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INFINITIVE IS DIFFICULT TO LOSE: What Governs Variation of Complements in Unique Control in Serbian[1]

1. Introduction

Strictly synchronically speaking, standard Serbian syntax allows for the variation of complements as in (1)-(3) below.

(1) a. Mogao je uraditi i više.
can.**pparticiple**.M.SG[2] be.**present**.3RDSG do.**infinitive** also more

b. Mogao je da uradi i
can.**pparticiple**.M.SG be.**present**.3RDSG that do.**present**.3RDSG also

više.
more
'*He could have done even more.*'

(2) a. Sramota je govoriti tako.
shame be.**present**.3RDSG speak.**infinitive** that way

b. Sramota je da se govori tako.
shame be.**present**.3RDSG that REFLEXIVE speak.**present**.3RDSG that way
'*It is shameful to speak that way.*'

[1] Serbian is taken as the official language of Serbia and Montenegro (country code SCG), as stated in LK: *U SCG u službenoj upotrebi je srpski jezik ekavskog i ijekavskog izgovora.* 'Serbian, of ekavian and ijekavian dialects (literally, pronunciations), is in official use in SCG.' All of my own examples in the paper contain forms of the ekavian Serbian dialect of Belgrade. Serbian, as understood here, is spoken in Serbia and Montenegro, a country located on the Balkan Peninsula and is one of the South Slavic languages, together with Slovenian, Croatian, Bosnian (or Bosniak/Bosniac, see Neweklowsky 2003), Macedonian, and Bulgarian.

[2] Abbreviations used in this paper are: **pparticiple** – past participle, **present** – present tense, **future** – future tense, **infinitive** – infinitive verb form, M – masculine gender, F – feminine gender, N – neuter gender, SG – singular, PL – plural, 1ST – first person, 3RD – third person, N – nominative case, A – accusative case, I – instrumental case, REFLEXIVE – reflexive particle.

(3) a. Teško mi je priznati zločin.
difficult I.D be.**present**.3RDSG admit.**infinitive** crime.A

b. Teško mi je da priznam zločin.
difficult I.D be.**present**.3RDSG that admit.**present**.1STSG crime.A
'*It is difficult for me to admit to a crime.*'

Verbs (as in 1), nouns (as in 2), and adjectives[3] (as in 3), in this particular syntactic context, have either a non-finite complement (in all examples in a.), that is a complement headed by a verb not inflected for tense, grammatical person and number, or a finite complement (in all examples in b.), that is a complement headed by a verb inflected for tense, grammatical person and number. The non-finite complement is exclusively headed by an infinitive, a non-finite verb form in Serbian, whereas the finite complement is headed by a present tense form, a finite verb form in Serbian, invariably introduced by a complementizer *da* 'that' and, at the same time, in full grammatical agreement in person and number with the matrix.

In each pair of sentences in examples (1)-(3), the meaning arguably remains unchanged despite the apparent change in the structure of the complement in general and the head of the complement in particular.[4] It is this particular feature of Serbian syntax, occurring under the circumstances outlined above, which is here referred to as complement variation in Serbian, or CVS.[5]

[3] Examples similar to this one are sometimes said to contain an adverb as a matrix predicate rather than an adjective. In Serbian, the majority of adverbs indeed resembles in form adjectives when they are in their neuter gender form: *teško* 'difficultly' vs. *teško* 'difficult.N,' but *težak* 'difficult.M,' and *lako* 'easily' vs. *lako* 'easy.N,' but *lak* 'easy.M.' If *teško* in (3a,b) is indeed an adverb, it is not fully clear in what way it fulfills its essential adverbial duty of specifying the meaning of the verb. The fact that the form of *teško* 'difficult.N' coincides with the form of *teško* 'difficultly' is simply a result of the configuration of a Serbian sentence.

[4] There is one other change in the structure of the complement in examples given in (2). In (2b), reflexive particle *se* 'REFLEXIVE' appears in the finite complement, while it does not exist in the non-finite complement. This is required by the generic nature of the matrix, which, in turn, requires the same generic nature of the complement, achieved in a finite complement by the insertion of *se* 'REFLEXIVE.' This structural difference, however, causes no relevant change in meaning.

