Getting serious about serial verbs: Evidence from Croatian

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Abstract. We put forth here the novel claim that certain Croatian multi-verb constructions are to be analyzed as instances of serial verb constructions (SVCs), based on the fact that they show characteristics, such as shared arguments, restrictions on selection of verbal elements, limitations on modification, and so on, that are associated with SVCs cross-linguistically. We contrast Croatian SVCs with coordinate structures and control/non-control subordinate constructions, and offer a formalization of the differences among these structures.

Keywords. serial verbs; Croatian; coordination; control structures; event structure

1. Introduction. We address here the Croatian (Cr) multi-verb constructions of the type exemplified in (1), featuring two imperative verbs which function as a single unit.

(1) a. Odi   kupi   novine.
          go2SG.IMP   buy2SG.IMP   newspapers
     b. Dođi   vidi   ovu   sliku.
          come2SG.IMP see2SG.IMP   this   picture

We argue that examples such as those in (1) fall within the broader cross-linguistic typology of SERIAL VERB CONSTRUCTIONS (SVCs), even though Cr has not typically been included among SVC-type languages in the literature dealing with this type of multi-verb constructions.[1]

In Section 2, we provide a brief cross-linguistic overview of SVCs and their observed properties in languages where they have been extensively studied. In §3, we demonstrate that Cr constructions such as those in (1) share the bulk of the properties that have been observed with their cross-linguistic counterparts, thus justifying the use of the SVC label in relation to such constructions in Cr. In §4, we compare Cr SVCs to other complex clause structures found in this language, proposing a tentative analysis that puts SVC on a structural continuum in relation to other clauses in Cr. Section 5 summarizes the paper and outlines some avenues for future research.

2. SVCs across languages. There is no universally agreed upon definition of SVCs in the literature, but they are usually described as constructions consisting of two (or more) verbs, without any marker of syntactic dependency between them, which together function as a single syntactic, semantic and prosodic unit (Aikhenvald 2006). The verbs within an SVC thus form a single predicate, denote a single event, and project a mono-clausal structure. SVCs can express a wide range of meanings across languages, typically related to causality, direction of motion, or instrumentality, among others (Aikhenvald 2018).

SVCs have been observed in a considerable number of typologically diverse languages, but were found to be most prominent in the isolating languages of West Africa (such as Igbo in (2)) and South-East Asia (such as Tetun Dili in (3) and Taba in (4)).[2]

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[1] See Aikhenvald (2006; 2018) for a broad cross-linguistic overview of SVCs and the relevant references.

[2] The examples and the references are all taken from Aikhenvald (2018).

(2) Ó **ti-gbù**-rù nwóké áhù. (Igbo; Lord 1975: 28)
he beat-kill-PAST man that
'He beat that man to death.'

(3) **Tuda** bola mai. (Tetun Dili; Hajek 2006: 243)
throw ball come
'Throw the ball over here.'

(4) n-**babas** welik n-**mot** do (Taba; Bowden 2001: 297)
3SG.-bite pig 3SG.-die REALIS
'It bit the pig dead.'

As we can see in (2-4), the individual verbs contained within an SVC both contribute to the meaning of the complex predicate that they form (e.g. 'bite-die' – 'bite to death' in (4)).

Even though there is little agreement in the literature as to the exact formal definition of SVCs that would apply across languages, authors were nonetheless able to identify a series of properties that tend to characterize such constructions cross-linguistically. We outline the most relevant and broadly shared SVC properties below (Zwicky 1990; Comrie 1995; Aikhenvald 2018):

(i)   SVCs consist of two (or more) verbs without any syntactic link or marker of dependency between them;
(ii) each verb contained within an SVC can also function as the sole verb in the clause;
(iii) SVCs function as a single predicate and thus denote a single event;
(iv) SVCs occur within a single clause (i.e. mono-clausal structure);
(v)   verbs within an SVC share at least one core argument (object or subject);
(vi) SVCs can inflect across tenses and other grammatical categories.

Note that SVCs across languages rarely share all of the properties listed in (i-vi), which is why it has always been difficult to come up with an exhaustive list of features that would distinguish SVCs from other multi-verb constructions (see Zwicky 1990 or Foley 2010, a.o.). Nevertheless, authors working on SVCs have generally agreed that it is sufficient for a given construction to exhibit most of these properties in order for it to be considered as SVC. In the following section, we use (i-vi) as diagnostics to determine whether Cr constructions of the type exemplified in (1) can be viewed as SVCs as well.

