaska Sanadera, ...*¹³
 Problem is Croatian-L what after departure-GEN Sanader-GEN
 ‘The problem is Croatian, that after Sanader's¹⁴ departure...’
- (36) *... a motor je poljski, no duh koji (...) je hrvatski.*¹⁵
 And engine is Polish-L but spirit that is Croatian-L
 ‘The engine is Polish, but the spirit that (...) is Croatian’
- (37) *Sabor je hrvatski.*¹⁶
 parliament is Croatian-L
 ‘The parliament is Croatian’

It seems that even if ethnic adjectives are defined as exclusively attributive, there are instances of them being used predicatively. This is an indication that the system is currently undergoing a change and this will make it hard to grasp precisely what was/is the system marking.

When it comes to examples (27) with *glavni* ‘main’, it is possible that the adjective is undergoing a nominalization process and becoming a noun meaning ‘the boss’. Some examples from hrWaC follow.

- (38) *On je in, on je glavni, on nam snagu daje.*¹⁷
 he is hip he is main-L he we-DAT strength gives
 ‘He is hip, he is the boss, he gives us strength.’
- (39) *Gazda je glavni.*¹⁸
 Boss is main-L
 ‘The boss is the boss.’
- (40) *Znat će se tko je glavni.*¹⁹
 Know-INF will-AUX REFL who is main-L
 ‘It will be known who is the boss.’

¹³ From effekt.hr

¹⁴ Sanader is a former Croatian politician.

¹⁵ From nacjonal.hr

¹⁶ From jedinohrvatska.hr

¹⁷ From 5portal.hr

¹⁸ From tportal.hr

¹⁹ From tjednik.hr

Within the *je glavni* 'is main' concordance, an attributive use is still the most frequent one but there are growing examples of the adjective being used in a noun-like manner such as in examples (38)-(40).

Contrary to our expectations, there are isolated instances of the possible Short form *glavan*. The corpus counts 165 occurrences, but there is a lot of noise because of the Croatian surname *Glavan*, and some are obvious spelling mistakes of *glavna* 'main-F'. Some examples of the Short adjective are, however, attested.

- (41) *Njoj je glavan odgoj.*²⁰
 Her-DAT is main-S upbringing
 'Upbringing is most important to her.'
- (42) *Izbornik je glavan, ali još glavniji su igrači.*²¹
 Selector is main-S but still mainer are players
 'The selector is the main, but the players are more important.'

The use of main-S is marginal, but still attested in predicative position. So this adjective is not only undergoing a nominalization process but also other types of change.

From all these corpus examples we can see that the line between Long and Short form is not a clear-cut one and what exactly is or was being marked and is becoming harder to grasp.

2.3 Intersectivity patterns

In this section I will describe the intersectivity patterns of the Croatian adjectival system and attempt to draw parallels to other languages examined in the previous sections. I will draw inspiration from Alexiadou's approach described in section 1.2.

Some Croatian adjectives experience a change in reading depending on their form. We can note the differences in meaning that Alexiadou was suggesting in her analysis in the following examples. The suggestion was that non-intersective adjectives tend not to be predicative; following this assumption and keeping in mind the fact that Long forms cannot be predicative, we should expect the Long form to have the non-intersective reading. Do Croatian adjectives comply with this reasoning? Yes, for the most part, although exceptions to the rule are attested. It seems that there are two groups of adjectives. I will first provide some examples of adjectives that are intersective in their Short form and non-intersective in their Long form:

- (43) a. *star prijatelj*
 old-S friend
 'an elderly friend' [Intersective reading]

²⁰From forum.hr

²¹From vecernji.hr

- b. *stari prijatelj*
old-L friend
'a friend that has been one for a long time' [Non-intersective reading]
- (44) a. *visok dužnosnik*
tall-S official
'a tall official' [Intersective reading]
- b. *visoki dužnosnik*
tall-L official
'a high-ranking official' [Non-intersective reading]

In the three examples above we can see the Short form in (a) yields an intersectivity reading, while the Long form in (b) yields a non-intersective reading. What was stated in Alexiadou 2001 is that the adjective with the non-intersective reading cannot be in predicative position, and indeed that does not happen.

- (45) *Dužnosnik je visok / *visoki.*
Official is tall-S / tall-L
'The official is tall/*high-ranking.'

We will look into corpus data to see how these examples are attested in the language. *Star prijatelj* is attested only once, with the meaning not referring to being old but to age in general:²²

- (46) *4-godišnja J.B i njezin isto star prijatelj J.K vozili su*
4-year_old J.B. and her also old-S friend J.K. drive-3rdPL are-AUX
se na biciklima.
REFL on bikes
'4 year old Julie Breitman and her equally old friend were riding their bikes.'

The example does not refer to an elderly friend but is obviously making a statement about the age of the friend. On the other hand, *stari prijatelj* has 636 hits and all of them seem to comply with the non-intersective reading. An example is presented in (47).

- (47) *...djevojka iz njegovih snova ili stari prijatelj plišani medvjedić Ted.*
girl from his dreams or old-L friend doll bear Ted
'the girl of his dreams or his old friend teddy bear Ted.'

It is obvious from the film *Ted* that Ted is not elderly, they are simply childhood friends (the friendship is old), and this is the reading we are supposed to be getting from the use of the Long form.

²²From *dnevnik.hr*

Moving on to the high/tall official the Long form is the attested one because the language uses this collocation to talk about high ranking officials rather than their physical height.

However, as mentioned above, there are a few exceptions to this cross-linguistic principle: for a limited group of adjectives, intersectivity readings are the opposite when it comes to a reading-to-form mapping. These adjectives are presented below.