[5] The change of the head of the complement does not seem to cause other structural changes in the complement. In Serbian, predicate adjectives with verb *biti* 'to be' appear in the nominative case:

CVS is a very well known and long-documented phenomenon. I, however, view it here as an instance of control.[6] Consequently, I provide a novel explanation for the variation of complements in Serbian, an otherwise well-established fact in Serbian grammar, from the position of the latest views of control, more specifically *unique control*, of which CVS is a particularly curious kind.

Unique control is modeled here after Culicover and Jackendoff (2005:Chapter 12). The term *unique control* implies that, in a given syntactic context, there is only one,

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i. a. On je dobar.
he be.**present**.3RD.SG good.N.M.PL
'*He is good.*'

b. Oni su pristojni.
they be.**present**.3RD.PL polite.N.M.PL
'*They are polite.*'

If the two are embedded as complements of CVS matrix predicates, the predicate adjective remains in the nominative case despite the change of the complement head:

ii. a. Pokušao je da bude dobar.
try.**pparticiple** be.**present**.3RD.SG that be.**present**.3RD.SG good.N.M.PL

b. ?Pokušao je biti dobar.
try.**pparticiple** be.**present**.3RD.SG be.**infinitive** good.N.M.PL
'*He tried to be good.*'

iii. a. Naučiću ih da budu pristojni.
teach.**future**.1ST.SG they.A that be.**present**.3RD.PL polite.N.M.PL

b. ?/*Naučiću ih biti pristojni.
teach.**future**.1ST.SG they.A be.**infinitive** polite.N.M.PL
'*I will teach them to be polite.*'

With *činiti* 'to make,' a predicate adjective is in the instrumental case,

iv. Ona me čini srećnim.
she I.A make.**present**.3RD.SG happy.I
'*She makes me happy.*'

and it remains the same if iv. is embedded as a complement of a CVS matrix predicate:

v. a. Nastavila je da me čini srećnim.
continue.**pparticiple**.F.SG be.**present**.3RD.SG that I.A make.**present**.3RD.SG happy.I

b. Nastavila je činiti me srećnim.
continue.**pparticiple**.F.SG be.**present**.3RD.SG make.**infinitive** I.A happy.I
'*She continued to make me happy.*'

[6] For some of the latest considerations of the history of linguistic accounts of control see Culicover and Jackendoff (2005) and Landau (2000).

unique controller of the subject of the complement. I demonstrate this using my own example from (3) above and closely following Culicover and Jackendoff's notation of control:

(4) a. Teško mi$_i$ je $_{i/*j}$priznati zločin.
difficult I.D be.**present**.3RDSG admit.**infinitive** crime.A

b. Teško mi$_i$ je da $_{i/*j}$priznam zločin.
difficult I.D be.**present**.3RDSG that admit.**present**.1STSG crime.A
'*It is difficult for me to admit to a crime.*'

The subscripts indicate that the otherwise non-existent subject of the complement is uniquely controlled by a matrix argument (subscript *i* on both matrix argument and the complement head) and no other controller is possible (subscript *j* on the complement head implies that there is a controller other than the matrix argument; this, however, produces ungrammatical sentences).

While CVS, as a kind of unique control, itself has at least three different types based on whether the head of the matrix predicate is a verb, a noun, or an adjective, in this paper I closely analyze CVS with adjectives as matrix heads exclusively, that is to say, examples syntactically similar to the ones in (3) and (4) above. This particular type of CVS, often considered to be marginal to the overall phenomenon of complement variation, actually provides crucial syntactic evidence for what exactly governs the variation in CVS.

In this paper, in section 2, I briefly summarize previous scholarship on CVS in general and CVS with adjectives as matrix heads in particular. In section 3, I offer results from my original research, which I use as the basis for all of my conclusions. I develop a theory of CVS with adjectives as matrix heads in section 4, which is based on Culicover and Jackendoff's theory of control. In section 5, I discuss probable consequences of the theory of CVS outlined in this paper.