3. SVC in Croatian? We focus on the Cr example from (1a) (reintroduced below as (5)) in order to argue for the existence of SVCs in this language.

(5) Odi kupi novine.
go2SG.IMP buy2SG.IMP newspapers
'Go buy newspapers.'

In (6), we can see that this multi-verb construction satisfies the SVC criterion outlined in (ii) above, i.e. each verb contained within it can function as a sole predicate in a clause as well:

(6) a. Odi van.
go2SG.IMP outside
b. Kupi novine.
buy2SG.IMP newspapers

This is just one in a series of SVC criteria that Cr constructions of the type given in (5) can be shown to satisfy (we thus refer to them from now on as SVCs as well).

Let us now focus on the first SVC diagnostic given in the previous section, i.e. the fact that there should be no syntactic link or marker of dependency between verbs contained within the SVC. Even though there is no overt syntactic link between the two verbs in (5), one could nonetheless argue that the construction in question contains an underlying (pseudo)coordinate structure with a silent coordinator *i* 'and' which can be optionally pronounced, as in (7):[3]

(7)　　Odi　　　　i　　　kupi　　　　　novine.
　　　　go2SG.IMP　　and　　buy2SG.IMP　　newspapers
　　　　'Go and buy newspapers.'

Nevertheless, a deeper analysis of (5) and (7) shows that the two examples in fact constitute different types of clauses, despite their surface similarity: (7) exhibits properties typical of coordinate clauses (CC), i.e. bi-clausal structure and bi-eventive interpretation, whereas (5) exhibits the characteristics typical of SVCs, i.e. mono-clausal structure and single event interpretation.

The first indication that the clauses in (5) and (7) constitute two different syntactic entities has to do with the types of verbs that can be included within them. While CCs such as the one in (7) can feature a broad set of verbs (8a), the SVCs as in (5) are much more restricted in this sense (8b):

(8)　　a.　　Odi/　　　　　požuri/　　　　　uzmi　　　　novce i　　　*kupi*
　　　　　　　go2SG.IMP　　hurry-up2SG.IMP　take2SG.IMP　money and　buy2SG.IMP
　　　　　　　novine.
　　　　　　　newspapers
　　　　b.　　Odi/　　　　* požuri/　　　　* uzmi　　　　novce kupi　　　　novine.
　　　　　　　go2SG.IMP　　hurry-up2SG.IMP　take2SG.IMP　money buy2SG.IMP　newspapers
　　　　　　　'Go/hurry up/take the money (and) buy newspapers.'

In the case of the CC in (8a), both verbs contained within the sentence have equal status and they can be drawn from an unlimited set of verbs. This, however, is not the case with the SVC in (8b): while there are no restrictions on the choice of the second verb, which functions as the semantic head of the construction, the first verb is drawn from a very limited class of motion verbs (i.e. only *idi*-IMPERF/*odi*-PERF 'go' and *dođi*-PERF 'come'[4]). The use of any other verb as the first verb in a Cr SVC results in ungrammaticality, as shown in (8b). This is another way in which Cr SVCs pattern with their cross-linguistic counterparts, because most SVCs have been shown to be *asymmetric* in this sense, containing one 'major' component, i.e. a verb drawn from an unrestricted verb set, and one 'minor' component, chosen from a closed subset of verbs (Aikhenvald 2018).[5]

One of the ways to explain the contrast in (8) is to argue that Cr CCs feature two separate lexical predicates of equal status, each denoting a different event – hence no restrictions on their use – whereas the two verbs contained within an SVC (a functional and a lexical verb drawn from a bounded vs unbounded set, respectively) compose a single predicate and denote a single event. This hypothesis is further confirmed in (9), where we can see that the verbs contained in a CC can be

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[3] This is arguably the case with the English equivalent of (5) where the use of the conjunction *and* appears trivial, since we have the same single-event interpretation with or without the conjunction (i.e. '*Go buy me newspapers*' and '*Go and buy me newspapers*' have basically the same interpretation).

[4] The verb *ići* 'go' can appear in either perfective or imperfective aspect in Cr SVCs, whereas *doći* 'come' is restricted to perfective. We do not attempt to account for this contrast here.

[5] Aikhenvald makes a distinction between symmetric and asymmetric SVCs in this context, the former containing two verbs of equal status, unlike the latter. The latter are much more common cross-linguistically because, as Aikhenvald notes, any language that contains symmetric SVCs also features asymmetric ones, but not vice versa (2018: 6).

modified by different spatio-temporal markers (9a), whereas this produces ungrammaticality in SVC (9b).[6]

(9) a. Odi   tamo   i   kupi   novine   tu.
         go2SG.IMP   there   and   buy2SG.IMP   newspapers   here
     b. * Odi   tamo   kupi   novine   tu.
         go2SG.IMP   there   buy2SG.IMP   newspapers   here
         'Go there and buy newspapers here.'