- (48) a. *Dobar lopov*
good-S thief
'a thief who is good at stealing' [Non-intersective reading]
- b. *Dobri lopov*
good-L thief
'a person who is good and a thief' [Intersective reading]
- (49) a. *Lijep plesač*
beautiful-S dancer
'a dancer that dances beautifully' [Non-intersective reading]
- b. *Lijepi plesač*
beautiful-L dancer
'a person who is beautiful and who is a dancer.' [Intersective reading]

This group is very small and it might well be limited to only these two adjectives. I have conducted a corpus search and *dobar lopov* has 11 hits in the corpus and they all comply to the non-intersective reading; on the other hand *dobri lopov* is not attested. Unfortunately both examples with *lijep* and *lijepi plesač* are not attested, so my account of these readings is purely intuitive and theoretical. Since examples are hard to find, it is difficult to make any further observations about this category without attested examples.

To summarize, the examples explored in this section show that one group of adjectives (43-45) has an intersective reading with the short form, the second one with the long form (48-49). So, *star prijatelj* 'old-S friend', *visok dužnosnik* 'tall-S official', along with *dobri lopov* 'good-L thief' and *lijepi plesač* 'beautiful-L dancer' all have an intersective reading, meaning he is x (ADJ) and he is y (noun). We can see that this intersective group contains both Short and Long adjectives. In order to get a non-intersective reading of those NPs we only need to change the adjectival form, and we get: *stari prijatelj* 'old-L friend', *visoki dužnosnik* 'high-L official', along with *dobar lopov* 'good-S thief' and *lijep plesač* 'beautiful-S dancer'. These APs mean that he is x (ADJ) for a y (noun).

It seems that the adjectives are divided in two classes, from now on referred to as the *good-type* class and the *old-type* class. However, because of scarcity of examples the extent and validity of the good-type class is questionable. What is actually different between these two adjectival classes? The difference is related to the change in meaning: the old-type adjectives not only change reading (between intersective and non-intersective), but also meaning, and this becomes more clear once we translate them into English and note that two different adjectives are used: *visok/i dužnosnik* can mean 'he is tall and he is an official' or 'he is high ranking as an official', depending on the form, and *star/i prijatelj* 'old friend'

can refer either to the age of the friend or to the duration of the friendship, and its respective adjectival opposites would be *mlad/i* ‘young’ if referring to the age of the friend, and *nov/i* ‘new’ if referring to the duration of the friendship. On the other hand, the good-type adjectives do not show this variation in meaning, thus *good* and *beautiful* will always mean the same, but what the adjective takes as a referent (the thief or the person) will vary according to the form.

Table 4 contains a summary of the readings based on the two forms.

Class	Long	Short
Old-type	Intersective	Non-intersective
good-type	Non-intersective	Intersective

Table 4: The two adjectival classes with respect to their readings

Even though there are some parallelisms with Croatian and the cross-linguistic pattern of intersectivity readings, we can see that Croatian does not fully conform to the pattern described in Alxiadou 2001. The reason for this is that it has a small separate category of adjectives with an inverted reading pattern and also that the attested examples are not as plentiful as one would expect in a fully differentiating system. Long adjectives are preferred over Short ones, and are also sometimes used in their place. This might be another indication that the system is undergoing a change by gradually losing the Short form. The differences in reading that we see in the old-type class could be a residue of a fully differentiating system that is now in decay.

2.4 Definiteness vs. specificity

We have seen that in other languages adjectival distinction is used to mark or agree with definiteness. For Croatian Long and Short forms this is only distinction that has been thoroughly discussed about the two adjectival forms. However, the debate is whether the Long form marks definiteness or specificity and, conversely, the Short form marks indefiniteness or non-specificity. In this section I will provide an overview of the definiteness vs. specificity debate for Croatian, as well as in Serbian and in Bosnian. In the next section I will provide survey data and argue that the Long-Short distinction does not mark either definiteness or specificity.

The two notions are similar, as they both denote referents that are familiar to the interlocutor(s), but definiteness involves both the speaker’s and the listener’s knowledge, while specificity involves only the speaker’s knowledge (Marušić and Žaucer 2006). The concept of definiteness contrast for adjectives is related to the so-called Novelty condition and Familiarity conditions: all indefinite NPs have to be novel, while all definite NPs have to be familiar. On the other hand, specific NPs also have familiar referents, what differs is the discourse linking: definite NPs involve of an identity relation while specific NPs imply an inclusion relation (Enc 1991, 9). The difference between definite and specific NPs on the one hand and their indefinite and non-specific counterparts on the other is that the latter do not have to be linked to the previous discourse (From Enc 1991 in Aljović 2002, 30). Enc also

says that specificity is related to scope and that in some contexts this can lead to ambiguity like in (50).²³

(50) *Every woman talked to a child in fifth grade.*

This sentence can either mean that every woman talked to a specific child or that every woman talked to a different unspecified child.

We have seen in section 2.2 that in Croatian the presence of a determiner in the phrase requires the Long form, even though opinions are divergent, as seen in section 2.1.3. This is an indication that this form is related to definiteness, since it is the one that has to co-occur with other definite forms. Since Croatian does not have articles, definiteness is not overtly marked in any way. This is why it has been discussed that the marking of definiteness might be confined within the distinction of the two adjectival forms. However, there is some disagreement on whether it is definiteness or specificity that is being marked.