2. Previous Treatment of CVS

Milošević (1978:110) points out that the "[f]unctional and semantic relationship between the imperfective and perfective present and the infinitive, when they function as complements of modal verbs (in the complex predicate), has been considered in various publications, but that, at the same time, it has been judged differently."[7] She continues by saying that "the viewpoints have ultimately merged and it has been concluded that only broader investigations, which are being postponed regarding the analysis of verbal forms in Serbo-Croatian studies, should provide an ultimate account." As it turns out, there had been no major analysis of the phenomenon since Milošević has published her remarks, though there have been some analyses dedicated to, primarily and exclusively, either the infinitive or the use of the present with *da* 'that.' Just why this might have been the case is maybe best summarized by Tanasić (1996:19): "At one time there was a lively ongoing debate regarding the parallel use of the present with the conjunction *da* and the infinitive, when they function as the complement of a verb. The discussion ended without a consensus with respect to the question. However, this question is on the periphery of the overall problem of the use of the present – the present form here has no independent use, it is rather used for naming the action only." Clearly, there is no one thorough account of CVS simply because the phenomenon, as it is defined in the present study and, at the same time, as it has been described in for more than a century long linguistic tradition, has almost never become the focal point of linguistic investigations.

Ivić (1972:121) observes that the then existing linguistic tradition simply pointed "to two problems: (a) the uneven frequency of the infinitive over a broad territory of standard Serbo-Croatian, and (b) alleged semantic regulators of the distribution of the infinitive." All of the accounts, however, generally agree in that "the infinitive occurs more in the western [Serbo-Croatian] territory, while *dakanje* 'more frequent use of da+present' is characteristic of the eastern [Serbo-Croatian] territory." As for the second problem, however, Ivić explains that the "viewpoints were controversial without one accepted conclusion in the end."

Today, both Milošević's (1978:110) and Ivić's (1972:121) observations still hold – according to the latter, probably the only point of agreement among the various studies

[7] In this paper, all translations into English are mine.

is the problem of the "uneven frequency of the infinitive over a broad territory," while according to the former, there is still a need for "broader investigations … [which] should provide a final account."

Within CVS, according to Tanasić a peripheral instantiation of the use of the present, the syntax of adjectives (as well as nouns) as CVS matrix predicates has always been on the margin of analyses, verbs being the only type of CVS matrix predicates that have received a relatively substantial amount of consideration. This is why Brabec et al. (1968:258) claim, "today, with the majority of [CVS] adjectives, the present with *da* is more common." In more than a century of linguistic tradition dedicated to CVS there has been almost no interest in this particular type of CVS, the one that, I claim, provides a novel insight into overall CVS.

3. Language Facts

I now present results of my own research focused on CVS. I attempted to control for a set of the factors that are generally recognized to influence the choice of the complements in CVS (mainly, dialectal/regional, stylistic, rhythmic, and even certain sociolinguistic factors), and concentrated predominantly on one syntactic factor: the actual syntactic presence (or absence, for that matter) in the CVS matrix of the controller of the CVS complement.

The research on which I base my theories and conclusions, was conducted during the summer of 2004, more precisely between 18 August and 19 September. Let me here emphasize the fact, which must be kept in mind at all times while analyzing the data and drawing conclusions from them, that the research was conducted on only a sample of speakers, though – I insist – a representative sample of speakers. The results will indeed be generalized and claimed to apply even to speakers of Serbian in no way included in the research. However, one should realize that the claims based on this research may be overturned with results from another research project of the same or similar kind. Until then, I maintain that the findings, which I will present, provide a useful point of departure in any future discussions of CVS.

In order to control for dialectal or regional factors, the importance of which in CVS is well known and documented, I decided to conduct my research in one particular

part of the Serbian language speaking area, the one that can generally be described as the territory of the city of Belgrade, the capital of Serbia. In this area, the dominant dialect is the Štokavian ekavian dialect of the Šumadija-Vojvodina type.[8] However, one should keep in mind that, on the one hand, the language policy pertaining to the Serbian language originates almost exclusively in this particular area, where major linguistic and philological, as well as cultural institutions are located, yet, on the other hand, this, being the capital, is an area that attracts a multitude of speakers of other dialects. Still, I believe that the speakers who participated in the research are a fair representation of the local dialect with all its peculiarities. Their dialect is also very close to what might be considered the standard Serbian language, the one taught in schools and used in the media. What the participants all have in common is that they are all residents of the city of Belgrade, though not all of them were necessarily born in this area.