The CC in (9a) thus involves two separate spatio-temporal units, i.e. two events, whereas the SVC in (9b) forms a single event. This contrast is further confirmed by the examples in (10), which show that no separate modification of any kind can be applied to verbs within a Cr SVC (10a), i.e. the two verbs can only be modified as a single whole, whereas the verbs in CCs can be associated with separate modifiers (10b):

(10) a. * Odi   van   brzo   kupi   novine.
          go2SG.IMP   outside   quickly   buy2SG.IMP   newspapers
      b. Odi   van   i   brzo   kupi   novine.
          go2SG.IMP   outside and quickly   buy2SG.IMP   newspapers
          'Go outside (and) quickly buy newspapers.'

Recalling the material in Section 2, we note that another typical property of SVCs across languages is that they contain at least one core argument, i.e. subject or object, which is shared by all verbs within an SVC. Once again, Cr SVCs pattern with their cross-linguistic counterparts in this context as well: as shown in (11), Cr SVCs can only have one subject:

(11) Odi   kupi   /   * kupite   novine.
      go2SG.IMP   buy2SG.IMP   buy2PL.IMP   newspapers

Since Cr SVCs always appear in imperative form, the (empty *pro*) subject is the addressee, which must be co-indexed with both verbs, as indicated by the fact that the two verbs must always agree in person and number. This restriction does not apply to CCs, which are compatible with different subjects:

(12) Odi   i   kupi   /   kupite   novine.
      go2SG.IMP   and   buy2SG.IMP   buy2PL.IMP   newspapers

The contrast in (11-12) is expected under the assumption that Cr SVCs constitute a mono-clausal structure, while CCs are bi-clausal.

The syntactic contrast between these two types of clauses in terms of mono- vs bi-clausality is further confirmed if we look at the phenomenon of *clitic climbing*. It has been widely observed that clitic climbing is clause-bounded,[7] i.e. a clitic pronoun (such as the dative pronoun *mi* 'to me' in (13-14)) can only 'climb' from a lower to a higher verb if the two verbs are contained within a single clause structure. As expected, therefore, we observe clitic climbing in Cr SVCs:

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[6] The example in (9) may appear convoluted but in the right context it makes sense: imagine a speaker giving instructions to the addressee, first pointing in the general direction where the latter should go ('go there') and then showing a specific point on a map where the newspaper stand is situated ('buy newspapers here', i.e. on this address).
[7] See Cinque & Krapova (2019) for cross-linguistic data and the relevant references related to clitic climbing.

(13) Odi   **mi**   kupi   (mi)   novine.
     go2SG.IMP to-meCL   buy2SG.IMP   to-meCL   newspapers

|_____|
           CLITIC CLIMBING

In the case of CCs, on the other hand, clitic climbing is banned, since the clitic would need to cross over a clausal boundary to attach to the higher verb:

(14) Odi   (*mi)   i   kupi   (mi)   novine.
     go2SG.IMP to-meCL   and   buy2SG.IMP   to-meCL   newspapers

The examples in (13-14) therefore further confirm that Cr SVCs constitute mono-clausal structures while CCs are bi-clausal.

We have thus observed that Cr SVCs share most of the properties that characterize their cross-linguistic counterparts: (i) they consist of two verbs without any marker of syntactic dependency between them; (ii) each verb contained in a Cr SVC can function as the sole verb in the clause; (iii) verbs in a Cr SVC constitute a single predicate and denote a single event; (iv) Cr SVCs are mono-clausal and can thus only contain one subject (v). The only point in which Cr SVCs diverge from their cross-linguistic counterparts is the fact that they can only appear in imperative form, whereas SVCs can typically inflect across tenses and other grammatical categories. Nevertheless, we do not consider this as a sufficient reason to make a clear cut between Cr SVCs and their cross-linguistic counterparts. As we already noted, SVCs in general rarely exhibit all of the properties that we outlined earlier in §2, even in languages where their existence has been clearly established. Therefore, the fact that Cr SVCs exhibit most of these properties should be a sufficient reason to include them within the cross-linguistic typology of SVCs.