On the one hand, according to Leko (1999) definiteness is expressed through these different adjectival forms which he calls definite and indefinite forms (p. 230). He also states that not all adjectives are able to make the definite/indefinite distinction but that only descriptive adjectives make this distinction (p.233). Progovac (1998) agrees that a contrast in definiteness is marked through the distinction of the two forms. Marković (2002) also claims that definiteness in Croatian is expressed through the adjectival paradigm, even though it is a nominal characteristic and therefore nouns with no adjectives are overtly underspecified for definiteness. He also claims that this is a very limited part of grammar that marks such an important linguistic category and it is also in decline (p.125). In his view, there are also other means with which Croatian expresses the category of definiteness such as case distinctions between Genitive and Accusative (which in my opinion is mostly a mass/count distinction), number, verbal aspect, word order, and lexical means; but those are not the topic of this paper.

On the other hand, Trenkić (2004) and Aljović (2002) assert that specificity, rather than definiteness, is the distinction made by the two forms. Please note that the long form has the [+] value so it is either definite or specific while the Short form has the [-] value and it will be indefinite or non-specific. In the Croatian Grammar edited by Silić and Pranjković (2007, 134), these two forms differ in their definiteness values, with the Long one being [+DEF] and the Short one [-DEF]. The Long form should be the answer to the question *which one?*, while the Short one answers to *how?/which kind?*. We can see the difference below in (51).

- (51) a. A: *Koji krevet ti se najviše sviđa?*
 which bed you-DAT REFL best like
 ‘Which bed do you like best?’
 B: *Veliki drveni.*
 big-L wooden-L
 ‘The big wooden one.’

²³ Example taken from Enc (1991)

- b. A: *Kakav krevet vam je potreban?*
 How bed you is-AUX needed
 ‘What kind of bed do you need?’
 B: *Velik i drven.*
 big-S and wooden-S
 ‘A big wooden one.’

From the examples in (51) we can see that there is some parallelism with definiteness in English. This is confirmed in Progovac (1998), who declares that this link of Croatian adjectives to definiteness often corresponds to how definite articles are used in English.

In the examples in (51) we can see that there is another structural differences apart from adjectival length: the use of a conjunction with the short forms in (51b). This is because (51a) is referring to a specific bed, which is both wooden and black, while (51b) is merely describing the properties of any bed and needs a conjunction.

This entails that there are many layers of distinctive meaning where the distinction might lie, for example referentiality and descriptiveness. If we consider the Long form to be referential, we cannot use coordination because it would entail two different referents, each bearing one adjectival quality; on the other hand, if the Short adjective is descriptive, coordination presents a list of descriptions attributed to the object. We will be returning to the matter of referentiality and descriptiveness throughout this section.

Progovac (1998) also notices that Vocatives, as seen in table 1, only take the Long adjectival form. This is compatible with the definiteness approach, because the Vocative is a case of “calling out”, and, if the meaning of the long forms is related to definiteness/specificity and overall referentiality, this could be explained by the fact that we cannot call out to non-specific referents.

- (52) a. *Hej, Mali dečko! Ispao ti je sitniš.*
 hey little-L boy dropped you-DAT is-AUX change
 ‘Hey, little boy! You dropped some change.’
 b. **Hej, Mal dečko! Ispao ti je sitniš.*
 Hey little-S boy dropped you-DAT is-AUX change

As specified above, the specific/non-specific contrast within the two adjectival forms was proposed by Aljović (2002) and Trenkić (2004). Trenkić (2004) explains that the major source of confusion is that the term *određen vid* used to define the long adjectival form translates into ‘definite’, ‘identifiable’, and ‘specific’ (Trenkić 2004, 1406). The claim that the category being marked is in fact specificity comes from certain contexts where the speaker, by using the long form, signals that the referent is known only to himself or herself. The context set up by Trenkić (2004) involves the person going into a room s/he has never seen before and describing it via a walkie-talkie to someone unfamiliar with the room. In a clearly indefinite context to the listener, the person produces only Long adjectival forms.

However, as much as specificity is a good candidate for the meaning of the long adjectives, explicit tests have not yet been conducted in order to establish whether it is

definiteness, specificity, or perhaps neither that are marked by the adjectival form contrast. From the examples above we can only see that the Long form refers to something more identifiable, to an entity that is known to both or to just one of the two parties, or just to something which can be identified in the context. In order to define with more precision whether it is definiteness or specificity, their usage has to be investigated in more contexts through a survey.

Trenkić (2004, 1405), who refers to Hlebec (1986) states that this whole system of Long-Short distinction is falling into complete disuse and “for most speakers the difference is obliterated, hence the two forms are ‘free variants for one and the same speaker’”. The purpose of the survey is to check whether these are in fact free variants or whether the choice of the forms is governed by the definite/indefinite or specific/non-specific distinction. The results, as will be shown in the next section, are very scattered and do not provide a clear picture of what is being marked. The results indicate tendencies rather than rules, so Trenkić's statement about the system falling into disuse is very likely to be correct. An important observation made by Marković (2002, 131) is that the Long form is more dominantly used than the Short one, and therefore we find the Long one even in contexts where we should ideally expect to find the Short one. This is an indication that the system, whatever it once used to entail, is shifting towards the overuse of the Long form.

2.4.1 Adjectives in subject position

An additional difference between the two forms that has not been previously described is that only the Long adjective can function as a subject or an object of a sentence in the absence of a noun. This brings us once more to the relatedness of the Long form with referentiality. A property like specificity is of course related to referentiality but there is no complete overlap between the two.