There were 204 participants in the research, 159 women and 45 men, of which 8 (6 women and 2 men ages 27-46) were asked to participate in a post-questionnaire interview. The participants were chosen in as arbitrary a manner as possible, but all of them participated in the research voluntarily. There is no intentional reason behind the discrepancy between the number of women and men, nor have I controlled for that. The age of the participants, at the time when the research took place, ranged from 21 to 66. They also differed with respect to level of education: some participants had completed high school, a two-year college, the university at an undergraduate level, or university at a graduate level (people with B.A., M.A., and Ph.D. degrees). Naturally, they represented a range of professional fields: education, administration, journalism, industry, art, economy. In my view, they represent a group of well-educated people more often than not exposed to what might be understood as the standard Serbian language on a daily basis, and are themselves speakers of that particular register.

Control for stylistic factors in the language was achieved by providing everyday sentences and avoiding sentences that would be stylistically marked. Also, the sentences were not a portion of a continuous text; they were rather specifically designed for this particular research, which additionally decreased, if not completely nullified the issue of style in them. I controlled for rhythmic factors as well, which are also claimed to play a

[8] See Browne (1993:382-386) for a dialectal map and description of the dialects.

role in CVS; I provided sentences whose configuration essentially resembled the sentences in examples (1)-(4) above in the vast majority of cases. Thus the rhythm of the sentences presented to the participants was not an issue, or was considerably minimized.

There were 80 pairs of sentences in the questionnaire. Each pair presented an instantiation of CVS, that is, the two sentences differed only in the form of the complement, whether it was syntactically an *infinitival* complement or a *da+present* complement. All other elements of the sentences were exactly the same. The sentences were positioned parallel to each other so that the participants could look at both of them at the same time. Also, before each sentence there was a number, by which the sentences were later identified. The participants were asked to circle the number in front of the sentence or sentences of their choice. Finally, the participants were allowed to comment on the sentences; a box was placed parallel to each sentence where they could write their comments.

The actual count of the two possible complements with all the lexical units used in the questionnaire as CVS matrix predicates is referred to here as *overall CVS*. This will be the point of comparison for CVS with adjectives as matrix predicates. The results found for the matrix predicates used in the research are taken to be the general trend in CVS in the standard Serbian language as spoken by the native speakers in the research sample. The overall statistics of the research results are given in (5) below.

(5) Overall CVS[9]

	I	**I/P**	**P**	**TOTAL**
TOKEN #	2031	789	10413	13233
%	15.35%	5.96%	78.69%	100%

What the chart in (5) suggests is that, in the analyzed sample, and consequently in the Serbian language in general, when it comes to CVS more than five times as many *da+present* complements are used than *infinitival* complements. In addition to this, in

[9] In all the charts *I* stands for *infinitival* complement, *I/P* for *infinitival* and *da+present* complement, *P* for *da+present* complement; *TOKEN #* is the actual number of sentences circled by the participants and *%* is the percentage.

only slightly less than 6% of cases, native speakers actually chose both possible complements; this suggests that there is not much vacillation in the intuition of native speakers when it comes to the phenomenon of complement variation.

One other interesting piece of information obtained from the interviews and relevant for the overall understanding of CVS concerns the native speakers' judgment of the semantic sameness of the paired sentences, which was usually taken for granted in many of the previous accounts of CVS. The eight interviewees judged all CVS sentences in the questionnaire and in 71.54% (372 out of 520 pairs of sentences) of instances they determined that there exists an absolute semantic sameness, while in 28.46% (148 out of 520 pairs of sentences) of cases they had various comments regarding the semantic, conceptual, or contextual nuances between two sentences in a pair.