4. SVCs on a structural continuum of clause types in Croatian: Towards a formal analysis. So far, we have compared Cr SVCs to CCs, showing that they constitute completely different syntactic entities, despite their surface similarity, with CCs involving two independent conjoined clauses and SVCs involving a single clause. Let us now briefly turn our attention to the context of clausal subordination, where we observe some interesting parallels between SVCs and certain clausal complement structures in Cr.

We base our analysis on a (somewhat simplified) binary distinction between non-control (NC) and control (C) subordination, the former involving clauses containing separate subjects and the latter involving clauses with a shared subject (i.e. subject control). NC clausal complements in Cr are typically selected by predicates such as assertive verbs (e.g. *say, claim*), epistemic or propositional attitude verbs (e.g. *think, believe*) or factive verbs (e.g. *know, find out*), among others (15).

(15) Ivan   kaže / misli /   zna   da   Marija dolazi   sutra.
     Ivan   say3SG.think3SG.   know3SG.   that   Marija come3SG.   tomorrow
     'Ivan says/thinks/knows that Marija is coming tomorrow.'

The sentence in (15) involves clauses with two separate subjects (i.e. *Ivan* and *Marija*), so we are dealing with a bi-clausal structure, with the subordinate clause embedded under the main clause.

C complements, on the other hand, are selected by control verbs such as modals (e.g. *can, must*), aspectuals or phasal verbs (e.g. *begin, finish*), or volitionals (e.g. *want, prefer*), among

others. They can be realized either as infinitives (16a) or (more marginally) as finite complements which share the main-clause subject (usually referred to as *control subjunctives*) (16b).[8]

(16)   a.   Ivan$_i$ mora$_i$ /   počinje$_i$ raditi$_{i/*j}$.
                Ivan   must3SG.   begin3SG.   workINF

        b.   Ivan$_i$ mora$_i$ /   počinje$_i$ da   radi$_i$ /   *   rade$_j$.
                Ivan   must3SG.   begin3SG.   that work3SG.   work3PL.
                'Ivan must/is beginning to work.'

As shown by the use of indices, all the verbs in (16a) and (16b) must refer to the same subject. In this sense, C complements pattern with SVCs:

(17)   Odi$_i$ kupi$_i$ novine.
         go2SG.IMP   buy2SG.IMP   newspapers

This would suggest that all the clauses in (16-17) may involve a mono-clausal structure.

      This hypothesis is further confirmed if we once again look at the data related to spatio-temporal marking in different types of clauses. This is another context where C complements pattern with SVCs in that they ban conflicting tense markers (e.g. *yesterday* and *tomorrow*) (19), which are allowed in NC complements (18):

(18)   Ivan je   jučer   rekao / mislio   da   Marija dolazi sutra.
          Ivan is   yesterday   said   thought   that   Marija comes tomorrow
          'Yesterday, Ivan said/thought that Marija is coming tomorrow.'

(19)   a. * Ivan je   jučer   morao/počeo raditi   sutra.   [C-INF]
                 Ivan is   yesterday   had-to began workINF   tomorrow
        b. * Ivan je   jučer   morao/počeo da   radi   sutra.   [C-SUBJ]
                 Ivan is   yesterday   had-to began that   work3SG.   tomorrow
        c. * Odi   jučer   kupi   novine   sutra.   [SVC]
                 go2SG.IMP   yesterday   buy2SG.IMP   newspapers   tomorrow
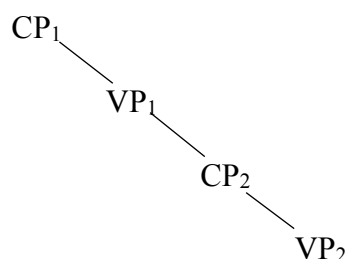
This suggests that all clauses in (19) constitute a single temporal domain, i.e. a single event, whereas the one in (18) introduces two separate temporal domains and denotes two events, thus further confirming that we are dealing with a mono-clausal structure in the former case and a bi-clausal structure in the latter.

      In the remaining part of the paper, we propose a simple formal analysis within a generative framework to account for the observed contrasts between NC complements, on the one hand, and C complements and SVCs, on the other. The former involve a matrix CP domain as well as the embedded CP selected by the matrix verb, whereas the latter do not project an embedded CP:[9]
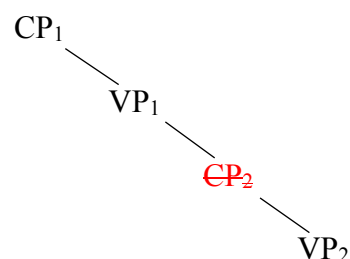
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[8] Control subjunctives (a term used in Landau (2004) and much subsequent literature) are less common in Cr than in some other South Slavic and/or Balkan languages, such as Serbian or Bulgarian. They are widely used in Balkan languages (e.g. Bulgarian, Greek, Albanian, etc.) as a replacement for infinitives, due to the phenomenon of infinitive loss which we cannot discuss here (see Joseph 1983).