- (53) a. *Prljavi pije kavu.*
 dirty-L drinking coffee-F.ACC
 ‘The dirty one is drinking coffee.’
- b. **Prljav pije kavu.*
 Dirty-S drinking coffee-F.ACC
- c. *Prilazim prljavom.*
 approaching-1st.SG dirty-L.ACC
 ‘I am approaching the dirty one.’
- d. *?Prilazim prjavu.*
 approaching-1st.SG dirty-S.ACC

Since Croatian is a subject drop language, (53b) might still be acceptable but with a different, non-referential, meaning: ‘He (omitted) is drinking coffee while being dirty.’ However, this function of the Long form has not been described in any of the previous studies and that is why I have decided to test whether this is really the case. This is included as task 3 in my test for adults and as we will see, the Long form is unanimously the one chosen for the subject position. This is described in section 3.4.2.

From (53) it seems that the Long form carries a referentiality feature that is not available in the Short form. The Long form refers to the subject as being dirty, while the Short form, if even grammatically accepted, merely describes it. My intuition is that the object position works the same, however that has not been tested in any way.

Other parts of speech that can function as a subject in isolation are demonstratives:

- (54) *Ovaj je popio kavu.*
 This-NOM is-AUX drank coffee
 ‘This one drank some coffee.’

We have already seen the relatedness of the Long form with Croatian determiners in section 2.3 since they have the same declension paradigm. So what the main distinction might be here is, as hinted in section 2.4, that the Long adjectives are actually determiner-like and it is because of agreement that we can only have these forms when a demonstrative or a possessive are present in the constituent.

3. *The experimental tasks*

In my experimental tasks I aimed to discover the pattern of usage of the two contrastive adjectival forms more precisely, while paying special attention to the definite and specific combinations of contexts.

The experimental tasks were three-fold: first there was an Acceptability Judgment task; in the second task various sentences of four different contexts were given in order to test whether there is a pattern regarding the definiteness/specificity distribution, I will be referring to this as the Context task. Following that was a test where the participants had to choose a Short or a Long adjective as a subject of a sentence, which I refer to as the Subject position task. All the tasks together should give an overview of the speakers’ preferences of usage of each form, and more about what is being marked will emerge from the pattern of usage.

3.1 *Participants*

There were a total of 32 participants. Some of the participants (n=25) were recruited at the Business and Economics Faculty of Rijeka; they were all 3rd year students following the course in International Business. One participant was recruited through personal communication. The remaining 6 were recruited at the local driver’s license tests. The age range is 18-29 years.

3.2 *Procedure*

The tasks were printed out and given to the participants to solve. For the two groups of Economics students, the researcher went to one of their classes, where the test was explained and submitted. Other participants took the test individually with the researcher, the same explanation was provided. The participants took 10-20 minutes to complete the

test. The results were then inserted on an Excel spreadsheet from which the results were analysed.

3.3 *The tasks*

The first task was an acceptability judgment task, followed by the two multiple choice tasks. An acceptability task was chosen since previous research is based only on introspection, and more tangible data is needed in order to arrive at more solid conclusions. Introspection is a good beginning for research, it helps us linguists to identify a potential issue worth studying, but as Dabrowska (2010) has claimed, linguists and non-linguists react differently to linguistic stimuli. I refer to this task as an acceptability judgment task rather than a grammaticality judgement task because the latter entails to test whether or not a sentence conforms to the rules of grammar, while the former is about the degree to which a sentence is judged permissible in a language (Dabrowska 2010, 4). As we will see, the sentences presented in the task are rarely judged with a very low value to be considered ungrammatical, what we see is tendencies of acceptability.

The target and filler sentences were presented in a random order, randomized by a computer script made with TextMate. The test had four versions of randomization; therefore four different orderings of the sentences were available.

3.3.1 *Acceptability Judgment task*

The participants were presented with a number of sentences (n=52) that had to be judged according to their acceptability on a 5-point scale, with 1 being completely unacceptable and 5 being perfectly acceptable. The participants were encouraged to keep the sentences that they would not produce themselves in the lower part of the scale. The target sentences (n=26) had both a version with the Long form and a version with the Short form, in order to test which form is more acceptable in the same environment. This way, even if the sentences do not get judged as unacceptable, we will at least be able to see the speakers' preference towards a certain adjectival form. An example of the task setup can be seen in (55).

(55) Prljavi pije kavu.²⁴

1	2	3	4	5

A potential flaw in this design might be that we have not provided the participants with a wider context but merely with sentences in isolation. Since acceptability is a matter of degree, rather than a categorical difference, and identical structural violations are given different grammatical ratings depending on the lexical context they are given into (Browning in Schütze 1996, 47). And in fact this is what we find: tendencies of usage rather than strict categorical differences.

²⁴For gloss and translation see example (53a)

3.3.1.1 Acceptability judgement task: variables and predictions

The task included 26 sentences, where each doublet of sentences aimed to control one variable. These variables are presented below, along with our predictions based on a theoretical background. Some of the variables were excluded due to irrelevance to the current study.

1. Predicative/argumentative position of an ethnic adjective that only has the Long form; in our case *engleski* 'English'. According to the literature, this adjective should not be accepted in predicative position, even though corpus data shows that this is undergoing change. I however expect there to be a preference towards the attributive position, but acceptability ratings of the predicative position should tell us how rigid the system is to this regard.

2. Referentiality: the adjective functions as the subject in the absence of a noun. A more extended investigation of this phenomenon is comprised in task 3. I propose that only the Long form is referential, and therefore can function as a subject, while the Short form cannot fulfil this role. Therefore, there should be a strong preference towards the Long form.

3. Dependence of the adjectival form based on the presence of a demonstrative. In this case the Short form should not be allowed, but we have seen in section 2.2 that it is attested. The same sentence was given in SOV and VOS word order, in order to see whether word order plays a role. I expect to find a preference for the Long form in both word orders, but the acceptability rate of the Short form should tell us how rigid this rule is.