The overall statistics confirm what has already been said about CVS, namely that, on the one hand, the two possible sentential realizations of the CVS configuration present two semantically very similar if not the same sentences, and, on the other hand, that within CVS, in the area under consideration in the research, *da+present* complements are a more common choice. Indeed, that is the case according to the chart in (5) above, and that was rarely, if ever, a disputed part of previous claims regarding CVS.

Adjectives as CVS matrix predicates appeared in two possible configurations in the questionnaire, as illustrated in (6) and (7) below.

(6) a. Teško mi je priznati zločin.
difficult I.D be.**present**.3RDSG admit.**infinitive** crime.A

b. Teško mi je da priznam zločin.
difficult I.D be.**present**.3RDSG that admit.**present**.1STSG crime.A
'*It is difficult for me to admit to a crime.*'

(7) a. Teško je priznati zločin.
difficult be.**present**.3RDSG admit.**infinitive** crime.A

b. Teško je da se prizna zločin.
difficult be.**present**.3RDSG that REFLEXIVE admit.**present**.1STSG crime.N
'*It is difficult to admit to a crime.*'

Example sentences in (6a,b) and (7a,b) represent actual pairs of sentences from the questionnaire, though not the exact order in which they were given. The participants were asked to choose between (6a) and (6b), on the one hand, and between (7a) and (7b), on the other hand. The only two adjectives that were used as CVS matrix predicates in the questionnaire are *lako* 'easy' and *teško* 'difficult.'

The CVS statistics for adjectives as CVS matrix predicates are given in (8) below.

(8) CVS for adjectives

	I	**I/P**	**P**	**TOTAL**
TOKEN #	331	77	395	803
%	41.22%	9.59%	49.19%	100%

The most important fact about CVS indicated by the percentages from the chart in (8) is that, unlike the claim made by Brabec et al. (1968:258) and quoted above, with adjectives, in fact, the *infinitive* complement percentage is almost as high as the *da+present* complement percentage. The percentage of the choice of both complements is similar to the values shown in the chart in (5) above for the overall CVS.

By providing example sentences in (6) and (7) above, I indicated that adjectives appeared in two possible configurations. They either appear as what might be arbitrarily referred to as *plain* matrix predicates, as in (7), or else they may be associated with a very specific entity, as in (6) above. It is quite interesting to observe the CVS statistics for these two different sentential realizations of the CVS configuration.

(9) CVS for adjectives with entity

	I	**I/P**	**P**	**TOTAL**
TOKEN #	49	30	319	398
%	12.31%	7.54%	80.15%	100%

(10) CVS for adjectives without entity

	I	I/P	P	TOTAL
TOKEN #	282	47	76	405
%	69.63%	11.60%	18.77%	100%

The differences that exist between the percentages in (9) and (10) are striking and indicative of the importance of this particular syntactic factor for CVS. It seems that the syntactic presence of a matrix entity, affected by the situation, plays a crucial role in exactly which CVS complement will be chosen. If the entity is syntactically present in the matrix and appears as an argument, as in (6) above, the choice of the complement is as in (9) above. The percentages in (9) are very similar to those of the overall CVS statistics. However, if the entity is not syntactically present in the matrix, and therefore there is no argument whose attitude is being expressed, as in (7) above, the choice of the complement is as in (10) above: the percentage values are almost reversed; the choice of *infinitival* complements is almost as high as the choice of *da+present* complements usually is in overall CVS.

My analysis of the research data demonstrates that the actual syntactic presence (or absence, for that matter) in the CVS matrix of an entity invariably expressed as a matrix argument plays the most significant, moreover crucial role in CVS. I demonstrate that, on one hand, the presence of such an entity indeed yields CVS statistics similar to the overall CVS statistics. On the other hand, however, conceptual and syntactic absence of the entity yields CVS statistics that are unparalleled in that the choice of *infinitival* complements either is several times higher than with the entity present or simply overall dominant in the sense that the choice of *da+present* complements in CVS normally is. It is in this factor that, all other things being equal, I find the true syntactic impetus for CVS and it is this factor that will, before all other factors, be the focus of an attempt to formalize the syntactic mechanism of the CVS configuration with adjectives as matrix predicates.

4. Formalizing CVS

It is clear from the examples in (1)-(4), (6), and (7) above that the only configuration in which CVS takes place is as given in (11) below.