[9] Our simplified formal illustrations involve only the syntactic nodes that are relevant for our current analysis, i.e. the clausal CP and the verbal VP.

(20) <u>NC complements</u>   (21) <u>SVCs / C complements</u>

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    CP₁                                          CP₁
       \                                            \
       VP₁                                          VP₁
          \                                            \
          CP₂                                          C̶P̶₂̶
             \                                             \
             VP₂                                          VP₂
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NC complements in (20) project a matrix and an embedded clausal CP domain, explaining why they exhibit syntactic properties typical of bi-clausal structures (e.g. different subjects and different spatio-temporal domains associated with the matrix and the embedded clause). C complements and SVCs in (21), on the other hand, project a single CP domain (i.e. the matrix CP), which explains their mono-clausal properties (e.g. shared subject and shared spatio-temporal domain between the higher and the lower verb).

  We can now tentatively place all types of clauses that we have examined here on a structural continuum, ranging from more independent to more dependent and integrated clause structures. An initial sketch of this continuum is given below:
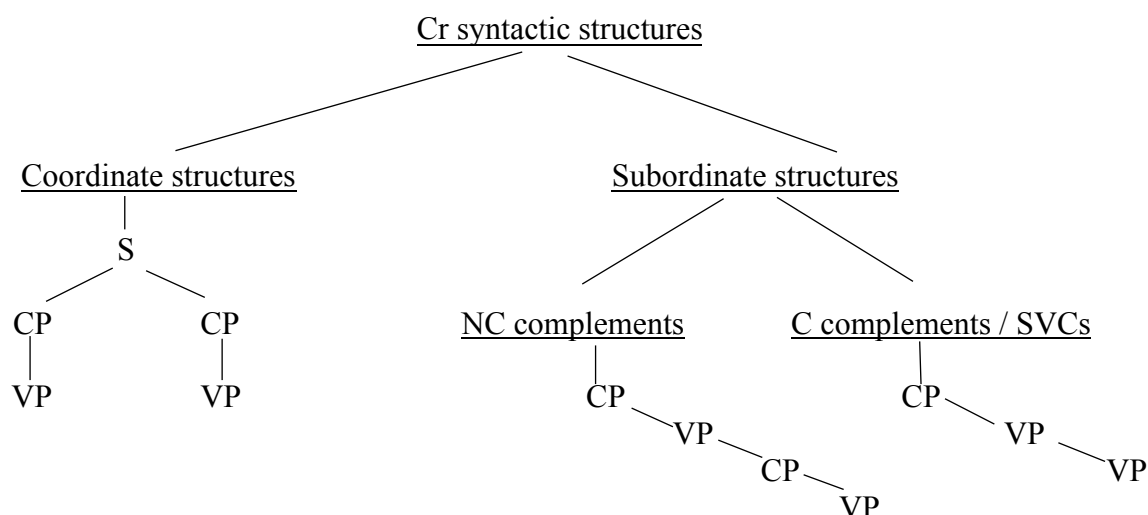

Figure 1. Continuum of syntactic structures in Cr

On one end of the spectrum, we have CCs, which involve two independent clauses conjoined by a coordinator (and syntactically realized as sister CP nodes on the tree diagram). Then we have subordinate NC complements, which involve structures that are more dependent because one clause is embedded under the other (i.e. a daughter CP node embedded under a mother CP). Finally, the other end of the spectrum is occupied by C complements and SVCs, which are the most integrated syntactically because they involve two VP domains embedded under a single CP.

5. Conclusion. We have argued here that Cr contains the type of clauses that correspond to SVCs, even though it was not previously included in the cross-linguistic typology of SVC languages in the relevant literature. We have justified this claim by showing that Cr SVCs share the bulk of the properties observed with their cross-linguistic counterparts. Crucially, Cr SVCs have been shown to denote single events from a semantic standpoint and to behave as mono-clausal structures from a syntactic standpoint. In this sense, they pattern with control complements (infinitives and C subjunctives) found in Cr, providing a basis for grouping them all together on a structural continuum involving the different clause types examined herein. The structural analysis briefly

sketched out in §4 is the foundation for future work, as we aim to account more precisely for the properties of SVCs and their relation to other types of clauses in Cr, and potentially other languages, in the Balkans and elsewhere, as well.

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