4. Like point 3, dependence of the adjectival form based on the presence of a demonstrative, but with a possessive pronoun *tvoj* ("your"). Only one word order is provided (VO, the S is omitted) for this variable. I still expect the Long form to be preferred.

5. The preference for an adjectival form in predicative position. A descriptive adjective that has both forms was used (*bijel/i* 'white'). Only the short form is expected to occupy this place, even though we have seen cases of the Long form occupying the predicative position, but this is only said to be allowed when we have an antecedent sentence that has the Long form (Marković 2002). Nevertheless, I expect the Short form to be judged more positively in this variable.

6. Descriptiveness: this example can be considered a counterpart of point 2: if the Long adjective is referential it cannot occur in a purely descriptive position, therefore I expect the Short form to be preferred with a descriptive function.

7. Referentiality and predicative position: the example poses this contrast between the two forms, the Long form is supposed to be referential, while the short form should fill the predicative position. This could create a conflict and both forms could be judged either as grammatical or ungrammatical, depending on what the single speaker pays attention to. This is why it is complicated to have a clear prediction for this variable.

3.3.1.2 Acceptability judgement task: results

A chi-square analysis was conducted for each pair of sentences in order to see if there is significance in how the participants judged their acceptability. In Table 5 the statistical results for each prediction are presented.

Prediction #	Variable	Raw value ²⁵	Average judgment	X-squared	df	P-value of the chi-square test
1.	Predicative	118	3,68	20.69	4	0.0004
	Attributive	156	4,87			
2.	Short	93	2,93	0.75	4	0.94
	Long	102	3,18			
3.	Short (SOV)	103	3,21	28.72	4	8.8 e ⁻⁰⁶
	Long (SOV)	148	4,62			
	Short (VOS)	103	3,21	11.04		
	Long (VOS)	136	4,25			
4.	Short	101	3,15	43.11	4	9.8 e ⁻⁰⁹
	Long	159	4,96			
5.	Short	125	3,90	3.36	4	0.5
	Long	129	4,03			
6.	Short	142	4,43	31.66	4	2.2 e ⁻⁰⁶
	Long	83	2,59			
7.	Short	116	3,62	0.9	4	0.9
	Long	124	3,87			

Table 5: Judgments and p-values for pairs of target sentences

The raw values were obtained by a simple sum of all the judgment of all 32 participants. Note that the minimum value is 32 (32x1) and the maximum is 160 (32x5). The average was obtained by dividing that sum by 32. The chi-square was calculated by comparing the distributions of each judgement point per variable. In other words I compared the number of '1' judgements that a variable obtained with the number of '1' judgements that its form counterpart obtained, and likewise for every judgement value, and every variable pair. Now we move on to interpreting the obtained data.

Prediction number 1 is statistically significant which means that there is a preference towards the Long adjective *engleski* 'English' being in attributive position (see appendix). This means that the Long ethnic adjective still does not take a predicative position as readily, but we have seen from corpus data that these instances have been attested (examples (33)-(38)). We can also see from the raw judgement of the Short form that the participants did not judge it as unacceptable. However it is significantly less acceptable than its Long counterpart, which was judged almost with the maximum of points (156/160).

There is no statistical significance for Prediction 2, because both values are rather low. This pair of sentences was supposed to test which adjectival form is more appropriate to function as a subject and by the judgments of the participants in this task the answer should be neither. However, the value of the responses is probably low because sentences like these require a wider context in order to be intelligible. These types of sentences are the focus in Task 3 that will be described in the following section. With a wider context, the

²⁵ Of 32 participants on a 5-point scale

speakers had no problems understanding these types of sentences and have showed a strong preference towards the long form.

Prediction 3 tested the influence of a determiner on the adjectival form in two diverse word orders: SOV and VOS. The word order is SOV because the object is a clitic, and in Croatian the clitics obligatorily take the second position. Both word orders have a statistical significance with a preference towards the Long form, as predicted. However, note that the raw values for the Short forms are not particularly low, so they are not strictly speaking unacceptable in this context, but nevertheless less appropriate than the Long form. The effect of word order was also tested and there was no significant difference, entailing that the word order has no effect in the adjectival form choice when there is a demonstrative in the sentence.

Prediction 4 stated that only the Long form should occur with the possessive pronoun. This was confirmed with a very high statistical significance, as indicated by the p-value.

Prediction 5 did not meet the expectations since the two variables have an approximately equal value of judgements. The two sentences have an adjective in predicative position, so preference in favour of the Short form was expected. However, we have stated the condition in which the Long form can be used predicatively in section 2.2, and also the sentence, shown in (56), contains a determiner at the beginning of the sentence.

- (56) *Taj kaput je bijel/i*
 that coat is white-S/L
 'That coat is white.'

Perhaps the presence of the demonstrative can justify, but not require, the use of the Long adjectival form in predicative position. It may also be the case that, since no additional context was provided, the entailment of the adjective could have been either referential or descriptive, and each participant gave a higher judgement to which interpretation he/she found more plausible.

Prediction 6 is related to Prediction 2 and to the referentiality value of the Long form. I asserted before that if one of the forms is referential (Long), the other should be descriptive (Short). The form of adjective that the participants preferred in the descriptive function was the Short form, as predicted. The p-value is quite high and we can see from the difference in the raw values (142 vs.83), that the participants disliked the use of the Long form. This points towards the Short adjective being used descriptively. However, we cannot infer this with any degree of certainty from only one example.