(11) X^{α} **MATRIX** *[α **COMPLEMENT]***

In the formula, first, argument positions and their selectional restrictions are in italics (X^{α} and *[α **COMPLEMENT]***), and, second, the apparent connection between the binder, occurring with the matrix predicate (X^{α}), and the bound position (α), an argument position of the complement, is notated by a Greek variable. At this point I use **MATRIX** and **COMPLEMENT** in bold in order to indicate the generic character of the two essential elements of the configuration.

The formula has been patterned after Culicover and Jackendoff's (2005) views of English phenomena in certain respects similar to CVS. Also the formula is given in as generic a form as possible in order to include all the different possibilities of matrices and complements. Most importantly, however, the formula – in most general terms – accounts for a linguistic phenomenon known as *unique control*, of which, I claimed CVS is an interesting example.

A more specific variant of the formula, the one that accounts for adjectives as CVS matrix predicates, is given in (12) below.

(12) X^{α} **ADJECTIVE** *[α **COMPLEMENT]***

The formula stands for all adjectives that allow for CVS to take place and operates according to the same principles outlined with respect to the formula given in (11) above. The formula given in (12) indicates that there exists a type of semantic binding between an actional complement of ***ADJECTIVE*** and one other (the only one possible, that is, for ***ADJECTIVE*** is a two-place function) argument of ***ADJECTIVE***. The semantic binding is precisely notated by a Greek variable in the controlled actional complement that corresponds to the other argument's superscript. Again, both argument positions and semantic (selectional) restrictions on ***ADJECTIVE*** are notated in italics.

Culicover and Jackendoff (2005:415) indicate that control "has been absolutely central to mainstream theory for forty years." Linguistically the most fascinating aspect of control is probably best understood from a descriptive observation that there exist certain complements without one of their otherwise understood arguments present in the

syntax; furthermore, the syntactically absent argument appears to be the same as an argument of the matrix.[10] Culicover and Jackendoff's (2005:444,445) view of control is semantic in essence and is utilized in their semantic treatment of both matrices and complements.

The matrices, more precisely lexical items that control their respective complements, "fall into a delimited number of semantic classes": *INTEND*, *OBLIGATED*, *ABLE*, *SHOULD*, *CS*[11], *REQUEST*. According to the authors, "each class determines a particular thematic role that serves as controller; "each of these can serve as a component of the meaning of verbs, nouns, and/or adjectives," and, crucially, "each basic predicate establishes a control relation" between its complement and one other argument. Adjectives under investigation may not necessarily belong to one specific semantic class; rather, their semantics often comprises several semantic classes at once.

The complements are treated semantically as well. In the complement, "any sort of state or event can appear" and for those Culicover and Jackendoff (2005:427) use the term "situation." One subclass of situations are *actions*, which, furthermore, can be divided into *voluntary* and *non-voluntary actions*, the latter thus being *non-actions*. It is in this particular semantic characterization of possible complements, as well as matrices, that I find the particular theoretical framework appropriate for CVS as an instantiation of unique control. Consequently, the Unique Control of Actional Complements (UCAC) Hypothesis holds for CVS: "Infinitival and gerundive complements that are selected by

[10] As an illustration of this descriptive observation, in i. below I present Culicover and Jackendoff's (2005:415) example (1a).

i. John$_i$ likes [to $_i$dance with Sarah]

In i., *John likes* is the matrix and *to dance with Sarah* is its complement. The matrix verb, *likes*, is, in Culicover and Jackendoff's terms, a two-place function or else the function of two arguments; that is to say, *likes* has two arguments. One argument of *likes* is *John*, and the other argument is *to dance with Sarah*. The complement verb *to dance* is a one-place function; it has one argument, namely the dancer, which is expressed as its subject. However, in the configuration in i. above, the dancer is not syntactically present in the complement itself. Intuitively, however, the dancer is *John*, already the matrix verb argument. Thus, *John* is the *controller* of the complement, in other words *John* is said to *control* the complement. It is this kind of correlation between a matrix argument and a syntactically non-existent complement argument, which is invariably the complement's local subject, which is referred to as control.

[11] CS stands for force-dynamic predicates. "These include predicates of causing, preventing, enabling, and helping; they also include variants in which the outcome is uncertain, such as pressuring and hindering; they include predicates both in the physical domain such as pushing and in the social domain such as encouraging" (Culicover and Jackendoff 2005:447).

their head to be of the semantic type Voluntary Action have unique control. The unique controller is the character to which the head assigns the role of Actor for that Action – whatever its syntactic position" Culicover and Jackendoff (2005:427).

Based on all the examples of CVS cited in (1)-(4), (6), and (7) above it is clear that voluntary actions are the primary type of complement in CVS. In those particular example sentences, the following three voluntary actions appear: *uraditi i više* 'to do even more,' *govoriti tako* 'to speak that way,' and *priznati zločin* 'to admit to a crime.' That the three are actions in the first place, is confirmed by a standard test for actions, *What X did was* (Culicover and Jackedoff, 2005:427):

(13) Ono što je Petar uradio bilo je da je...
what Petar did was that he...

… uradio i više/govorio tako/priznao zločin.
did even more/spoke that way/admitted to a crime
'*What Petar did was do even more/speak that way/admit to a crime.*'

The defining characteristic of voluntary actions, according to Culicover and Jackendoff, is, and I paraphrase, that the actor of an action is animate, in which case the default interpretation is that the action is performed voluntarily. Indeed, the actions of *doing more*, *speaking that way*, and *admitting to a crime* must have an animate actor; hence, as Culicover and Jackendoff (2005:427) note, "the default interpretation is that the action is performed voluntarily." Two tests that are used to separate voluntary actions from other actions include applying the adverbials *voluntarily* and *on purpose* and the imperative to the utterance. They give satisfying results with the three actions.

(14) a. Uradi i više! Petar je dobrovoljno/namerno uradio i više.
'*Do even more!*' '*Petar voluntarily/on purpose did even more.*'

b. Govori tako! Petar je dobrovoljno/namerno govorio tako.
'*Speak that way!*' '*Petar voluntarily/on purpose spoke that way.*'

c. Priznaj zločin! Petar je dobrovoljno/namerno priznao zločin.
'*Admit to a crime!*' '*Petar voluntarily/on purpose admitted to a crime.*'

According to the standard tests, all three actions analyzed here can appear in the imperative and also with adverbials *voluntarily* and *on purpose*, which makes them voluntary actions.[12]

Culicover and Jackendoff (2005:444-445) formalize the descriptive notion of a voluntary action as *x ACT*, and the notion of an actional complement, which appears as the semantic argument as *[x ACT]*. The structure of an adjective as a CVS matrix predicates is thus specifically formalized as in (15) below.

(15) X^{α} **ADJECTIVE** *[α ACT]*

The fact that CVS is an instantiation of the phenomenon of control is only one part of the problem. The other part is that it is also a phenomenon of variation of complements, arguably without any variation in meaning. It is, therefore, necessary to further specify the formula in (15) in order to account for exactly how the variation of the two possible complements in CVS operates. For this, the facts about CVS, presented in section 3, are relevant. It is important to indicate at this point that the Greek variables in the formula have a twofold function. First, they indicate the kind of semantic binding that exists in CVS between a complement argument and its controller, a matrix argument. Second, in Serbian the Greek variables necessarily represent a set of grammatical features shared between the controller and the **COMPLEMENT**, which in turn indicates control. Crucially, the **COMPLEMENT** without a Greek variable before it represents an uninflected verb, non-finite, *infinitival* complement, whereas the **COMPLEMENT** with a Greek variable before it represents an inflected verb, finite, *da+present* complement.