Pair number 7 did not show any significance in the result of the chi-square analysis. But perhaps it was the structure of the sentence that could be either descriptive or referential and, once again, a full context was not provided so the issue could be the same as for prediction 5. Both variables have a good raw value for the judgement which means they could both be appropriate for this context, but the participants might have been insecure in their judgments because the context was not clear. We can see the sentence in (57).

- (57) *Marko voli plavi kaput ali ne i crn/i.*
 Mark loves blue-L coat but not also black-S/L
 'Mark likes the blue coat but not a/the black one.'

We can see that a number of these predictions was satisfied with the distinction in judgments being significant. Nevertheless, if we look at the raw judgment numbers we can see that there are very few examples that are judged as ungrammatical (average 2.5 or lower). This means that there is no categorical difference of what is grammatical/acceptable and what is not. What we are observing are the speakers' tendencies and preferences and there does not seem to be a strong grammatical prohibition of a form appearing in any of those cases. What is most striking is that the grammars describe a prohibition of the Long form being in predicative position, but as we have seen in example (57) (prediction 5), the Long form is not judged as unacceptable when appearing in predicative position. Is it the presence of a determiner allowing for the Long form to be in predicative position or another factor such as a possibility of that sentence appearing in two different contexts: descriptive and referential?

The survey data provides a clearer picture of the system and we have been able to identify the main tendencies of its usage: it would seem that the participants had the tendency to judge the Long form as the more acceptable one in all test sentences. This was also noticed in Marković (2002), and the corpus searches we have conducted always had more hits of Long forms than of their Short counterparts. All these factors indicate that the system is undergoing a change and this is the reason why we are not getting very clear judgements in the task, even though the tendencies have been confirmed by statistical significance. Since we have seen most judgments in favour of the Long form, a plausible explanation is that the system is in decay and that the Short form is slowly disappearing from the attributive position and will be confined to the predicative one, where we have also seen cases of Long forms beginning to be attested.

We now move on to the context task which aims to determine whether definiteness or specificity is being marked by the Long form. However, as we have seen the tendency of usage in the acceptability task, the system is not categorical but shows mostly tendencies and preferences.

3.3.2. *The context task*

This task is the core task of my survey, since it aimed to check the validity of the definiteness/specificity debate going on for Croatian adjectival usage. In order to do so we have used four different contexts of definiteness and specificity: [+DEF +SPEC], [+DEF -SPEC], [-DEF +SPEC], and [-DEF -SPEC]. The experimental design was inspired by Ionin (2004 and 2009) and her work on the L2 acquisition of English articles by native speakers of Russian and Korean. In these tasks, a context was given and the participants had to introduce a definite or indefinite article. Ionin's example served as useful guidelines for making this task; my task, however, involved additional complications, because the examples had to contain an adjective, be in the masculine gender, and be in the Nominative or Accusative (the latter for inanimate nouns only).

For each target context five examples were provided, which gave a total of 20 target sentences, 5 for each condition of definiteness and specificity. There was the same number of filler/control sentences containing nouns of different genders and grammatical/ungrammatical alternatives, which were also useful in order to test if the participants were reading through the task since only one of the two options was grammatical.

The participants were instructed to read the entire sentence before choosing the appropriate adjective. This was important in order to make sure that they understood the context before choosing the adjective. An example of a target sentence [-DEF +SPEC] can be seen below in (58).

(58) *U trgovini. Prodavač: Dobar dan gospođo, mogu li vam pomoći? Gospođa: Da, bila sam jučer ovdje i mislim da sam nešto izgubila. Tražim _____ šal. Jeste li ga slučajno vidjeli?*

1 - *zelen*

2 - *zeleni*

Translation: 'At the store. Seller: Good afternoon, how can I help you? Woman: Yes, I was here yesterday and I believe I have lost something. I am looking for _____ scarf. Have you seen it?'

1- green-S

2- green-L

By submitting these contexts to native speakers, we might find a pattern of adjective usage and therefore infer something more about the feature it carries.

3.3.2.1 The Context Task: results

The main prediction for this task is that, if the Long form marks either definiteness or specificity, we should see a clear distribution of the two forms in the [+DEF] or [+SPEC] contexts. Therefore, we expect to have only Long forms in the [+DEF+SPEC] context and only Short forms in the [-DEF -SPEC] context, and depending on whether it is definiteness or specificity being marked, we expect to have only instances on the Long form in either the [+DEF-SPEC] or the [-DEF+SPEC] context. Unfortunately, this prediction was not met, and both the long form and the short forms are scattered across the four contexts.

A statistical analysis was conducted on combinations of contexts in order to see if there was an effect of any variables. In Table 6 I first present the distribution of the forms in the four contexts. The participants could choose between the Long, Short, or both forms.

Context	Long	Short	Both	Total
[+DEF +SPEC]	147	38	7	192 ²⁶
[+DEF -SPEC]	89	60	11	160
[-DEF +SPEC]	116	37	7	160
[-DEF -SPEC]	75	71	14	160
Total	427	206	39	

Table 6: The distribution of adjectival forms across contexts

The table shows that there is a bigger concentration of Long form when we have [+SPEC], but the statistical analysis will show how significant this is. However, it seems clear that we are not getting a clear-cut distribution we were aiming for because both Long and Short forms are attested across all four contexts.