All CVS matrix adjectives are two-place functions. That is to say, they have one complement and one other argument. In a CVS configuration, the complement's

[12] On the other hand, non-voluntary actions, such as *rasti* 'to grow taller' or *biti gladan* 'to be hungry,' fail the two tests:

i.	*Rasti!	*Petar je dobrovoljno/namerno rastao.
	*'*Grow taller!*'	*'*Petar voluntarily/on purpose grew taller.*'
ii.	*Budi gladan!	*Petar je dobrovoljno/namerno bio gladan.
	*'*Be hungry!*'	*'*Petar was hungry voluntarily/on purpose.*'

argument is semantically bound by the only other matrix's argument. The factor indicating the actual presence of the matrix argument in the configuration formalized in (15) produces substantially different results when it comes to the choice of the complement in CVS. When the matrix argument X^{α}, the controller, was present in the syntax of the matrix, the choice of *da+present* complements, α ACT, was the dominant one. When the controller was absent, the choice of infinitival complements, ACT, was the dominant one.

One way of formally accounting for this fact is given in (16) below.

(16) *(X^{α})* **ADJECTIVE** *[(α) ACT]*

The formula in (16) implies exactly what is found to be true of CVS with adjectival matrix predicates. The use of parentheses accounts for both possible sentential realizations of the CVS configuration: the one with the controller in the syntax of the matrix, without parentheses, and the one without the controller in the syntax of the matrix, with the parentheses.

Observations made regarding CVS with adjectives as matrix predicates in particular have certain implications for the theory of control in general. While it is true that control, as in CVS, is semantically based, the role of syntax is not, nor can it be neglected. The actual choice of complements in CVS, once the essentially semantic basis of control has been detected, is largely determined by the presence or absence of the controller in the syntax of the **ADJECTIVE**. In the particular case of the X^{α} controller, syntactic information denoted by the Greek variable α is of crucial importance. I, therefore, maintain that, although control appears to be semantic in nature, it is also syntactic in nature as well. Only a combination of the two levels of linguistic analysis, as presented in this section, provides both a thorough account of CVS in particular and the phenomenon of the control in it in general.

5. Conclusion

CVS, as it is conceived of in this paper, appears to be a deceptively simple linguistic phenomenon – two possible complements appear in one and the same syntactic configuration, though the meaning remains the same. Also, the long scholarship dedicated to CVS seemed to have a somewhat similar understanding of the phenomenon in general and of one its type, the one with adjectives as CVS matrix arguments, in particular. As it turns out, precisely the type that has often been considered marginal, which I placed in the focus of this paper, provided a crucial piece of evidence in favor of a particular syntactic factor as the controller of variation of complements in CVS - the syntactic presence (or absence) in the CVS matrix of an entity invariably expressed as a matrix argument.

This novel insight into the syntax of CVS with adjectives as matrix predicates must be used in analyses of CVS with nouns and particularly verbs as CVS matrix predicates. One such analysis is offered in Belić (2005), where a theory of CVS in general is developed. It is demonstrated there that, with necessary modifications, the theory proposed in this paper holds for CVS in general as well.

The account of CVS presented in this paper relies on both a theory of control and actual language data. This fact alone makes the particular account of CVS presented here different than any other previous account of CVS. To the best of my knowledge, there is no indication in previous accounts of CVS that the phenomenon of complement variation is an instantiation of control. Recognizing this allowed me to employ theoretical views said to hold for control as a linguistic phenomenon. Relying on the actual language data, however, as well as on the existing tradition of accounting for CVS, enabled me to adopt a theoretical framework that recognizes the importance of semantics. The role of semantics has always been emphasized in CVS in the past and the present research results demonstrated the same. The role of syntax, however, proved to be just as important in CVS.

The explanation of CVS presented in this paper, although it relies on past achievements, as well as the latest theoretical advances in linguistic theory, provides a novel treatment with respect to both. On the one hand, it dispenses with heavy descriptive

machinery that was employed in accounting for CVS in the past. On the other hand, the present account utilizes crucial theoretical achievements of Culicover and Jackendoff's semantically-based theory of control only to expand on it in terms necessary to capture the essence of CVS, which is the actual variation of the two complements. This paper offers a better understanding of CVS, not, however, as an ultimate answer to the general question of CVS, but as a set of particular descriptive observations eventually formalized in (16) above and repeated in (17) below for convenience.

(17) (X^{α}) **ADJECTIVE** *[(α) ACT]*

The formula must be tested, understandably, on even more data from the language, as well as, preferably, on cross-linguistic data in order to sustain possible criticism.

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