Table 7 depicts the raw values and the average judgment for each context, while the results of the chi-square test is presented in Table 8. For the definiteness condition the two contexts with a [+DEF] value were collapsed together, and so were the ones with a [-DEF] value. The same was done with the two [+SPEC] and two [-SPEC] contexts. Note that in this task a Long adjective was counted as a 1 and a Short one as a 0. If both were allowed by the participant the inserted value was 0,5. Note also that in the [+DEF +SPEC] context there were 6 examples instead of 5 like in the rest of the groups. This interferes with the raw value but not with the Average judgment. The raw value was obtained by simply adding up the adjectival for values (0, 0,5, or 1), and the average judgement was obtained by dividing the value of the raw judgment per the number of participants multiplied with the number of examples in the context (6 for [+DEF +SPEC] and 5 for the rest).

Context	Raw value	Average judgment
[+DEF +SPEC]	150,5	0,78
[+DEF -SPEC]	94,5	0,59
[-DEF +SPEC]	119,5	0,74
[-DEF -SPEC]	81,5	0,50

Table 7: Raw value and average judgment for all 4 semantic groups

Factor	Contexts	df	P-value of the chi-square test	Cramer's V
All	[+DEF +SPEC], [+DEF -SPEC], [-DEF +SPEC], [-DEF -SPEC].	3	2.7 e ⁻⁰⁹	0.2
Definiteness	[+DEF +SPEC], [+DEF -SPEC] vs. [-DEF +SPEC], [-DEF -SPEC].	1	0.04	0.08
Specificity	[+DEF +SPEC], [-DEF +SPEC] vs. [+DEF -SPEC], [-DEF -SPEC]	1	7.8 e ⁻¹⁰	0.2

Table 8: The significance of all contexts, the definite context, and the specific context

²⁶ The [+DEF +SPEC] context had one example with two adjectives, hence the larger number

As can be seen from Table 8, we have statistically significant results for all three categories (“all”, “definiteness” and “specificity”) with p -value < 0.05 . However, the Cramer’s V-values show that the effect size for definiteness is negligible since it is below 0.1. In other words, definiteness does not seem to be an important factor.

In order to check whether the effect is only due to specificity and there is no interference from definiteness, a chi-square test on both +SPEC ([+DEF +SPEC] vs. [-DEF +SPEC]) contexts alone was conducted. If there is significance, this will entail that there is an influence of definiteness, if not, specificity is the only factor responsible for the significance of specificity as seen in table 8. These statistical data are presented in table 9.

Testing specificity	Long forms	Short forms	X-squared	df	P-value of the chi-square test
[+DEF +SPEC]	154	45	0.45	1	0,5
[-DEF +SPEC]	124	44			

Table 9: Checking for definiteness influence

There is no significance, so specificity is the only factor responsible for the obtained values.

However, not all our predictions have been met since we were expecting a clear-cut, categorical, distribution of the Long and Short form within the conditions. We have obtained significance for specificity, which entails that a factor related to specificity is in play, but not specificity itself. If it had been specificity the effect should have been clear in the distribution of the two forms across specificity contexts. The reason why this effect was not captured could be because specificity is not the only factor at play that the system is undergoing change and therefore has less clear-cut distinctions than it used to have.

3.3.3 The subject position task

This task aimed to check whether the Long form is the only one that can take over the subject position in the absence of a noun. The test consisted of ten targets. Since it seems quite unnatural to use only the adjective as a subject without a wider context, a small context was provided with a preceding sentence and the participants had to choose the adjectival form for the following one. An example is provided below.

(59) U dvorištu su dva psa. _____ pije vodu.

1 – prljav

2 – prljavi

Translation: There are two dogs in the yard. _____ is drinking water.

1- dirty-S

2- dirty-L

3.3.3.1 The Subject position task: results

The results of this task were quite straightforward and unanimous. Even by taking a first glance at the response structure, we can see that there is a strong preference of the participants to place the Long adjective in subject position. Nevertheless, a chi-square test

was conducted to determine how significant the responses are. In order to transform the adjectival forms into a numeric value the Long form was counted as a 1 and the Short as a 0. If the participant choose both forms the value inserted was 0.5. In the table below the totals and the averages are presented for each example, along with a chi-square value for the whole group.

Example	Raw value	Average judgment
1	26	0,81
2	31,5	0,98
3	29,5	0,92
4	30	0,93
5	29,5	0,92
6	21,5	0,67
7	29	0,90
8	31	0,96
9	31	0,96
10	26,5	0,82

Table 10: Judgments of the subject position task

In order to check whether there is any statistical significance we will compare the distribution of Long and Short forms that we have obtained with a random 50-50 distribution.

Distributions	Long	Short	X-squared	df	p-value	Cramer's V
Obtained	284	41	104.24	1	2.2e ⁻¹⁶	0.4
Random	160	160				

Table 11: Significance levels of the subject position task

The results are highly significant and prove that only the Long form can function as a subject in the absence of the noun or other determiners. This is an interesting finding because it proves that there is a clear difference between the use of the Long and Short form. The Cramer's V shows that this is a medium size effect.

We should expect to find the same results for object position, but that has not been tested yet. This is the only task where we see a more categorical distinction rather than only tendencies. The results of this task suggest that the Long form, like demonstratives and possessives, is referential and therefore can be a self-standing subject of a sentence. As we have mentioned, referential and specificity are related, so the effect we observed in the Context task might have been caused by the referentiality bleeding through into the specificity contexts.

3.4. Conclusions to experiments

We can draw a few conclusions from the experimental task. The acceptability judgement task shows that in almost all paired sentences there was a significant difference in the

participant's judgment. The differences were not categorical and we were only able to see general tendencies of the participants. However, the acceptability judgement task is not able to indicate what exactly the preference consists of, but the results indicate what the grey areas are. It was also observed that overall the participants preferred the Long form. An interesting fact that came out of this task is that the presence of a demonstrative in a sentence might influence the adjectival form in predicative position, by licensing it also to be Long, which was up until now described as marginal. Of course, one example cannot provide any strong evidence for this, but it suggests that the combination of demonstratives and predicative position might be something worth looking into or that there is no strong motivation for banning the Long form from predicative position.

The context task suggests that specificity is a more reliable factor than definiteness in predicting the use of the Long form but it is not the only factor responsible for the adjectival form choice. One of the issues with the Context Task was that it was very hard to make the necessary context sentences because of the limitations of the Croatian language: the sentences had to contain an adjective that was supposed to be masculine, and those were supposed to be in the Nominative case or the Accusative for inanimate nouns. These limitations might have caused some of the target sentences to be different or inappropriate. The results are too scattered to claim that the Long form marks specificity. What we might be observing is a system in decay that used to mark specificity and now there is just a residue which is giving us the specificity effect, or the system is influenced by specificity but it is not marking it.

The Subject-Position task had the most clear-cut results, and we can conclude that only Long adjectives can function as subjects. Even though this does not relate to the definite/specific dichotomy, it shows that Long adjectives are referential in Croatian. This could be the key for interpreting the results in the context task since what we observed there could be referentiality giving us the specificity effect. This is also very relevant because this kind of adjectival behaviour has not been previously explained for Croatian, so it adds to the literature. Further experimentations could involve more variables in order to see what licenses Long adjectives to be subjects, and also test if other determiners can take the same role. This should also be checked for the function of the object.

4. Conclusions

We have seen so far that most of the debate on the function of the distinctions between the two Croatian adjectival forms focused on definiteness vs. specificity debate. If we want to reveal the differences between the two forms, we must also take into consideration the distinction of predicative and attributive function and the difference in intersectivity readings. Bolinger (1967) states that there is less ambiguity in the attributive position, and that seems to be the case also in Croatian, since both forms are attested in attributive position and contribute to some extent to different interpretations such as intersectivity readings.

I have proposed an additional analysis which correlates the Croatian Long and Short adjectival distinction to a wider cross-linguistic pattern: whatever is going on with the Croatian adjectives is not specificity, but it is however comparable to the adjectival puzzle

in a number of other languages. The main parallelism at hand is the cross-linguistic relation of the predicative position with a number of restrictions in various languages. In all of these languages there is a group of adjectives that cannot be predicative, and it mostly comprises of the same adjectives. Croatian, with some exceptions, patterns with all of those languages that show structural differences within their adjective system: mere predicative vagueness in English, Noun Raising in Romance, and DS in Greek. Whatever it is those adjectives express in these ways, Croatian expresses through adjectival form. And it is only through a cross-linguistic comparison that we will be able to reveal the complexity of the distribution of the two forms. The Croatian system is linked to that. However, corpus data and survey results indicate that the Croatian system is not clear, and we can therefore conclude that is going through a change, most probably a decay, and that the conformity to the parallelisms that we have made with the other languages is a residue of what the Croatian adjectives used to mark.

Counter to conventional wisdom, in the experimental results we found that “only Short form in predicative position” is not really a strict rule. A case in point is example (56) which contains a determiner. What might be happening is that a determiner can license a Long form in predicative position, and up until now the exceptional context for the Long form was not described. This gives us strong motivation to investigate the Long/Short distributions more thoroughly.

The results also point towards an effect of specificity, but not a clear-cut one, and therefore it might be time to conclude the definiteness vs. specificity debate and state that specificity is more relevant than definiteness. However, specificity cannot be the factor responsible for the distribution of the adjectival forms, and it is therefore time to start looking in other areas. So, neither definiteness nor specificity are marked by the Long form. Recall section 2.4 where we mentioned referentiality vs. descriptiveness—this was also demonstrated by some of the examples in the accessibility judgment task. Because the Long form is determiner-like and referential, this also relates to specificity, since the referent is always at least specific if not definite. That the Long form is referential was also demonstrated by the Subject position choice task, where the choice for the Long form in subject position with the absent noun was close to unanimous.

With this in mind, it seems possible that the intricate relationship of factors that influences the distribution of the two forms boils down to referentiality vs. descriptiveness, with residues of specificity markings and interestivity readings. Unfortunately, there did not seem to be any categorical differences within the acceptability judgment and the context task. So it is very probable that the system is falling into disuse and what we are seeing are the residues of a system that used to make clear-cut distinctions in these areas. The Long form is preferred in all conditions and it is starting to gain ground in contexts that were previously reserved to the Short form, and that is causing an abundance of Long forms and making the distinction between the two forms less clear.

We have also observed that the Long and Short form have two distinct declension paradigms and that the Long one has the same one as Croatian determiners. Since the Long form can appear in the same conditions as the determiner (self-standing subject), we can conclude that the Long form has determiner-like properties. Recall the German system in section 1.3 where the weak form agrees with the definite article and the strong form with

the indefinite one. This cannot be happening in Croatian since it does not have an article system and definiteness is not obligatorily marked, but what we could be observing is that the Long form is simply agreeing with a null determiner. More research has to be conducted in order to make a strong conclusion.

Several conclusions can be drawn: the Croatian adjectival system does not mark specificity even though it is to some extent sensitive to it; it is also related to a more wide set of phenomena occurring cross-linguistically among adjectival systems. But in order to know what exactly is being marked and whether this is a system in decay or in transition from a semantic system to a more germanic-like agreement system is yet to be explored.

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author: Marta Velnić

affiliation: UiT The Arctic University of Norway

email: marta.velnic@uit.no